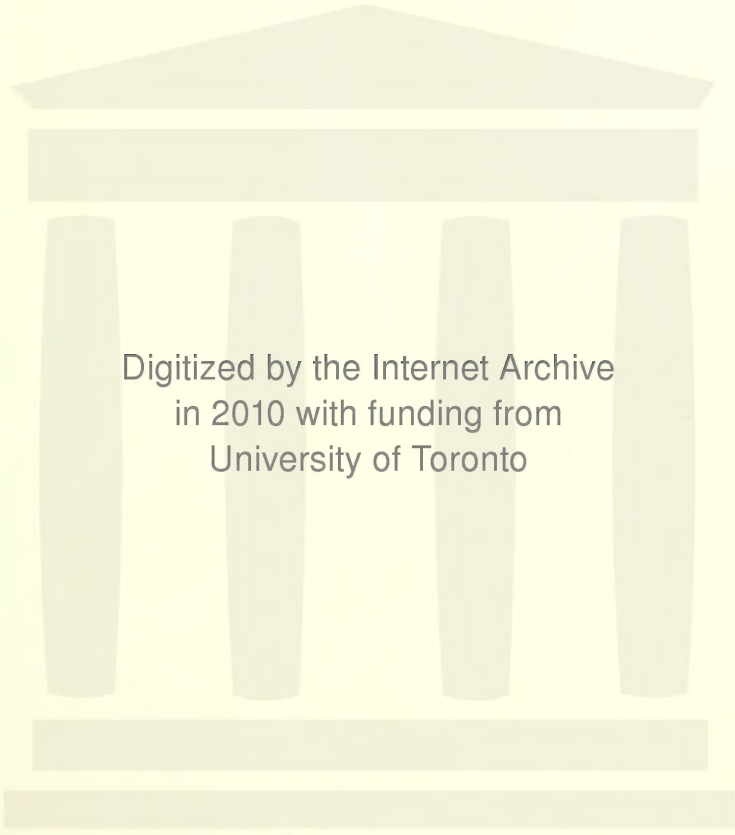
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THE TREATMENT OF GONORRHŒAL INFECTION

By H. J. Boldt, M. D.,
New York.

The treatment depends of course upon the stage of the disease. In the acute stage gonorrhœa, like other acute illnesses, demands absolute rest and a light diet. These elements in the treatment are particularly important at about the time of the menstrual period, since at such time exacerbations are most likely to occur; and especially if there has been physical exertion.

Despite the fact that numerous remedies have been recommended for the rapid cure of the disease—some of them, indeed, lauded as specifics—we have none that can be absolutely relied upon. In other words, there is no abortive remedy. Copious douches of a mild boric acid solution to keep the parts clean; and, should the external parts be irritated, applications of zinc stearate, or zinc ointment, are all that is necessary. This is, in fact, the best treatment that can be used during the acute stage.

Chronic cases, those in which the normal epithelium of the mucous membranes has undergone changes as the result of continued irritation, require much patience on the part of the physician and the part of the patient as well. And here only *repeated* bacteriological examinations can determine whether a cure has been effected. It is possible that four or five examinations, made at different times during the treatment of a patient, may fail to show the presence of gonococci; and yet three months after the cessation of treatment, and the supposed cure of the patient, another examination may reveal them. Therefore, one cannot be too careful in pronouncing a patient with chronic gonorrhœal infection entirely cured.

The obstinacy of chronic gonorrhœal urethritis, in some instances, is particularly trying. The disease may have been present for years without suspicion on the part of the patient, since it has caused little inconvenience, and the diagnosis, therefore, is perhaps a matter of chance. Hence it is important, if one has reason to suspect gonorrhœa, to examine the patient at a time when the urine has not been evacuated for a number of hours. Then if the disease is present, and the urethra is stroked from its posterior part forward, a droplet of pus may be expressed from it. If one is accustomed to the examinations of such specimens, the diagnosis of gonorrhœa may be made before the patient leaves the office. The location in which one may sometimes find the microbic pus, is in the small ducts of Skene immediately behind the meatus. When gonococci are found in the vaginal secretion of an adult woman it nearly always indicates a mixture with the cervical or the urethral secretion. It is comparatively seldom that one finds vaginal gonorrhœa in the adult woman, because of the protection afforded by the pavement epithelium of the vagina.

There is really nothing that I can add to what was stated in the paper read by me at the meeting of the American Medical Association in 1907; (See *The Journal of the American Medical Association*, February 1, 1908) but in view of the misunderstanding among a part of the profession, as to my attitude toward the treatment of gonorrhœal endometritis, I shall endeavor to make myself clear on that branch of the subject: I advise the *thorough curetting of the uteri in such cases, and the use of a sharp curette for the technique. Of course one must not think of using this heroic treatment in acute conditions, nor when the annexa are affected, nor when there is any evidence of pelvic inflammation.*

Let us consider the case of a patient who has recovered from the acute stage of urethral gonorrhœa: The acuteness has entirely passed off, and no evidence of invasion of the annexa or pelvic peritonæum is present. But a microscopical examination of the secretion from the cervical canal shows the presence of gonococci. In such instances, I assert that if strict antiseptic precautions are used, there is no danger connected with a careful dilatation of the cervical canal and an abrasion of the cervical and uterine mucosa with a sharp curette. It is my firm belief that such treatment is more beneficial than local office treatment alone. After the curretting the uterus should be packed with gauze saturated with the medicament that the physician desires to use; a solution of a silver salt, for example, or any one which his experience leads him to regard as the *best*. It seems to me that patients treated in this way make a more rapid recovery. Moreover, they are not so likely to have an affection of the annexa at some future time. Why authors of textbooks and most teachers of gynæcology so generally protest against such treatment, is difficult to understand. I have yet to find an instance in which it caused pelvic inflammation. On the other hand, it is not at all unusual to see a severe pelvic inflammation result from the customary office treatment. Examinations of uterine mucosæ have shown that gonococci do not, as a rule, extend deeply into the mucosa, but remain rather upon its surface. The deduction to be drawn from this is that the best time to undertake treatment, in order that it

may be most effectual, is shortly before the menstrual period, when the mucosa is more or less thickened.

It would be folly to think that one can always bring about a rapid cure by such measures. Indeed, I have been disappointed a number of times myself in that there was no benefit. Nevertheless, I have seen no harm result from it.

While in some instances gonococci may penetrate into the deeper structures, even into the deep connective tissue, and there cause a suppurative process, the occurrence is very rare, and I have never seen it. A superficial process is the rule, hence the better results from curetting in many instances of gonorrhœal endometritis.

Regarding the penetrating ability of gonococci, I may add that, although I have been able to find them in a number of instances in the pus of pyosalpinges, yet in no case have I found them in the walls of Falloppian tubes; nor even in the mucous membrane of the tubes. In the pus of pyosalpinges of long standing, it is nearly always useless to look for gonococci, because gonorrhœal pus, if in considerable quantity and without an outlet, as when the abdominal openings of the Falloppian tubes are closed, is sure to become sterile in the course of time; and the gonococci disappear entirely.

One would be surprised at the comparative frequency with which gonococci are to be found, if all, not necessarily only purulent, secretions from the cervical canal are examined. The presence of gonococci in the cervical secretions does not mean that the entire mucosa of the canal or of the uterine mucosa is invaded by the microorganisms. Such is not the case. Gonococci are found only in patches, and are usually quite superficial. Nevertheless, the curetting should be done thoroughly, and after its completion the entire cavity packed with gauze, medicated with a silver preparation.

During the past few years much has been said in favor of using only conservative treatment for the relief of gonorrhœal affections of the annexa. While I, too, would protest against the indiscriminate operating fever, and indeed have protested against it for a number of years, yet one must not go to extremes in conservatism.

All patients with acute gonorrhœal salpingitis should be treated most conservatively. A large proportion of such women have more or less extensive pelveoperitonitis. If one had the temerity to operate upon such patients, one would not only have to record a high rate of mortality, but would do unjustifiable operating. Keep such patients in bed, apply ice bags, give suppositories of codeine, when the pain is very severe, and the majority will make a complete recovery.

If the Falloppian tubes become so distended as to form what is known as "sactosalpinges", with an atrophy of the mucous membrane lining the tubes, with recurring attacks of pelvic peritonitis, it is useless to hope for a cure without surgical intervention. In such cases exsection of the Falloppian tubes is necessary for the symptomatic relief of the patient. Whether the ovaries and the uterus should be removed will depend on the condition in which these structures are found.

Some writers advise the nonsurgical treatment of acute conditions, when the cul-de-sac of Douglas is filled with an exudate, consisting of the distended Falloppian tubes and more or less serous or seropurulent matter, the result of pelvic peritonitis. This, in my opinion, is a mistake. While I do not approve of vaginal sections when no exudate is felt, I assert most positively that whenever the examining finger can determine the presence of an exudate in the pelvis which can be readily evacuated by means of a vaginal section, this should always be done.

Concerning the use of antigonococcic vaccines, the results have been negative in all patients upon whom I have tried them.

39 EAST SIXTY-FIRST STREET.

PRIMARY SARCOMA OF THE APPENDIX.*

BY CHARLES A. POWERS, M. D.,
Denver.
Professor of Clinical Surgery in the University of Denver.

During late years systematic examination of removed appendices shows that in a not inconsiderable number those thought to be simply the seat of chronic inflammation prove to be malignant. Harte,[1] in 1908, considered this subject in a most thorough way, gathering 111 cases of primary carcinoma. As result of this investigation he concludes that primary carcinoma of the appendix is present in from 0.3 per cent. to one per cent. of all cases operated in for chronic appendicitis. It is evident from this that every appendix removed should be submitted to careful microscopical examination. Primary sarcoma of the organ, however, is doubtless of great rarity. Harte, including in his list one instance of endothelioma, collected five cases from literature. The writer is permitted to say that in about 7,000 specimens examined at the Rochester Clinic[2] there was not an unquestioned case of primary sarcoma of the appendix found.

The marked rarity of this condition leads the writer to place on record the following:

CASE: Miss B., seventeen years, patient of Dr. J. F. Howard.

History. Five weeks ago the patient suffered from a fairly typical attack of acute appendicitis of mild character. Operation was advised by Dr. Howard, but refused by the parents. The patient was said to have been in bed most of the time since, having had slight recurrent attacks of brief duration. There was a persistent "grumbling" in the region of the appendix and this had been exaggerated whenever the patient had taken solid food. On Sunday, March 6, 1910, she went out for a drive but was ill in bed during the following day. The bowels were fairly regular, the patient was on liquid stomach food and rectal nutrients; she had lost some fifteen pounds during the five weeks. The temperature was at normal most of the time, the pulse averaged between 80 and 90. During the early morning of Tuesday, March 15th, the patient had a sudden attack of general abdominal pain and vomited repeatedly. Through the kindness of Dr. Howard I saw her in consultation with him at 11 a. m. on that day.

Condition. The young woman was spare of flesh, her face was rather anxious. The tongue was reddened and furrowed. She complained of constant nausea. The abdomen was very moderately distended; it was generally ten-

*Read at the fortieth annual meeting of the Colorado State Medical Society, Colorado Springs, October 12, 1910.

[1] *Annals of Surgery*, xlvii, p. 908. Also *Transactions of the American Surgical Association*, 1908, p. 399.

[2] Personal communication from Dr. J. B. Wilson, pathologist, Nov. 28, 1910.

der, hardly more so on the right side than on the left. No mass could be felt in the region of the appendix or elsewhere in the abdomen. The urine was normal, the white blood count showed 14,000 with a differential of eighty-six per cent. Immediate operation was advised.

Operation. St. Luke's Hospital, 3 p. m., March 15, 1910. Ether. There was clear, free fluid in the general peritoneal cavity; cultures were taken (these proved negative). The intestines and omentum were pretty well injected throughout. The appendix looked somewhat inflamed. It seemed very hard, was large at the middle, had a "suspicious" look. Ordinary removal, general cavity sponged out, stab wound above pubes, small drain to bottom of pelvis. Primary incision closed. Subsequent management by the Murphy method. Smooth course. Complete healing at the end of two weeks.

The appendix was given to Dr. Henry S. Denison, director of the laboratories at St. Luke's Hospital. He reported it as showing sarcoma; his report is as follows:

Macroscopical examination: One quarter of an inch from the tip was a dark zone which on section showed a larger lumen than in other parts of the organ. This cavity was filled by a brownish black clot. The rest of the lumen of the appendix seemed normal.

One half of an inch from the tip was an acute flexion and beyond this on the concave side of the flexion and extending along the appendix for about one and one quarter inches, in places invading its walls, was an elastic nodular mass, roughly the size of the tip of the little finger which on section looked very cellular.

Microscopical examination. (1) Section through tip of the appendix showed a diffuse infiltration of small round cells around the capillaries and in the lymph spaces. The germ centres of lymph nodules seemed to be hyperplastic. Numerous eosinophiles were found. The epithelium was normal. The lumen was partly filled by a blood clot which was infiltrated on one side by small round cells. (2) Section through tumor mass and appendix showed the tumor to be composed of small round cells which invaded both muscular coats and in one place the submucosa of the appendix. The interior structures of the appendix showed the same lymphoid hyperplasia as in (1).

The cells of the tumor mass were predominantly of the small round variety although many had an angular periphery. They were roughly from six to eighteen μ in diameter, had a large oval vesicular nucleus, a distinct nucleolus, and scanty cytoplasm. Numerous mitotic figures were present, in one place twelve to the field (high power). Throughout the tumor mass, but especially at the edges of it, were scattered numerous polymorphonuclear eosinophiles. No giant cells found.

The stroma throughout the mass was very delicate, in places being scarcely discernible, in other places dividing the cells into very indistinct alveolar arrangement.

Diagnosis. *Small round cell sarcoma of the appendix.*

The diagnosis made by Dr. Denison was confirmed by Professor Welch, of Johns Hopkins University.

On opening the abdomen the writer thought this patient to have a beginning general peritonitis. This was not so. The fluid in the cavity was sterile and the condition was without doubt that of a beginning general sarcomatosis.

The patient returned to her home two and one half weeks after operation but she steadily lost in flesh and strength. Obscure general abdominal symptoms appeared and increased, the abdomen gradually became hard and distended. On April 25th it seemed certain that she had a general abdominal sarcomatosis. Systematic injections of the Coley toxines were given but these were without effect, and the patient died on May 23, 1910, ten weeks after operation.

In our search[3] through surgical literature we find six additional, authentic cases of primary sarcoma of the appendix. Four of these cases, those of Gifford, Warren, Paterson, and Carwardine, have been reported by Harte and need no extended comment here. Two other cases are those of T. G. Davis and de Jong.

[illegible] T. G. Davis, *Journal of the American Medical Association*, December 15, 1900.) His patient was a male of [illegible] with recurrent attacks of pain in the right iliac fossa. The operation was apparently done at the close of a semiacute attack. The appendix was found lying behind the cæcum. It was firmly adherent and bound down by the results of previous inflammation. Cæcum apparently not affected. Ordinary removal of appendix. Miscroscopical examination showed it to be the seat of a small round celled sarcoma. Report was made five months after operation, the patient at that time seemed perfectly well; he was at work and had gained fourteen pounds.

[illegible] *der Medizin und Chirurgie*, xviii, 1908, p. 522.) The patient was an adult male in whom the appendix was removed in the ordinary way. The appendix contained a small fæcal concretion in its central portion while its tip presented a tumor the size of a hazelnut which gave the appearance of a lymph gland. Microscopical examination of this showed a small, round celled sarcoma. Report was evidently made shortly after operation.

Authentic cases of endothelioma have been recorded by Glazebrook (Harte), Sargent (*Lancet*, September 23, 1905) Kelly (*Transactions of the Pathological Society of Philadelphia*, 1900-01), and Sudsuki (*Mitteilungen aus dem Grenzgebiete der Medizin und Chirurgie*, vii, 1901.) Questionable cases, reported as sarcoma, not accepted by the writer, have been reported by Sonnenburg (*Pathologie und Therapie der Perityphlitis*, 1905, p. 96), Winkler (*Die Erkrankungen des Blinddarmanhanges*, Monograph, 1910, p. 305), Murray (*Medical News*, April 24, 1897, p. 543), and Beatson (*British Medical Journal*, February 2, 1901, p. 270).

Paterson's case is doubtless one of sarcoma originating in the appendix and extending to the cæcum. The thickened portion of the cæcum was removed with the appendix, the patient dying six hours later. Carwardine's patient, a woman, aged forty-five years, died of relapse nine months after operation. Warren's patient, a boy, is said by Harte to have been well four years after operation. This is practically the only successful result in the series, which, including the case of the writer, numbers seven instances of primary sarcoma of the appendix.

STELLAN [illegible].

A SERIES OF STUDIES OF NERVOUS AFFECTIONS IN RELATION TO THE ADJUSTMENTS OF THE EYES.

By George T. Stevens, M. D., Ph. D.,
New York.

THIRD STUDY.

[illegible]

In the minds of people generally and, to some extent, in the minds even of members of the medical profession, feeble minded persons, backward children, imbeciles, are regarded as unfortunates to whom Nature has either been illiberal in its supply of cerebral material or to whom it has supplied such material in a degenerate form.

Again, the feeble minded individual is too often confounded with the idiot or with the subject of dementia. It is somewhat unfortunate that the line between imbecility and idiocy is not, in our literature, very clearly drawn, but, as a matter of fact,

the idiot as well as the dement should be placed, each in a class clearly defined from the imbecile.

The idiot, as a rule, presents important indications of defective physical development of the nervous centres, either in the form of arrested cranial development, of malformation of some of the parts of the encephalon, of increased size of the cranium with abnormally developed contents, or of some other form of degeneration or of disease of the nervous centres. The dement is one in whom the intellectual functions of the brain, once normal, are injured or destroyed.

In the case of the imbecile, properly classified, while the encephalon may be of normal size and form, perhaps normally developed, the mind has been unable to coordinate or to assimilate the impressions received from the senses.

In considering these different states, therefore, we should take into account not simply the degree of mental incapacity but the physical development and pathological basis of the defect when such basis exists.

For indicating the state of backwardness of imbeciles and idiots it is a present custom to compare the backward individual to the average infant of a certain age. Thus, a backward person of sixteen may be compared intellectually to an infant of three years of age. Were the incapacity of imbeciles about the same in all directions such parallels would be more useful and definite than they can be while the mental development of imbeciles or even of idiots are so often bizarre. For example, the idiot, Blind Tom, could appreciate the value and beauty of harmony and could execute upon the keys of the piano with the technique of a master. It would be difficult to compare such an individual with a normal child of any age.

It is my purpose in this paper to study, from a concrete example, the mental condition of children who, so far as can be seen, have normally developed bodies, with crania of favorable form and of average development. This class constitutes a very large and, I believe, a very hopeful proportion of our mental defectives.

That there is very frequent and intimate connection between the adjustments of the eyes of this class of persons and the backward mental state experience demonstrates beyond a doubt. In my essay for the Royal Academy of Medicine of Belgium, 1883, I called attention to this relation and to the great benefits which might arise from appropriate treatment directed to the conditions of the eyes. In the American edition of that work reproduction from photographs showed remarkable changes which had occurred both in imbecility and dementia from such treatment. That I was at that time able to see these relations in a more limited range than further experience has shown and that the treatment then pursued would now be considered as primitive and imperfect is true, yet the general thought, which so far as I know had never before been advanced, was correct.

That the imbecile may have a well developed cranium and that the physical elements of mental activity may be present while the functions of the mind are confused or undeveloped may be seen by examining the pupils in schools for such unfortunates. To illustrate, I introduce a reproduction from a photogravure, not of one of my own cases, but preferably taken from one of several illustrations in the interesting and instructive article on imbecility by Professors Binet and Simon in *L'Année psychologique*, 1909, authors who can not be suspected of any bias toward the view which I am advocating.

The portrait, Fig. 1, is that of an imbecile, aged sixteen. The picture does not indicate deformity of body or of cranial development, nor do the authors mention any such deformity, unless, indeed, the name assigned to the patient is intended to indicate a defect.

The girl can tell her name, point to her nose, but she can not compare weights, copy a square, or count four sous. She has, according to the learned authors, the intellectual level of four years.

Applying ourselves to the study of this face, while we see no evidences of cranial deformity we do see the most striking evidences of unfavorable adjustments of the eyes. The compressed left brow and the elevated right one indicate as plainly as need be an extreme positive *declination* of the left eye with a lesser degree or possibly even a negative declination of the right eye. The lines below the left eye, the drawing of the mouth, the contour of the lower part of the face, all go to confirm this diagnosis. In the seven portraits found in the article referred to, *every one* shows clearly that, whether causative of the mental defect or not, false, and *emphatically false*, adjustments of the eyes are clearly the most conspicuous features of the face to one accustomed to observe the conditions of the eyes properly.



Fig. 1.—Portrait of imbecile, copied from *L'Année psychologique*, 1909.

The relations which I wish to illustrate may well

be studied in the history of the following case, a case not unlike many others in general features and in results of examination and treatment.

A Case of Imbecility.

Margaret, aged fifteen, was brought to me by Doctor Richard H. Conway Gibbons, October 12, 1908. The girl was one of the class of decidedly backward children, and her mental incapacity appeared about equal in all directions. She was apparently in good health and physically well developed. She was one of twins, her sister being normal in mental and physical development, the two sisters being about equal in the latter respect. Margaret did not learn to talk until she was a year and a half old and could not walk until she was three. As an infant she was usually well, passing through the ordinary contagious diseases of children without difficulty. Her mother thought that she did not observe any deficiency of mental development till the girl was about three or four years old.

When the children were sent to public school the teacher informed the mother that Margaret could not learn, that she did not see well, and did not comprehend what she did see. The eyes were examined, glasses were prescribed, and the child sent to a private school. Here again the teachers found her unable to learn and she was removed from school. After a year under private tutoring she was again sent to school with no better success than before. In the meantime she had learned to read indifferently under the instruction of the private tutor. At the time of my examination (at the age of fifteen) she could repeat parts of the multiplication table, but if asked "how many are three times two?" she could not tell. She had just returned from Vienna and Paris to which places the parents had taken her in the hope of finding a way to improve her condition. She knew that she had been in Paris, but had no conception of the relation of Paris to France. In fact she would not concede that she had ever heard of France. In some respects, however, her memory appeared moderately clear but she could not comprehend the relation of facts.

The measurements of the head were:

From the glabella to occipital protuberance, 15.50 centimetres; greatest interparietal distance, 13.50 centimetres; height from external meatus to vertex, 13.00 centimetres; angle of glabella, point below nasal spine and point of chin, $+4°$.

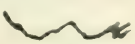
These measurements show a well developed head for a girl of her age.

Examinations of her eyes showed hypermetropia, for which she was using appropriate glasses. Of the conditions of adjustment in other respects it was difficult to learn.

On some days, for a few minutes, I could obtain answers to my questions which appeared consistent, but a moment later all would be confusion and contradiction. On some days no intelligent answers could be obtained, as the girl appeared to be in a state of stupor.

However, on all days when the mind seemed to be somewhat clear great pains were taken not only to get tests respecting the adjustments of the eyes but to help her to understand form and direction. I furnished her with a quantity of modeling wax and tried to teach her to form marblelike balls, cubes, and pyramids. The experiment did not succeed. A "picture puzzle" of very simple design with only five pieces was given her. She was shown how to put the five pieces together and form the picture. The puzzle was taken home and on the following day she brought it with her, highly elated because she had put the pieces together, but when she attempted to repeat the process in my consulting room she could not do it.

I also attempted to teach her to draw simple lines. After trying a good many times to copy a straight vertical line an inch long she produced this:



I wished to use the knowledge of the position of a straight line, vertical or leaning in examining by the clinoscope, and this result was discouraging. So also I wished to know about the relative positions of two images of a candle in using the phorometer, and to aid in the examination I would take two drawings (Fig. 2.) When I inquired of her which of the two was the highest on the paper she would point, sometimes to one, then to the other.



It is noted in my records, on the ninth day, that although I had made diligent and patient attempts daily for the nine days to obtain the usual tests by the phorometer, by the clinoscope, and by the tropometer it could not be said that I had obtained one even moderately satisfactory test.

In the meantime her mother assured me that Margaret was fond of pictures (paintings) and that while visiting the great galleries abroad she had shown much interest in certain paintings. Thinking that this fact, if it should be a fact, might prove to be an opening through which some instruction might reach the clouded mind I took her one day to the Metropolitan Museum of Art, not permitting her attendant to accompany her as I wished to have the whole attention of the child.

Leading her through the long galleries, stopping from time to time before some picture which I thought might appeal to the girl, I found no response which would lead me to the conclusion to which the mother had arrived. Yet there was perhaps an exception as we halted before a small picture of cattle, trees, a stream, and a fine sunset. The girl looked for a few minutes and in reply to my remarks about the cattle, the trees, and the stream, she said: "Isn't it a pretty light?"

Passing further we came to a picture by Bouguereau called *Brother and Sister*. It suited my purpose better to call it *Mother and Child*. It appeared suited to appeal to



the girl's imagination, if she possessed such a faculty, and we seated ourselves in front of the canvas. In order that the reader may better follow the test I was about to make I have made a pen sketch from the painting which is here reproduced.

"Now, Margaret," I said, "I [illegible] all the

things which I see in the picture, then you may tell it all to me."

In simplest language I spoke of the young woman and her child, mentioning her dress, the pose, the bare feet, the pleased look of the child with his apples and the satisfied look of the mother with the child. Each detail was pointed out clearly and emphasized. Then I said: "Now, Margaret, you may tell me all about the picture."

And this is what she said while I wrote her words in my note book. "Well——that is a picture." *Yes, a picture of what?* "Now that is a picture of trees." *Yes, there are trees but what else?* "This lady is sitting there." *Yes.* "And she is contented with her baby." *Yes, but tell me more.* "There are straps on this lady's shoulder." *But what else?* "The lady has bare feet." *Yes, go on.* "The baby has an apple." *Yes, how many apples?* "The baby has an apple on this side." *Yes?* "He has an apple on that side." *Yes, how many?* "He has two apples." *That is true but tell me more about the picture.* "Well, it's kind of dark, kind of shady down on this side, down on this side at her feet." *But what else?* "That's all that I can see."

Returning, we passed the small landscape with the cattle and trees and stream. I paused and the child looked at it for a moment, then said: "Didn't we see it before?" *Yes.* "Isn't it a pretty light?" Here was the key which opened the child's mind to me. The figures had afforded her scant interest but the *color* of the sky, the "pretty light" was attractive.

A day when I could have obtained so reasonable an account of any thing as is shown above was rare. On November 16th, after more than a month of daily observation I did not feel sure that I had a single record of a test of the eye adjustments which was, by itself, worthy of confidence. However, by careful observation of the face and by summing up the *probabilities* of all the records I determined, with the approval of the parents and of Dr. Gibbons, to proceed with an operation on one of the eyes.

My diagnosis of the case was:

There is very high grade declination of each eye. Objects seen are never still, never twice alike, always in confusion. The things of which she hears and the things which she feels are different from the whirling, unsteady things which she sees. Her senses are thus confused and, as she can not depend on them, the mind is also confused. If the confusion of senses were relieved the mind would work more true.

To the best of my judgment the girl had a positive declination of from 4° to 6° in the right eye and from 6° to 8° or more in the left.

At this time her weight was ninety-nine pounds. The operation was done for *declination* on the left eye, November 16th.

To my great satisfaction, from this time on my tests were not only worthy of record but they were quite uniform from day to day. The girl's mind appeared to be much more clear and she did not fall into states of profound dementia as she had done before.

With a view of testing again the mental state I took her a second time to the Museum of Art on the twenty-first of November, a month after the first visit and only five days after the operation. I had abstained from any mention of our first visit, and her friends did not know what she had seen. It is possible that she may have thought of the picture which we had discussed but I doubt that she had to any considerable extent. Passing through the galleries, we came to the picture which had occupied us before. The girl looked at it for a moment and turning to me inquiringly said: "Didn't we see that one before?" I replied that we had seen it before and she was told that I wished her to tell me all about the picture with no assistance from me.

She proceeded as follows: "Now, that is a picture of a woman sitting down there. She is a poor woman. She is sitting with her legs crossed like that (suiting a motion to the words) and she has a baby on her lap." I will not weary the reader by the further description which the girl gave but it was good in detail, with a fair comprehension of the different elements. It was given with only an occasional prompting such as "Well," "go on," etc. As I was writing, the girl looked in my face and inquired where the woman lived. Then she said: "Well, the woman, can't she get up?" An attempt to explain the difference between a real woman and the picture followed and this was succeeded by the question: "Well, how long has she been sitting there?" Another attempt to show the nature of a picture and then the remark from the girl: "Well, I don't see how they can make the dress and her feet like that if she can't get up."

The poor child, was this the first time that she had ever observed perspective? Probably. It was a new sense, there was no experience behind it. If the foot and the dress stood out from the canvas why could the woman not get up?

I was able to do a second operation, this time on the right eye, on the twenty-second of December and from that time forward improvement in the mental state went on rapidly. Three months after the first operation her weight was 118 pounds, a gain of nineteen pounds from November 16th to February 23rd.

Feeling that the girl should have instruction, but being unwilling that she should receive it mainly through the eyes, I advised the parents to secure an attendant who could converse with her in French, thus employing the ear as the medium of instruction. The progress made was satisfactory but there was an absence of a background, such as every normal child possesses, for the new things which she was learning, and instructors who can help such a child to such a needed background are rare.

Other operations for declinations followed the first two, which, naturally, could only approach to a rough adjustment.

The last record made was November 18, 1909, when there was, *declination*, right 0°, left + 2°. This was soon after an operation and may not have shown, probably did not show, the whole defect remaining. During the eleven months after the first operation the progress of intellectual advance was not only rapid but steady. In general appearance and demeanor the child became so nearly normal as not to attract strangers to her defect.

Her parents determined to take her abroad and to place her at school where she might, by mingling with other pupils speaking another language than her own, learn that language. I had doubt of the wisdom of placing her at school, for the absence of the *background* of which I have spoken would place the girl at a serious disadvantage and perhaps lead to discouragement. Moreover, the demand which would probably be made upon the eyes might prove unfortunate, and again, few teachers are qualified to conduct the education of one who has, almost at a leap, passed from infancy to girlhood. I learned that the progress made at school was favorable for some months but I have had no news from her of late.[1]

It may be said, "Such a result was very satisfactory, but it does not establish a rule for other cases."

To such a statement I would reply that it *does establish a rule for the examination of other cases.* This child had been examined in respect to her refraction and was using appropriate glasses. The examination had not been carried far enough.

The oculist who tests the refraction and then tries a few, not illuminating, experiments with a little glass rod before one eye of his patient and supposes that he has examined the adjustments of the eyes has not even entered into the subject of such an examination. In this case, a month of painstaking examinations with the phorometer, the tropometer, the clinoscope, and other instruments, accompanied by patient attempts to instruct the patient, resulted in only the most moderate success, but such moderate success, when combined with observations upon the facial expression and bodily pose, observations based upon those of many hundreds of other cases, enabled a diagnosis to be made which proved to be correct.

[1] Since writing this article I have received a letter from the girl's mother confirming what I have said concerning the advance made at school, also confirming my reasons for doubting the expediency of placing her there. After several months of good progress the girl became so nervous that it was necessary to remove her from the school. Since leaving it she has recovered from her nervousness.

I have no statistics to offer, but if the observations which enabled me to see correctly the conditions underlying this case are of any value, I would say that an extremely large proportion of the cases of imbecility belong to the class to which this child also belonged.

Should the man arise who, with an institution at his command, could, with scientific skill and philosophical patience, examine and treat these defectives on a larger scale, he would soon revolutionize the views of the medical profession in regard to a great class of most unfortunate persons for whom to-day medical science offers no hope and no encouragement, except such as is found in the schools for the incurably feeble minded, a poor substitute indeed for a sane mind in a sane body, the boon which science should and could afford.

22 East Forty-sixth Street.

OPTIC NERVE CHANGES ASSOCIATED WITH CRANIAL MALFORMATIONS.

By Alfred Gordon, M. D.,
Philadelphia.

Member [illegible] Society of Ophthalmology of Paris, France; Neurologist to Mount Sinai, Northwestern General, and Douglass Memorial Hospitals.

Malformations of the skull present various degrees. Slight cranial asymmetries are a habitual occurrence in perfectly normal individuals, but gross deformities of the cranium may be accompanied by disturbances of a grave nature. Among the latter must be mentioned particularly those in the sphere of the visual apparatus which seem to be most frequently involved.

The foramina through which cranial nerves pass occupy the position of various sutures. It stands therefore to reason that during the ossification process any perversion or arrest in the development of the bones or in the synostosis of the bones of the cranium will, naturally, deform the cranial foramina. The visual apparatus is strikingly in accord with the conformation of the skull and deformities of the latter are not infrequently associated with serious disorders of sight.

Optic neuritis and optic atrophy, as well as other pathological conditions of the visual apparatus, are quite frequently met with in various cranial malformations. C. A. Oliver, in a very important contribution (*Proceedings of American Philosophical Society*, xli, No. 169) considers five clinical types of cranial deformation associated with visual signs, viz., scaphocephalic, leptocephalic, trigonocephalic, occipitoparietal, and oxycephalic.

Scaphocephaly consists of a boatshaped form of the cranium in which the forehead is unusually broad. The deformity is probably due to an irregular union of the sagittal suture between the inner margins of the parietal bones.

Leptocephaly represents an unusual smallness of the entire head. It is the result of a premature union of the frontosphenoidal suture, situated between the alae of the frontal bone and sphenoid bones.

[illegible] Pathological Society of Philadelphia, October [illegible]

Trigonocephaly is a deformity of the cranium in the shape of a three cornered body with its small end placed anteriorly. It is produced by an abnormal ossification of the frontal and parietal bones at the level of the coronal suture.

The occipitoparietal type for which Oliver deserves credit in calling attention to it is a rare form. It presents a flattened curving of the posterior portion of the cranium, and it is due either to a premature synostosis of the occipital suture, or to an abnormal union of the medial portion of the lambdoidal and posteroinferior part of the sagittal suture at the level of the posterior fontanelle.

The oxycephalic type in which I am especially interested presently, is the most frequent. It is characterized by a steepleshaped or domelike head. It is probably caused by a premature or improper synosthosis of the parietal bones with the occipital bone, and compensatory development in the region of the sagittal suture.

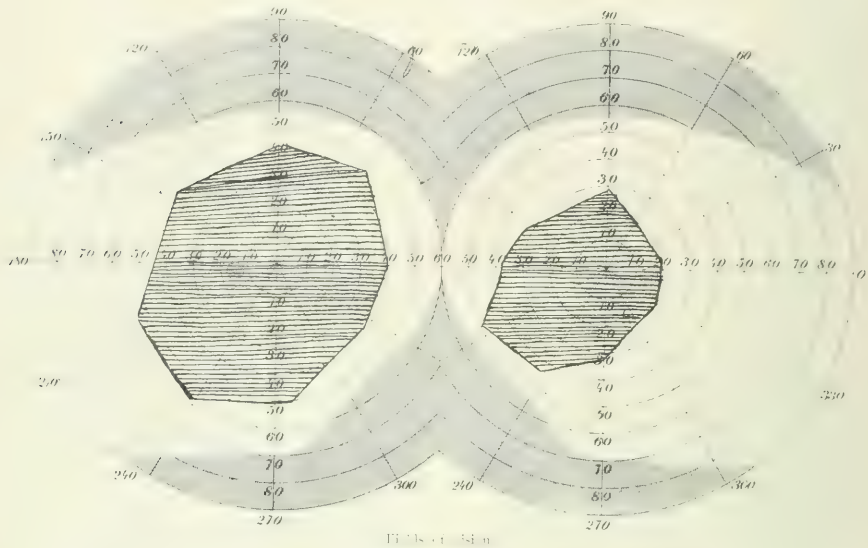
Statistical data collected by H. Friedenwald (*American Journal of the Medical Sciences*, lv, p. 529, 1898) show that the oxycephalic malformation is the most frequent variety, that in almost all of them postneuritic atrophy of the optic nerve is evident, that the visual power varies from a full vision to a total amaurosis, the field of vision is found to be much contracted, total or partial blindness is present in most cases. The few autopsies that have been recorded showed a narrowing of the optic foramina with hyperostosis or thickening of the bones.

The pathogenesis of the condition of the optic nerve is debatable. Most of the authorities following Virchow and Hirschberg (*Centralblatt für Augenheilkunde*, January, 1883) admit that the original cause of optic nerve involvement lies in inflammation of the meninges and of the bone. Friedenwald (*loc. cit.*), basing himself on the above mentioned compensatory overdevelopment of a part of the skull caused by arrested development of another part, believes that the former resists the normal growth of the brain and thus during the progress of development in the infant's brain produces an increase of intracranial pressure, similar to the condition in cerebral tumors. Optic neuritis or optic atrophy will naturally follow. It is probable that both views are correct and that both factors play an important rôle in the development of the cranial deformity.

The following case that came recently under my observation is interesting from its relation to visual disturbances, to optic atrophy, and to epilepsy:

[illegible] he had a series of infectious diseases, such as measles, pneumonia, profuse diarrhœa. The latter was of an unusually long duration. At that time the mother noticed that the child's head began to grow very large and assume a peculiar shape, domelike. He began to speak and to walk at the age of three. Shortly afterward epileptic seizures developed. For a period of two years the latter occurred quite frequently. They were all generalized in type. At the age of four nystagmus appeared in both eyes and the head became affected with nystagmoid movements. At examination the following symptoms were observed. The head had a domeshaped appearance rising abruptly from the orbital ridge. The lateral portions of the forehead were prominent and a shallow longitudinal depres-

sion run between them. A large part of the upper surface of both orbital cavities could be readily reached and palpated. Exophthalmos was present on both sides, more on the right than on the left. Both eyes were affected with nystagmus on lateral movements and the left eye with a continuous rotatory nystagmus. The head also was animated with an oscillation from right to left and *vice versa* (head nystagmus). The palate was very highly arched and presented a deep cavity. The ears were very large. The face was asymmetrical, the right half was more prominent than the left, especially near the orbital region. The station, gait, sensations were all normal. The patellar tendon reflexes were uncertain, at times they were normal, at others it was difficult to obtain them. The toe phenomenon was absent with Babinski's, Oppenheim's, or Gordon's methods.



Fields of Vision

The examination of the eyes gave besides the nystagmus previously mentioned and exophthalmos the following important symptoms (report by Dr. Pyle, Dr. Gittelson, and Dr. Brown). Vision in both eyes was 6/30 and could not be improved by glasses. Chorioretinitis and optic atrophy were present in both eyes. Retinoscopy gave the following results: R+S 0.50+C 1.25 a×90°. L+S 2.75+C 0.50 a×75°. The fields of vision were contracted especially in the right eye (see chart). The pupillary reaction is fairly normal and the external motor apparatus of both eyes is in a good condition.

Otherwise the patient presented nothing abnormal. Heart, lungs, abdominal viscera, thyreoid gland—all appeared to be normal. The mentality was fairly good and commensurate with his age. No reliable data could be obtained with regard to the family history.

The boy was placed on gradually increasing doses of iodides. The convulsions became subsequently very rare, and the headache of which he constantly complained improved considerably. The condition of the eyes after six months of treatment remained unaltered.

The case just reported is important from several standpoints. It is an example of an oxycephalic head (steepleshaped) with predominant pathological changes in the visual apparatus. The deformity of the skull noted from early infancy, probably as a result of inflammatory disturbances in the meninges and bones caused by a series of infectious diseases, was followed by gross basilar changes. The sphenoid bone, the most important of the basilar bones, contains all the foramina through which pass the bloodvessels and nerve fibres of the visual apparatus. Ophthalmic involvement was the natural and logical consequence of the deformation of the cranium. Exophthalmos, which is almost a constant accompaniment of oxycephaly, was present in my case.

A very interesting condition was revealed by an x ray examination of the skull made by Dr. Leonard. Contrary to the usual radiographic pictures



Oxycephalic head. Natural size of ears and exophthalmos.

of the brain and skull, here the contour of the entire brain with its individual convolutions and fissures is distinctly seen. The condition is probably due to a special thinness of the skull. While the patient presented no mental enfeeblement or disturbance, he nevertheless had attacks of generalized epilepsy. The latter was probably due to bilateral pressure on both motor areas caused by the abnormal or premature synostosis of the parietal bones. If we take into consideration the previously cited view of Virchow and Hirschberg, we may admit the existence of an old pachymeningitis in both hemispheres which is a sufficiently valid cause for an irritation of the motor areas and therefore for convulsions. The latter contention is highly plausible in view of the continuous severe headache of which the patient complains.

The presence of cranial malformation naturally rejects any expectations of relief of the disturbances of the visual apparatus from operative procedures. The removal of a portion of both parietal bones may give some amelioration of the continuous headache and of the existing epilepsy, but this is only problematical.

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TWILIGHT TALKS WITH THE DOCTOR.

By George F. Butler, A. M., M. D.,

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[illegible]

It is estimated that three fourths of all the population are children. It is well worth a doctor's while to seriously consider this fact. If this estimate is correct a physician's standing and success in a community will largely depend on how the children like him. A doctor should cultivate the friendship of children, and especially when he is called to visit a sick child he should do everything in his power to allay the child's fear of him if he has any. Do not look too sober and serious. Get the child's confidence if possible before you attempt any physical examination of him. Be kind and pleasant; humor his likes and dislikes as far as compatible with your duty to the patient and to yourself. Kindness to your little patient is remembered and often results in a rapidly increasing business for you as time goes on.

Many parents frighten their children by telling them they will send for the doctor if they are not good. A child should be taught to look upon the doctor as his best friend, and one person in the world who can help him when he is sick. He will then be glad to see the doctor instead of looking upon his visit as something to dread. If the child is taught not to fear the doctor, but to watch gladly for his coming, should it be necessary, it is then up to the doctor to make good.

And the right kind of a doctor, the one with a smile in his eye, the milk of human kindness in his veins, and a genuine love of humanity, and particularly of children, in his heart, can make good with the majority of children. Such a man is hailed with delight by every member of the family from "grandma" to "baby." To him the little sick arms will be uplifted as fearlessly, and almost as lovingly as they are to "mamma," and whatever "docky" wants done is done, even if it does hurt.

How easy it is for such a doctor to examine and treat his little patient, but how different it would be if he belonged to that dignified, funereal class of ultrascientific doctors. Let such a man attempt to examine the throat of such a child as the Robespierrean tyrant I told you about in my last talk, and it would require the combined efforts of father, mother, and the cook to hold him and pry his mouth open long enough for the doctor to get a very unsatisfactory glimpse of his throat. When such a man attempts to examine a child, and especially such a child as Robespierre, he enters at once into a free for all fight. For a while the child may have the best of it, and the eminent scientist may lose his temper and say unkind things to the thoroughly frightened child and to the frenzied mother who soon gives way in a paroxysm of hysterical weeping, when "father" steps in, grim, gray, and determined, and by main force holds the child down while the doctor examines him. That the examination under such circumstances is of any great benefit to the doctor, or that the child derives much benefit from the visits or treatment of such a doctor is doubtful. No matter how learned such a physician may be he will not succeed very well in treating children.

On the other hand, the man who has the confidence of the children is usually more successful in his pædiatric practice than the unpleasant doctor, and he is more successful in his general practice, too, for the appreciative mother is a great factor in building up a doctor's practice in a community.

I have a friend, Dr. Candler, who has the knack of winning sick children down to a science. He says, in his excellent little book, *Every Day Diseases of Children:*

[illegible] ments getting acquainted, and if the child is old enough, try to make his illness and the treatment a subject of interest. For instance, a child burning with fever can be told that he is "the scarlet prince" (or princess) on whom a wicked witch has laid a spell which can only be broken by the doing of certain definite things by the magician—yourself! The spell makes the tongue white, the skin speckled, and the pulse quick, and if it is not broken, the little "scarlet prince" may be very ill. Of course, any afflicted prince will eagerly aid the magician to defeat the witch, even if he has to take pills and funny stuff in glasses to do it, and will eagerly await the time when the latter can come again to see how his charms are working.

The mother is left to see that the witch does not get at the prince and tempt him to do what he should not do, as she usually comes in her invisible cloak and whispers: "Don't take that nasty medicine." It is very necessary that the magician should have a deputy.

This may appear trivial to the savant or grimly scientific physician, but it means a great deal to the children's doctor and his patients. I know that more than one useful life has been saved by the turning of the illness into an absorbingly interesting combat between the "wicked wizard" and myself—the patient of course being the bone of contention.

If you have to do a painful or disagreeable thing, tell the child (if he asks) what is painful or what not, but that it is essential to success, and that other boys or girls have been through it and laughed afterward. Offer some reward for good behavior and be sure to give it. Don't promise a child and break your word. Take pains to save pain. A tube of ethyl chloride, a bottle of chloroform, and a little cocaine solution will enable you to do [illegible]

that he will be hurt until it is necessary to do so, apprehension is bad for small people.

Be gentle and never hurry. Never cause the little one more discomfort than you must, and always present the brightest side of things.

When making inquiries of the parents regarding the sick child I have found by experience that it is wise to give attention chiefly to the reports and conversation of the "head of the house," and it is not always the husband who is the boss of the household, by any means. Not infrequently I have found that the wife and mother "wears the pants," and then again I have quickly discovered that the husband is unmistakably the one to whom I should address my questions and opinions.

Whoever, whether father, mother, or grandmother, appears to dominate all members of the family and to be at the head of those whom you meet in the sick room, that is the person to whom you should address your conversation, and to whom all directions should be given regarding the care of the sick child, if there is not a trained nurse in attendance, and even if there is, you should not ignore the ruling spirit of the family. You may with safety practically ignore the other people who are present, but be careful not to slight the head of the house.

When you have gained the confidence of your little patient and are ready to examine him, there are a few pointers you should remember when making a physical examination of a child. It is doubtless unnecessary to caution you against putting your naked finger in a child's mouth; always use a spoon or tongue depressor, and thoroughly sterilize it before and after using. But never omit the examination of the throat, mouth, and tongue.

In auscultating the chest, always use a stethoscope. A child will usually remain perfectly quiet if you play that the stethoscope is a telephone, or trumpet. Remember that intestinal gurglings and rattling of mucus in the nose are sometimes mistaken for bronchial râles. All chest sounds of children are louder on the right than on the left side. In infants and young children the inspiratory sound can be heard plainly, the expiratory being almost undistinguishable. When percussing the chest it is well to have the child sitting up if possible. Remember that a quick respiration—even with some fever—does not necessarily mean an involvement of the lung; it's the character of the breathing that counts most. It is well to remember that functional murmurs are not uncommon in childhood, and that in infants the apex is outside the line of the nipples and the first sound is equally clear at the arterial and venous orifices. There is no accentuation of the second sound from birth to puberty. Anæmic murmurs are rarely heard in childhood. Do not forget the marked changes that take place in the area of cardiac dulness between the first and twelfth years of age. Never percuss the heart of a very sick child, and do not auscult while the child is crying if you can avoid it. Remember to always carefully palpate the body of a child, and do not forget to warm your hands first. By palpation one can feel râles, a solid lung, fluid in the chest, the thrill of a roughened heart valve, and many other things. You will be surprised what you can learn by the careful palpation of a child's body—the abdomen, spine, epitrochlear glands, the liver and spleen, head, joints, etc.

When you start out to examine a child let it be thorough; overlook nothing. It will be easy to examine some children; in others who have been spoiled, like little Robespierre, the task will not be so easy, even though you are an expert in handling children.

There are some children, like Robespierre, who have been spoiled by over indulgent and foolish parents, who will whine and kick and scratch when any doctor attempts to examine them. They are thoroughly spoiled children and are always hard to handle, and they do not improve much as they grow up. They become the neurasthenic, hysteric, wilful, opinionated, fussy, disagreeable, unstable "cranks" and "grouches" so many of us have to deal with. Oh! If parents would have a little more common sense and control over their children! You must ignore the whims and wishes of such a child as Robespierre and get down to business at once if you find that all your efforts to win his friendship and confidence fail.

Neither should you yield to the caprice of mamma, who may say: "Maybe he will let *me* hold his tongue down," etc. Do your own work, and in cases of a spoiled family pet who cannot be reasoned with waste no time dilly dalling with the child or its parents, but proceed kindly but firmly and deliberately to examine the patient, and rather than submit to any foolishness or interference on the part of the parents you had better quit the case.

As regards medicine, the up to date doctor is giving less medicine nowadays than formerly, but is giving better medicine. Whoever now prescribes nauseous, repellent medicines injures both himself and his profession and is deficient in one of the most simple and essential requirements. To do so is an admission that one is behind the times.

Some people patronize certain irregulars for no better reason than that the children take their medicine easily, knowing from experience that an attempt to give pills, powders, capsules, or bitter, nauseous spoonful doses to children who have not been taught obedience, or spoiled and humored tyrants like Robespierre, whose nurses and mothers have taught them to fear the "doctor" as a "bogey man," means a fight or failure, and a nervous infliction on the child, parents, and everyone concerned. Under these circumstances, even should the medicine effect a cure, the cure is perhaps worse than the disease.

It is the duty of every physician who believes in the efficacy of drugs (and every one should, and does if he is not fossilized) to see to it that his little patient is able to take easily and retain the medicines he prescribes, palatable prescribing being one of the essentials to success in the management of sick children.

Do not, however, subordinate efficiency to palatability. Roberts Bartholow once said, in effect, that the mere ability to prescribe elegant, good tasting medicines might enable a man to make a good medical confectioner, but not necessarily a scientific medical practitioner.

Fortunately, power in action and facility in administration can now be combined without de-

scending to such trivialities by employing concentrated preparations of medicaments such as the alkaloids and other active principles, and by their arrangement in such form as to secure facility of administration and precision in action.

The use of crude, galenical preparations is rapidly giving way to active principles and remedies of known and unvarying strength. This, with the steady advance in medicine, is as unavoidable as was the substitution of the steel axe for the chipped flint. It is only when we are dealing with accurately distinctive therapeutic agencies that we can exactly estimate their action and be enabled to apply them with confidence; and confidence is the foundation of prompt and effective action. Precision can be founded only on precision, delicate accuracy in work requires delicate accuracy in tools.

By using the active principles, the dose can be dissolved in plain or sweetened water so that the solution can be made very active as well as very palatable. All the alkaloids, or nearly all, and their salts, dissolve in so small a quantity of water, that should you desire, you can make a very few drops of a given solution contain a sufficient quantity to act as strongly as may be necessary. It is better practice, however, to give a dose of the active principle on the tongue and wash down with a drink of milk or water, or give in at least a teaspoonful of plain or sweetened water. This way of preparing at the bedside just the amount and kind of medicine needed is much better than sending to the drug store for numerous bottles of complicated mixtures of solutions, to cumber the medicine table or the chimney piece, left overs to be cupboarded for the next similar case. Such practice is wasteful, extravagant, costly, and, what is more, uncertain, unreliable, and disagreeable to the patient, and should not be added to the other burdens occasioned by sickness.

It is well known that the different ages of life are not impressed in the same manner by the same drug. Some medicines affect children different from the way they affect adults. Children of the same age sometimes react differently to the same drug. Fonsagrieves said: "One child's reaction may be represented by 1, if you give him a drop of laudanum, while another will, under the same circumstances be represented by 10." Every moment we are meeting with examples of this *apathy* on the one hand, and *erethism* on the other, with respect to every medicinal substance, which demonstrates that the weight of the body is an imperfect basis for establishing any rules of dosage. Impressionability to the action of medicines takes no account of the scales; it rests upon facts of sensibility and life which are eminently idiosyncratic, which are measured in practice only by the results of the substances used, and for which there can be no arithmetical calculation.

It is better, therefore, to give the active principles (in solution if you wish) in small doses frequently repeated until the desired effect is obtained. In the treatment of any patient we aim at a result. The result can only be obtained by a dose which shall be sufficient, and the sufficient dose cannot be established in advance either by calculation, by experience, or by inspiration.

All medicaments however great their activity, even such powerful alkaloids as aconitine, strychnine, veratrine, atropine, morphine, etc. are applicable to practice among children, not excepting those medicaments to the action of which children show the greatest susceptibility; morphine, strychnine, and "tartar emetic," for example, need not be excluded from such practice. Everything depends upon the doses, which should be very small at the beginning, and gradually increased, according to the effects observed, so they will yield all the desirable probabilities without any untoward effects.

With proper skill and tact, active reliable remedies and proper methods of administration, you will find that your practice in diseases of children will be very pleasant and satisfactory, and remunerative; and if, as the family physician, you can teach parents how to so bring up and care for their children that they will not become physical, nervous, mental, or moral wrecks, you will be a public benefactor.

LYMPHOID DEGENERATION OF THE CONJUNCTIVA.

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[illegible]
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For more than a hundred years trachoma has been the subject of study and investigation. For the first fifty years of this period, discussions were largely concerning its clinical features. Bendz, in 1858, demonstrated the lymph follicle. This brought forward inquiry as to whether lymph follicles normally existed in the conjunctiva and whether follicular conjunctivitis and trachoma are one and the same disease or not. I believe a certain amount of lymphoid tissue is present normally in the conjunctiva. And I am convinced that follicular conjunctivitis and trachoma are one and the same disease. Furthermore, I believe that adenoids of the pharynx and trachoma are identical processes. For the last fifty years trachoma has been regarded as a specific[1] disease by the majority of physicians almost solely on the assumption that it is contagious. Interest in the subject has gradually increased and in the last two years, literature about it is constantly before us. Every now and then, some investigator announces to the world that he has at last discovered some microorganism which is the true cause of trachoma. Each of these agents discovered has been hunted down and found innocent of the charge against it. The last one announced is the trachoma body of Prowazek, which has been the object of critical and searching investigation. Nothing has been proved except that the body exists and has been found in a variety of conjunctival inflammations. It is extremely likely that the body of Prowazek is the result of certain pathological changes in the conjunctiva, although it has been reported as having been found in the conjunctiva of the infant.

From the title of this paper it may be inferred that I hold the opinion that trachoma is not contagious. Up to a few years ago I accepted the contagious theory of trachoma unreservedly. Certain clinical observations, however, which I could not reconcile to the disease known as specific trachoma, caused my opinion to change. The further fact that the microscope has failed, even up to the present time, to identify definitely any specific organism which will produce trachoma, leaves little doubt in my mind that trachoma is a nonspecific disease.

It is not my purpose to go much into the literature of trachoma, in this paper, but to take up some of the most important points bearing upon the nonspecific theory of trachoma. The title, lymphoid degeneration of the conjunctiva, was chosen as most suitable, since it conveys to one's mind a definite pathological process. Trachoma conveys no such meaning, being an expression descriptive only of a single phase of the disease. The only reason for retaining the term trachoma is that it has become familiar to both physicians and laymen.

Before going further into the subject of trachoma it is deemed best to state the principal lines of thought embodied in this paper: 1. That trachoma is nonspecific and noncontagious; 2, that follicular conjunctivitis and trachoma are one and the same disease; 3, that pannus must be regarded as reparative; 4. that trachoma is essentially chronic and self limited in its nature; 5, that predisposition and susceptibility are important causative factors; 6, that trachoma may be caused by one or more of a number of agencies; 7, that digestive disturbances including autointoxication are potent in the cause of trachoma; 8, that errors of refraction deserve careful consideration as contributing causes of trachoma; 9, that adenoids of the nasopharynx and trachoma are similar processes; 10, that heredity, which has been practically excluded from causation, is undoubtedly an important factor.

Within the last ten years I have treated more than a thousand cases of trachoma and my observations throughout this course have been critical because during most of this time I have believed trachoma to be noncontagious.

The tissues primarily involved are the adenoid layers of the conjunctiva; following closely are the conjunctival epithelium, the conjunctiva proper, the tarsi and Meibomian glands, and the cornea, all in about the order named. "The lymph follicle," which is essential to trachoma, as described by Weeks, "is an aggregation of lymphoid cells surrounded by a very delicate connective tissue membrane bearing small bloodvessels, the follicle is traversed by delicate connective tissue trabeculæ and contains a few capillaries." We have here then in a single follicle all the tissue elements concerned in lymphoid degeneration of the conjunctiva, namely, lymphoid cells, fibrous tissue, and bloodvessels.

The uniformity of a three stage course of the disease may be taken to support a specific theory of trachoma, but the duration of the disease is contradictory to that theory, ending in a cure in a few weeks in some cases and continuing in others for six or eight years. That a specific organism could behave in this manner would be curious, to say the least. Neither does it seem consistent with the specific theory of trachoma that "folliculosis" of today may be trachoma to-morrow and within a few days again be "folliculosis."

Excreta from a typically trachomatous eye when placed in a conjunctival sac, may sometimes excite trachoma, sometimes only a harmless conjunctivitis, or it may produce no disturbance whatever. It is a fact familiar to all ophthalmologists that one member of a family may have trachoma for years while all the other members escape it entirely. It is also observed that trachoma may exist in one eye of an individual for a long time and be finally cured without contracting it in the fellow eye. This is very discouraging to a specific contagious theory.

The follicles push backward the conjunctiva covering them, rendering the surface of the conjunctiva uneven and forming the well known "sago grain" appearance. The rupture of the follicles is facilitated by the stretching and thinning of the epithelium covering them. This thinning is partly due to the pressure of the unyielding tarsus on one side and the cornea on the other, and partly to the growth of the follicles, or they may rupture on account of inflammatory changes. With the rupture of the follicles, acute symptoms may immediately set in, giving rise to what is known as "acute trachoma."

Pannus follows trachoma keratitis closely, or may even precede it, accompanied by infiltration of the cornea. It is due to injury of the cornea by the rough surface of the conjunctiva, aided by the milkinglike movement of the lid passing over the blood vessels of the limbus in the act of winking. Pannus really is a reinforcement of the corneal structures set up by Nature to assist the cornea in saving itself from the ulceration and destruction which would otherwise occur. Pannus provides nutrition and repair and must be regarded as reparative in the same sense that provisional callus is reparative to a broken bone. Its appearance early in the second stage is usually indicative of severity. The lymphocytes, found in trachoma pannus, are carried there no doubt by the new vascular circulation and deposited in the corneal tissue. Aggregations of lymphocytes are frequently observed as punctate infiltrations; these sometimes form sites for ulcers.

Trachoma is a chronic disease of childhood and in its natural course is self limited. Sometimes cases are observed to have recovered with all the evidence of a protracted and severe trachoma. The patient says that for years the eyes were "sore" and since then have been "weak," and it is found that no special treatment was ever followed. Cases of this kind, more frequent in former years, were allowed to pass through all the stages of this destructive disease and to terminate by self limitation. Trachoma frequently terminates in the first stage, and I am satisfied that a great many patients in this stage actually recover unobserved, as the ophthalmologist is seldom consulted until the eyes have shown some unusual irritation, or the condition is accidentally discovered. In the absence of irritation this condition may go on unobserved for several years, having practically no symptoms, being only an enlargement of the lymphoid tissue be-

yond normal proportions and by its formation in little masses or follicles; then after a variable period of a few weeks, perhaps a few years, the follicles may begin to rupture, or they may take on a condition of atrophy, which ends in recovery.

With the onset of inflammation and rupture of the follicles begins the second stage, which is essentially inflammatory. In this stage we find the greatest number of pathological changes occurring. Inflammation is more or less prominent; the follicles swell, rupture, and discharge their contents, the latter seemingly being highly irritating to the conjunctiva; granulations form, the involvement and destruction of the Meibomian glands take place and in many cases, pannus appears. This stage may continue for several years, and finally, when the follicles are destroyed, ends in the third stage, which is the stage of cicatrization and atrophy. When a lymph follicle breaks down and its contents are discharged the third stage immediately sets in, characterized by the formation of scar tissue. If the case is severe, and especially if it is protracted, we find, as the third stage advances, the conjunctiva showing areas of scar tissue, the fornix reducing in area, more or less pannus appearing, or, if the case is mild little evidence of this stage is seen. The stages of trachoma, except the first, seldom show clear cut lines of demarcation. They overlap each other to such an extent sometimes that all three stages may be going on simultaneously, that is, some follicles may be forming, some may be breaking down, while others still may be cicatrizing, but the predominant feature determines the stage. The different clinical aspects of the disease must be regarded as incidental, due to a lack of uniformity of distribution of the lymphoid tissue, or perhaps to some individual peculiarity, or to environment. The differentiation between trachoma in its incipient inflammatory stage and other inflammatory conditions of the conjunctiva is sometimes very difficult, even impossible. A week or two usually is necessary to clear up the diagnosis.

To classify folliculosis, follicular conjunctivitis (the latter being folliculosis plus inflammation), and trachoma as separate diseases is neither in accord with clinical facts nor the histology of the follicles. Some authors put much stress on certain clinical features by which they define folliculosis, or follicular conjunctivitis and trachoma as separate diseases. This classification is wholly at variance with my own observations; I have found it impossible to distinguish sufficient characteristics upon which to base a differential diagnosis, and I consider these so called diseases to be simply stages or phases of one and the same disease, namely trachoma. It is a frequent clinical occurrence that cases which are diagnosticated according to the textbooks as folliculosis or follicular conjunctivitis subsequently prove to be trachoma, and vice versa.

The Meibomian glands are always involved and generally destroyed in all cases which run a severe and protracted course. This is shown by the fact that the tarsi are greatly atrophied and by the further fact that chalazia are seldom seen following a severe and protracted trachoma. The patency of the Meibomian ducts is completely obliterated; and with such obliteration it would be reasonable to expect chalazia more frequently, were the glands preserved. The manner of the involvement and destruction of the glands is not clear, but its process appears to be one of suppuration with the formation of granulations. In fact, the variety of trachoma known as papillary is nothing more nor less than these granulations together with those granulations resulting from follicular degeneration. In support of this statement it is only necessary to recall the frequency of granulomata occurring as a result of a prolonged suppuration of a Meibomian gland (internal stye). In seeking the causes of lymphoid degeneration of the conjunctiva it is necessary to begin with the first alteration occurring in the normal adenoid layer of the conjunctiva, setting forth the important causative elements upon which a reasonable hypothesis may be based. The causes may be divided into two classes, namely predisposing and exciting; predisposing causes may be defined as conditions, either general or local, which render the lymphoid layers of the conjunctiva susceptible to degenerating changes. Exciting causes are those agents which excite local irritation or inflammation of the conjunctiva or of its lymphoid tissue. To my mind the predominant element in causation is predisposition, and closely associated with this is a second factor, namely, susceptibility; but a fine distinction may be drawn between the two, as, for instance, an individual may be predisposed to lymphoid degeneration, yet his environment be such as to lesson his susceptibility, or increase his resistance. I am convinced that the predisposition to trachoma occurs in temperaments akin to lymphatic, strumous, or tuberculous temperaments, if they are not exactly the same. The fact that the preauricular glands, and sometimes the submaxillary glands, are swollen, establishes an important relationship between predisposition to trachoma and the foregoing systemic temperaments. It is observed that no amount of irritation or inflammation is capable of exciting the disease in some eyes and also that certain inflammatory diseases seem to eliminate susceptibility through immunity. There are cases that run an unusually long and severe course and end, as it were, when they have burned themselves out, and in such cases treatment avails nothing, apparently. The severity of such cases can be accounted for in no other way than by predisposition and susceptibility. Immune persons are lacking in predisposition and susceptibility. Racial immunity is probably entirely anatomical.

Exciting causes are the various microorganisms producing inflammation of the conjunctiva, and other local and pathological influences. Of special interest is the effect of toxines, usually the result of autointoxication, and of equal interest is the causative effect of eye strain in the production of trachoma; but both have been hitherto ignored as possible causes so far as the writer is informed. Foreign bodies and injuries of the eye may, in rare cases, excite trachoma.

Autointoxication deserves a prominent place in causation; it may act either as a predisposing or an exciting cause or both. The reasons for such belief seem ample. In the first place, autointoxication is believed to be a factor in many disturbances of the eye, whether by the direct irritation of

toxines, or by lowering the body vigor is not positively known. The ciliary body, the sclerocorneal margin, the eyelids, and most important of all, as concerns trachoma, the retrotarsal fold (where the greatest development of lymphoid tissue takes place), and the conjunctiva, are all rich in blood supply. The retrotarsal fold, as a rule, is the first to be attacked by trachoma. Any disturbance of the normal balance of a hyperæmic or congestive type would tend to hypertrophy; and on the other hand any decrease would tend to atrophy. Other local influences may excite trachoma by increasing the blood supply, irritation, and inflammation. Most of the acute trachomata of a suppurating or catarrhal type have been demonstrated to be of superimposed infection.

Errors of refraction, heretofore not considered causative of trachoma, deserve careful consideration. We know that every error of refraction uncorrected produces some degree of disturbance not altogether in keeping with the amount of error. Sometimes eye strain continues for years before it is discovered; and it is reasonably certain that such continuous strain does produce pathological changes in a predisposed eye. It may be stated here by way of explanation, that while all individuals who have trachoma may not be predisposed, yet it is undoubtedly true that a great majority of those afflicted with the disease are predisposed. Those of us who take the trouble to observe carefully may be convinced that trachoma yields more readily in all its stages when a cycloplegic is a part of the treatment. This I have demonstrated to my entire satisfaction, a few cases of atropine conjunctivitis to the contrary.

The similarity between trachoma and adenoids of the nasopharynx is so striking that it can not be attributed to chance. There undoubtedly exists some underlying pathogenic influence common to both diseases. Following are a number of similar features, demanding investigation and explanation. "Lymphoid tissue wherever found, whether as diffused masses, simple nodules, or as the larger and complex lymph nodes, lymphoid, or adenoid tissue is composed of two chief constituents—the supporting connective tissue reticulum and the lymphoid cells" (Piersol): 1. Both are histologically the same; 2, both are diseases of childhood; 3, both are self limited, running a three stage course and ending in atrophy and cicatrization; 4, both are chronic in their nature; 5, both are said to be congenital, sometimes; 6, both are more common among the poor in unhygienic surroundings; 7, both are uncommon in the adult; 8, both are more commonly found in lymphatic temperaments and in underfed children suffering from malnutrition; 9, both are rarely observed before the third or fourth year of life; 10, both are more common during the first ten years of life; 11, both are incipient, as a rule, before the fifth year of life, frequently as early as the first year; 12, both are exaggerated by gastrointestinal disturbances; 13, both are exaggerated by functional disturbances of their respective localities; 14, both are predisposed through heredity; 15, both are frequently associated with enlarged tonsils, preauricular and submaxillary glands; 16, both are influenced by climatic changes; 17, both have a tendency to keep within restricted limits; 18, both may exist for years and actually recover undiscovered; 19, both lack a tendency to replace any of the tissue removed; 20, both yield the best results if operated upon in the latter part of the first or the first part of the second stage; 21, both will continue to progress if operated on too early, as a rule; 22, both are likely to result in permanent damage if allowed to run their full course or if operated upon too late; 23, children having trachoma usually have adenoids of the nasopharynx. It would appear, therefore, from the preceding that if trachoma be specific and contagious, adenoids of the pharynx are also.

The treatment of trachoma is so well understood at the present time that any remarks upon it other than to emphasize its bearing upon a nonspecific theory would be out of place here. Treatment may, however, be divided into two classes, prophylactic and curative, and these may be subdivided into systemic, surgical, topical, and the correction of errors of refraction. It has been stated that the beginning of trachoma is very early in life. It is obvious therefore that prophylaxis should begin at birth and continue through a number of years. Among the better classes prophylactic treatment is more or less, in a general way, carried out, not however with the idea of preventing trachoma, but of establishing a vigorous constitution with which to battle against the many ailments incident to life. As a result of such a course, trachoma is becoming less frequent in these classes. Among the poor carefully planned prophylaxis is seldom instituted. In this class trachoma is much more frequent and severe. In the adult the same difference in frequency and severity as in child life is observed between the poor and better classes, but as the disease is one of childhood, it is comparatively rare in the adult except as having been prolonged through and beyond adolescence, and the treatment then is more curative than preventive.

Predisposition through heredity has been too lightly regarded. If we stop to consider the very many congenital and hereditary anomalies, idiosyncrasies, tendencies to various diseases, etc., that are visited unto the children even to the third and fourth generation,—which are nothing short of mysteries,—why should it be doubted that predisposition to trachoma may be inherited also? Past heredity can not be controlled, but the future may.

Special effort should be directed against disease temperaments of all kinds and to various alimentary disturbances, especially autointoxication, the various conjunctival disturbances, and errors of refraction. Errors of refraction have heretofore been ignored as a cause of disease in children even by those who are most careful in other respects. Not until trouble actually arises (and then only after all other remedies have failed) is the ophthalmologist consulted—as a last resort. The state of refraction of the eyes of every child should be determined by the end of the second year, (certainly not later than the third year) in order to forestall the ill effects of incoordination and concentration resulting from a refractive defect.

Curative treatment has reference to the cure of the disease after it has been established. Expression is the favorite treatment, having as its object

the complete removal of the trachomatous tissue. Expression with the idea that it removes the supposed specific microorganisms casts considerable doubt on the specific theory of trachoma, because equally good results are obtained by the use of the roller forceps or the firm bladed forceps; the former crushes the tissues between its rollers, but does not remove it thoroughly, while the latter scrapes it away. If the disease were specific the roller forceps would be inferior. Years ago, crushing and scraping trachomatous tissue with the thumb nail was in much favor for the cure of trachoma and is practised even yet to a limited degree, always attended by good results. Adenoids of the nasopharynx are frequently successfully treated by introducing the index finger into the vault of the pharynx, breaking up the tissue and removing it.

Systemic remedies are those indicated in the correction of any body ailment. The various remedies used locally all point toward a nonspecific theory of trachoma. Only two of those in use today are ever applied with any thought of germicidal properties. , Silver nitrate and mercury bichloride are those to which reference is made. Mercury bichloride is one of the most powerful germicides known and perhaps is the least desirable in the treatment of trachoma. It has been the custom in the New York University and Bellevue Hospital Medical College clinic to make free use of it in the treatment of trachoma, but confidence in it gradually fell off till some months ago it was determined to undertake some experiments by way of comparison. The strength used up to that time had been 1 in 3,000, to which were added ten drops to the ounce of adrenalin chloride (1 in 1,000). This was used as a collyrium by the patient at his home, two or three drops several times daily. The other strength (1 in 500) was rubbed into the trachoma tissue two or three times weekly in conjunction with the home treatment. Boric acid solution was substituted for these solutions, but in the weaker solution the same amount of adrenalin was retained. These substitutions have been consistently carried out for months and are still going on at the present time. The result of this experiment has been decidedly discouraging to a specific theory, it being impossible to detect the slightest change in the progress, one way or the other, of the cases under observation. It is the intention to continue these experiments, using sterile water and normal saline solution as substitutes. The custom of scrubbing the conjunctival surface with a coarse brush dipped in a solution of bichloride mercury (1 in 500), following expression, is of no specific advantage and no special value should be attached to it over other less germicidal solutions. The value of this procedure should be attributed to the mechanical effects of the coarse brush breaking up and clearing the field of remaining trachomatous tissue that has escaped the forceps. Solution of mercury bichloride to be of use in the treatment of trachoma, aside from its general antiseptic effect, should be in strengths that will produce a mild escharotic effect. Some years ago we set in motion a comparative study with the idea of bringing out the superiority of mercury bichloride or of copper sulphate or of silver nitrate. Cases were taken as they came in, only one remedy was used on a single case, but a number were under the same treatment at the same time and were continued throughout the course. The best results were obtained from copper, silver second, and mercury third.

Copper, which is perhaps superior to all other remedies for local application, is applied with little thought of antisepsis. The same is true, only to a less extent, of silver nitrate. Both copper and silver cure trachoma by their known action in destroying granulating and suppurating processes. Alum, zinc, tannin, copper (in weak solutions), and others in this class are helpful by their astringent action. Errors of refraction are very influential in a causative sense, and in a curative sense when such errors are corrected. It has been demonstrated that cycloplegics are of vast benefit in the treatment of trachoma, and it is entirely reasonable that the correction of an error of refraction producing eye strain, would be very helpful. In many cases in the second and third stages and especially if there is pannus this is impractical and a cycloplegic must be used. Adrenalin also, in strength of from 1 in 20,000 to 1 in 40,000, is a valuable addition to remedies in the treatment of trachoma. Its action is by reducing inflammation, lessening blood supply, and favoring atrophy.

It is apparent therefore that the whole treatment of trachoma as well as the whole trend of the disease from beginning to end supports in no undecided way a nonspecific, noncontagious theory. Lymphoid degeneration of the conjunctiva, as promulgated in this paper, may not wholly be accepted; the author is convinced, however, that his general ideas will stand. He feels that his presentation of this theory is justified by the fact that hitherto all investigations into the cause of trachoma have been along the line of microorganisms. For half a century failure has attended every effort to establish a specific theory, and it is high time that investigation is the opposite direction be undertaken.[1]

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EOSINOPHILIA AND ANAPHYLAXIS.

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The striking analogy between the phenomena of experimental anaphylaxis on the one hand and such diseases as asthma, hay fever, and urticaria on the other led the writer over a year ago to suspect that these diseases were manifestations of an anaphylactic reaction in the human organism. In the course of the past year, this similarity has been noted by a large number of observers, notably by Wolff-Eisner

Without entering too largely into the explanation of anaphylaxis, the essential attributes of this newly discovered phenomenon may be stated as the fol-

[1] Section in Ophthalmology, Academy of Medicine, November 21, 1910, in which they deny that the so called trachoma bodies cause trachoma.

lowing: 1. A previous susceptibility is necessary. This is obtained in animals by the injection of a foreign protein, e. g., albumin, serum, actinia extract, etc. 2. An incubation period (ten to fourteen days) must elapse before a second injection can induce the symptoms of anaphylaxis. 3. The anaphylactic reaction is specific; i. e., the second injection must consist of the same substance as the first. 4. An exceedingly minute quantity at the second injection is capable of inducing the symptoms. Wells (8), for instance, showed that for egg albumen such a minute quantity as 0.000,000,05 gramme was sufficient. 5. The reaction can be obtained by the mouth as well as by injection (Rosenau and Anderson (9)), showing that the entrance of toxine through a mucous membrane is possible. 6. The acquired susceptibility is transferable by heredity (Anderson (10)). 7. The susceptibility may be transferred to another animal in a passive way (Nicolle (11)); i. e., the serum of an anaphylacticized animal injected into another animal renders the second animal immediately susceptible. 8. The symptoms of an anaphylactic reaction are local and general. A local reaction is best exemplified in the so called Arthus (12) phenomenon, and is characterized by redness, swelling, and a wheallike lesion at the site of the second injection. The general symptoms are briefly these: Within a few minutes after the second injection, the animal (e. g., guineapig) becomes restless; there is coughing, sneezing, apparent swelling of the mucosa of the nose and pharynx; the respirations are rapid and irregular, and there is apparent dyspnœa. This stage is followed by symptoms of paresis; the animal is unable to walk and falls to one side. Even in this stage the animal may recover; if not, respiratory paralysis occurs; convulsions supervene, and, finally, death occurs.

These symptoms of anaphylaxis as observed in animals are substantiated by those observed in human beings. The anaphylactic procedure is exactly duplicated when a diphtheria or other antitoxine is reinjected into a patient after an interval. Symptoms following such a reinjection are well known to clinicians, but were first definitely studied and classified by von Pirquet and Shick (13), who applied the term "serum disease" to the symptom complex, and *Allergie,* a term expressive of "immunity achieved through an altered power of reaction" (Rosenau), in the explanation of these symptoms. "Serum disease" enables us, therefore, to study the symptoms of anaphylaxis more closely. As observed by von Pirquet and Shick, Weaver (14), Gillette (15), and others, the symptoms, briefly, are the following: Various skin eruptions, nearly always of the exudative or urticarial type; transitory œdema, frequently angioneurotic in nature; itching of the skin; swelling of the mucous membranes of the upper air passages; albuminuria; swelling of the lymph nodes; leucopenia; and joint swellings and tenderness. In violent cases, dyspnœa with cyanosis may occur; if the case ends fatally, paralysis occurs; dissolution is usually preceded by convulsions.

That local symptoms, comparable to the Arthus reaction in guineapigs, occur was shown by Lucas and Gay (16), who observed in a number of instances swelling, redness, and occasionally necrosis at the site of the second injection.

The similarity between the phenomena of anaphylaxis in animals and human beings, as we have outlined them, and the diseases we have mentioned, can now be readily appreciated. Asthma, hay fever, and urticaria occur only in susceptible individuals. The toxic substance enters by the mucous membrane, and is specific for the susceptible individual. That asthma, hay fever, and urticaria are frequently inherited is an observation known to every clinician. Furthermore, the quantity of toxic substance necessary to bring forth symptoms in any one of these maladies is extremely small. Witness the extraordinary sensitiveness of asthmatics and hay fever subjects to pollen, and of individuals susceptible to urticaria to certain foods and drugs. Most suggestive is the similitude in regard to symptomatology. The characteristic symptoms in all three of these diseases occur in the various phases of "serum disease." The dyspnœa and cyanosis of asthma occur in both animal anaphylaxis and serum disease. Further corroboration that asthma and anaphylaxis are similar is set forth in the experiments of Auer and Lewis (17), as pointed out by Meltzer, who showed that in anaphylaxis there was a muscular contraction of the bronchi and a noninflatable condition of the lungs analogous to the conditions found by Biermer in spasmodic asthma. The relief of the symptoms in both conditions by atropine furnishes to Meltzer an additional evidence that asthma and anaphylaxis are closely allied. It is extremely suggestive in this connection that the injections of antidiphtheritic serum in asthmatics is warned against by numerous observers (Wolff-Eisner, Weaver, Gillette, etc.).

Urticarial lesions and their predominant symptom, itching, are obtained in both experimental anaphylaxis and "serum disease." Additional corroboration of the contention that urticaria and anaphylaxis are allied is furnished by numerous clinical observations. For instance, it is well known that one of the symptoms of ruptured echinococcus cyst is urticaria (Wagner (18), Barling (19)). The rupture of the cyst may be regarded as an anaphylactic experiment due to the sudden invasion by an alien protein into an organism previously rendered susceptible by the same protein. That echinococcus fluid, on the other hand, can experimentally induce anaphylaxis has been shown by Chauffard, Boidin, Laroche (20), and Ghedini and Zamaranni (21). Furthermore, Klausner (22) has shown that the urticarial lesions of potassium iodide, antipyrine, and iodoform poisoning are the result of an anaphylactic reaction. He demonstrated this by an interesting series of experiments and was able to produce passive anaphylaxis in animals by the injection of the serum of the susceptible individual. Bruck injected the serum of a patient susceptible to urticaria from hog meat, and obtained typical anaphylaxis when he subsequently injected an extract of hog meat. The same result was obtained with the serum of a patient subject to crab meat poisoning. He furthermore showed that both hog and crab meat extract were capable of inducing anaphylaxis in animals, actively as well as passively.

As the result of his observations, Bruck concludes that probably all urticarial lesions are anaphylactic in nature.

Hay fever, as we have noted, resembles anaphylaxis in the manner of its induction. From the symptomatic standpoint, the sneezing and the swelling of the nose in anaphylacticized animals and in serum disease are certainly extremely suggestive of a common origin. In "serum disease," however, I am not aware that subjective symptoms comparable to those of hay fever have been observed. On the other hand, typical symptoms of hay fever have been noted in buckwheat poisoning (Smith (23)), which, to my mind, can be justly regarded in every essential as an anaphylactic manifestation, and in the peculiar intoxication the result of contact with ascarides described by Goldschmidt (24), a form of intoxication that is also typically anaphylactic.

The three diseases that we have discussed—asthma, hay fever, and urticaria—have another peculiar feature in that they very frequently coexist in the same individual, and a toxic agent that is capable of causing the symptoms of one may cause symptoms of the other. It is, for instance, a common observation that pollen may cause both hay fever and asthma at the same time. Billard cites patients in whom the ingestion of crab meat caused both a nettle rash and asthma. In Smith's case, the patient was so sensitive to buckwheat that contact with this grain would cause asthma, urticaria, and symptoms of hay fever. The symptoms of ascarides intoxication cover the same ground. Numerous instances of a similar association could be cited.

It is, furthermore, peculiarly significant that asthma, hay fever, and urticaria are all included in the so called "exudative diathesis" of Czerny and Strümpell (25). We may, therefore, regard this diathesis, in connection with these diseases at all events, as anaphylactic in character.

In the category of the "exudative diatheses" Strümpell adds mucous colitis and eczema, and Czerny a host of skin diseases characterized by exudative lesions. It is an interesting observation in connection with the theme of our paper that nearly all the various manifestations of the "exudative diathesis" occur in individuals who are termed "neurotic."

The association of some of the manifestations of the exudative diathesis has already been dwelt upon. In regard to asthma and some of the skin manifestation of the exudative diathesis, it is interesting to note that Strümpell cites the observation that asthmatics have frequently suffered from eczema in their childhood. Burwinkel (26) also notes the fact that asthma, psoriasis, and eczema are frequently associated. The significance of these data to anaphylaxis will be discussed later.

With the recognition of asthma, hay fever, and urticaria as anaphylactic in origin, an attempt has been made to apply the phenomenon of anaphylaxis to other conditions.

In this category Anderson and Rosenau place eclampsia; they regard the symptoms of eclampsia as the result of repeated inoculations of the organism with placental elements. Eclampsia bears many points of resemblance to anaphylaxis, and the experimental observations which these authors carried out seem to confirm their contention.

Von Pirquet and Shick and Wolff-Eisner regard both the local and general reactions following tuberculin injections and inoculations according to the von Pirquet, Calmette, and Moro tests as evidences of anaphylaxis; an assumption that, in the light of the criteria noted above, is undoubtedly correct. In this connection we may observe that the passive vaccination reaction with buckwheat extract which Cole and Thayer demonstrated in Smith's case surely belongs to this category.

Pellagra is held by Wolff-Eisner to be an anaphylactic disease, while Klausner holds that the susceptibility of certain patients to such drugs as potassium iodide, antipyrine, and iodoform is of the same nature. He proved this experimentally when he obtained anaphylaxis by the injection of a minute quantity of iodine into a rabbit that had previously been injected with the serum of a patient susceptible to iodine poisoning.

To Hoffman (27) exophthalmic goitre is a manifestation of anaphylaxis. The arguments which favor this view are many and will readily occur to the reader from the facts which we have already set forth. In this sense, the susceptibility is supposed to be induced by the supersecretion of the thyreoid substance. Interesting also in this connection are the observations of Hoffman, who states that dermographia, urticaria, asthma, and hay fever are not uncommon associations in exophthalmic goitre. More recently tetany, migraine, and epilepsy have been classified in the category of anaphylaxis. This is as far as the relation of anaphylaxis to disease has been applied. The scope of this category will undoubtedly enlarge in the future.

A feature common to all the diseases we have mentioned—and to which attention has not been drawn—is this, they are all associated with an eosinophilia.

In asthma, hay fever, and urticaria the blood contains an excess of eosinophiles; the secretions of the bronchus and of the nose in asthma and hay fever respectively are filled with eosinophile leucocytes. In urticaria also eosinophile cells are abundant in the wheals (Gilchrist). Eosinophilia in the other manifestations of the "exudative diathesis" is a well recognized phenomenon. An eosinophilia, both local and general, is found in nearly all skin lesions (e. g. eczema, prurigo, Dühring's disease, pemphigus, psoriasis, etc.). In mucous colitis eosinophiles constitute the majority of the leucocytes in the excretion. In pellagra Neusser (28) found the eosinophiles increased in the blood. Ewing (29), Da Costa (30), Neusser, Meyer (31), and Zappert (32), all describe an increase of eosinophiles in the blood after an injection of tuberculin. The occurrence of eosinophilia in helminthiasis is one of the recognized diagnostic features of this disease. In Basedow's disease the eosinophiles are increased (Neusser, Ewing, Dickson (33)). In tetany, hemicrania, and epilepsy eosinophilia has been noted by a number of observers, especially by Neusser and Ewing. It is well known that eclampsia is associated with eosinophilia. In connection with the association of many of the manifestations

of the exudative diathesis in "neurotic" individuals it is significant that Neusser and others have shown that eosinophilia is a common finding in such individuals.

It is unfortunate that observations in regard to an increased eosinophilic content of the blood have thus far not been made in experimental anaphylaxis or in "serum disease." Weiss and Tsuru (34) simply report an increased coagulability and leucopenia, while Bienenfeld (35) reports a leucopenia. These observations are manifestly of little help to us in this connection.

The extraordinary frequency of eosinophilia in the conditions which have thus far been regarded as anaphylactic in nature cannot be regarded as a coincidence. The conclusion can therefore be justly drawn that the *increase of eosinophiles in the blood and the local manifestations must bear some relation to anaphylaxis.* Here a study of the chemotactic activity of the various agents that have thus far been known to cause anaphylaxis furnishes a definite clue. It will be found, upon investigation, that the majority of these substances are active agents in the production of an eosinophilia.

The injection of egg albumen, for instance, has been shown to cause eosinophilia by Howard (36). Tarrasewitch (37) and Stchastnyi (38) showed that the injection of alien red cells caused both local and general eosinophilia. The latter and André and Courmont (39) demonstrated a considerable increase in the blood eosinophiles after the injection of hæmolytic sera. Schlesinger (40) showed that the injection of diphtheria antitoxine caused a prompt eosinophilia. It is furthermore significant that some of the agents that cause an urticaria in susceptible individuals are also capable of causing eosinophilia. Eosinophilia following the ingestion of antipyrine is mentioned by Da Costa, Neusser, and Meyer; of potassium iodide by Lerrede (41) and Bezançon and Labbé (42). The ætiological relation of helminthiasis to eosinophilia has been proved by a host of observers, both clinically and experimentally. Eosinophilia following the injection of tuberculin has been shown by Zappert and others.

I have not been able to find any recorded observations in regard to the chemotactic activity of pollen, vegetable or animal extracts (e. g. strawberry, actinia, shellfish, etc.).

The intimate relation between eosinophilia and anaphylaxis finds a converse corroboration in the fact that living virulent bacteria, as far as has been determined up to the present, do not cause a true anaphylaxis. Living virulent bacteria, as is well known, act in a negative manner upon the chemotaxis of eosinophiles.

However, the data even thus far recorded are sufficient to lead us to conclude that *the invasion of eosinophiles in increased numbers into the organism is the expression of an active agent or the agent itself in the production of anaphylaxis.*

This fact, however, does not explain why the administration of such substances should produce symptoms of anaphylaxis only in susceptible individuals. This susceptibility, according to the criteria of anaphylaxis which we have outlined at the opening of this paper, can be either congenital or acquired. The inherited tendency to asthma, hay fever, and urticaria has already been mentioned.

Now it is interesting to note that cases of inherited eosinophilia are reported (Gangain (43)); and further, that the "neurotic habitus" also so frequently inherited is commonly associated with eosinophilia. Whether individuals with a congenital eosinophilia are more subject to anaphylactic disease than others, it is thus far impossible to say.

In regard to acquired anaphylaxis, it can be assumed that a previous invasion of the toxic agent has rendered the individual susceptible to the subsequent invasion. There are only a few observations on record serving to show that in certain instances, at all events, there is a persistent eosinophilia even after the initial symptoms of anaphylaxis are no longer manifest. Von Noorden (44), Galuboff (45), Salecker (46), and Gabritschewski (47) have shown that even in the interval between attacks of asthma, the eosinophiles remained increased in the blood. Rosenstern (48) found eosinophilia in children after an eczema had disappeared. Peters (49) records the same observation in individuals with constitutional skin diseases, especially prurigo. Rosenstern, in fact, regards an eosinophilia in these individuals as a constitutional anomaly. In one case under my observation I found a persistent eosinophilia between the repeated attacks of urticaria.

It would be venturesome from the few data thus far at our command to conclude that the susceptibility to anaphylactic manifestations is present only in those subjects in whom there is persistent eosinophilia, either congenital or acquired. The observation that protean anaphylactic symptoms occur in individuals having persistent eosinophilia from helminthiasis (e. g. echinococcus) is perhaps more suggestive of this surmise than any other. If subsequent observations confirm this contention, it can be assumed that the eosinophile cells or their products act both as sensitizers and as inciting agents of anaphylactic symptoms. The term "idiosyncrasy" therefore, in this conception, receives a definite interpretation.

Practical Suggestions. The relation of eosinophiles to anaphylaxis suggests, perhaps, that other diseases commonly associated with eosinophilia may be regarded as anaphylactic in nature. The first that suggest themselves to us are the skin diseases. The susceptibility, the inherited tendency, the period of incubation, the apparent tenuity of the offending toxine, and the association of various skin diseases with some of the recognized anaphylactic diseases which I have described seem to suggest such a relation. It is interesting to note in this connection that skin maladies are extremely rare in castrates, in whom, as is well known, eosinophiles are much diminished or absent (Neusser). If these skin diseases, in the light of the foregoing observations, are regarded as anaphylactic in origin, the fact suggests itself that specific alien proteins and not bacteria are the cause of these maladies. It would be perhaps not an unreasonable suggestion that the relief of anaphylactic diseases might consist in the administration of agents which are known to cause a negative chemotactic activity upon the eosinophiles in the human organism. Of such agents, known to

act in this manner, the injection of dead bacteria suggests itself to us.

The purpose of this paper is to present a theory based on a mass of data which appear in many ways to correlate. The theory here set forth opens a wide field of investigation, both clinical and experimental. If such research is stimulated, the writer's object will have been fulfilled.

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59 WEST SIXTY-EIGHTH STREET.

MANIC DEPRESSIVE INSANITY OR RECURRENT INSANITY?

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It is the purpose of this article to raise the question whether or not a certain group of psychoses have been appropriately designated by the term *manic depressive* insanity. The following outline of the dominant clinical pictures, the various forms, the ætiology, course, and prognosis of these psychoses will put the question clearly before the reader and may enable him to arrive at a decision.

The clinical picture of melancholia is composed of three cardinal symptoms, namely, 1, depressed affective state or sad mood (*traurige Verstimmung*); 2, dearth of ideas and retardation of the ideational process; 3, diminished frequency of volitional manifestations. For the sake of brevity these three symptoms will be called respectively, dejection, immobility of thought, inactivity. It will be more conducive to clearness to avoid in this article the term depression, for the reason that it does not refer to mood alone, but also to other mental states which may be depressed, while dejection usually implies the affective state only.

Immobility of thought and inactivity are not independent from dejection, but conditioned by it, so that wherever the latter symptom is present, we will always meet with the other two symptoms. A sad patient is quiet and his thoughts are sluggish. Only when the dejection becomes increased to anxiety and fear, the inactivity gives way to restlessness. Apparently the patient then produces also more ideas. In reality, however, it is one and the same apprehensive idea that always returns, keeping up the restlessness.

The opposite of melancholia is mania, the clinical picture of which is founded on the three cardinal symptoms: 1. Exalted affective state or cheerful mood (*heitere Verstimmung*); 2, abundance of ideas and acceleration of the ideational process; 3, increased frequency of volitional manifestations. These three symptoms may be called respectively exaltation, mobility of thought, activity. The term "flight of ideas," often used for the second symptom, is more appropriately reserved for the highest degrees of the symptom.

In mania there is the same relation between the three cardinal symptoms as in melancholia. They are not coordinate, but from exaltation necessarily result mobility of thought and activity. In a fit of anger, however, due to resistance and obstacles or to hallucinations contrary to the patient's delusions, his cheerful mood may not be obvious, so that there are apparently mobility of thought and activity without exaltation. The wrathful mood may even be mistaken for dejection.

In the writer's manual of psychiatry an hypothe-

sis is set forth, explaining the influence of the affective state upon the ideational process, and at the same time the manic and melancholic syndromes. The conclusions to be drawn from this hypothesis are supported by pathological as well as normal phenomena. The association of dejection, immobility of thought, inactivity on one side, and of exaltation, mobility of thought, activity on the other side, forms the rule not only in patients, but also in sane individuals. In a sad mood we have difficulty in thinking and prefer to be quiet, our thoughts flow readily, and we are lively and active in a cheerful frame of mind.

The foregoing explanation of mania and melancholia will hardly agree with Kraepelin's[1] views on manic depressive insanity. According to this author every mania and almost every melancholia, as defined before, constitute different phases of one and the same disease which is characterized by repeated attacks of mania, or of melancholia, or of *mixed states*, in which the cardinal manic and melancholic symptoms are combined. From the three pairs of opposite symptoms would result eight different forms. Starting from mania, composed of exaltation, mobility of thought, and activity, the other seven forms are obtained by replacing one or more of these symptoms by their opposites. The combination of exaltation, mobility of thought, activity, constitutes the *manic phase of manic depressive insanity*, and the combination of dejection, immobility of thought, inactivity, forms the *depressive phase of manic depressive insanity*.

Considering only those cases of manic depressive insanity in which the repeated attacks are always purely manic or purely melancholic, or alternately sometimes purely manic, at other times purely melancholic in character, the lengthy names of the disease and its attacks may be dispensed with. It has been known long ago that patients may go through many attacks of mania or melancholia and that these clinical pictures may alternate. A patient subject to attacks of mania or melancholia, separated by lucid intervals, suffers from *recurrent mania* or *recurrent melancholia*. When the intervals are fairly regular, we speak of *periodic mania* or *melancholia*. In *circular insanity* there are cycles composed of mania, melancholia, and a lucid interval. When the intervals of circular insanity are missing or too short to be perceptible, we have *alternating insanity*. So far there seems to be no need to abandon the long approved terms mania and melancholia and to replace them by the cumbersome names manic phase of manic depressive insanity for mania, and depressive phase of manic depressive insanity for melancholia. We may simply speak of recurrent insanity and have to bear in mind that an attack of mania or melancholia, although it has ended in partial or complete recovery, may be repeated at some future time in the same or the opposite character, especially if the case gives a history of previous attacks.

But if there are cogent reasons to regard some attacks of recurrent insanity as truly mixed states, we must acknowledge the modern views on manic depressive insanity and accept the names for the disease and its single attacks as appropriately selected. The attacks of recurrent insanity very often lack the character of pure mania or pure melancholia, but apparently contain manic and melancholic symptoms at the same time. Indeed, many authors maintain that pure mania is of very rare occurrence.

Kraepelin[2] assumes that the cardinal manic and melancholic symptoms may combine in any manner. He thus arrives at six mixed states.

1. In the manic symptom complex the exaltation may be replaced by a depressed mood. This form is the so called *irascible mania* (*zornige Manie*). The patients are constantly in an angry frame of mind and vent their wrath by inveighing against everybody. When the excitement is slight, the picture of *nagging mania* (*nörgelnde Manie*) is present, the patients being discontented and finding fault with everything and everybody.

2. When in irascible mania mobility of thought is replaced by its opposite, there arises the picture of *depressive excitement*. The patients display great restlessness. They talk incessantly, tormenting themselves and others with the same hypochondriacal ideas.

3. When in depressive excitement the depressed mood gives way to exaltation, there is produced the picture of *mania with dearth of ideas* (*gedankenarme Manie*). This form is frequently met with. The patients perceive but slowly and inaccurately, do not comprehend questions before they have been repeated several times. They create, therefore, the impression of being weak minded, though later they may turn out to be quite intelligent. The mental condition of the patients is very fluctuating, so that at times they are adroit and quick at repartee, while at other times they cannot be moved to say a word. The patients are in a cheerful mood and laugh at every trifle. Their talk is incoherent, twaddly, empty. They do not speak much, nor hastily. For a long time they may remain silent, if they are not stimulated. In the course of a conversation they are at first unable to find words, but later they may develop a torrent of verbiage. The impulse for movement is limited to grimacing, occasional dancing about, plucking at the hair and the clothes. Some patients conduct themselves orderly and quietly, so that superficial observation would not disclose any excitement. They are in an exalted mood, now and then somewhat irritated, and at times show themselves rude only to burst into merry laughter after a while. Other patients sit around idly, laugh boisterously, and display a tendency to mischievous tricks, such as smearing the walls, plugging up the keyholes, etc., while for useful occupation they are entirely unfit.

At times violent outbreaks occur in these patients, but they are of short duration. Even genuine mania may appear transitorily.

4. A cheerful mood may replace the dejection in the clinical picture of melancholia. The condition then obtained is the so called *manic stupor*. The patients are indifferent to their environment, do not answer a question, at best they mumble with a low

voice in reply. They smile without perceptible cause, lie quietly in bed, fumble with the bed clothing, and decorate themselves phantastically, all this without evident emotional excitement. Sometimes the patients give utterance to delusions of various contents. Orientation is usually little disturbed. Sometimes catalepsy is observed. Occasionally impulsive outbreaks occur, the patients suddenly becoming very violent and manifesting a tendency to dangerous acts. At other times they may be quiet, collected, and intelligent, but such a condition does not last very long. Some patients walk about the ward in measured steps and hardly speak a word, but utter now and then a witty remark. Frequently the patients remember everything that has occurred, but are unable to explain their strange conduct.

5. In the clinical picture of melancholia immobility of thought may be replaced by its opposite. The patients are quiet, silent, despondent, yet they exhibit curiosity and interest in their environment. When they break their silence, they relate that many ideas pass through their minds. They read and write a good deal, composing long stories which treat of their fears and their delusions of sin.

6. Finally, Kraepelin "believes he has observed states which would correspond to the presupposed association of flight of ideas and cheerful mood with psychomotor inhibition." These patients are gay, at times somewhat irritable, distractible, inclined to jokes. When spoken to, they readily start a long rigmarole with flight of ideas and numerous sound associations. Their general behavior, however, is remarkably tranquil. They lie quietly in bed, now and then uttering a remark or laughing. But an inner tension seems to influence the patients, for they frequently become very violent without any cause.

Elsewhere[3] the writer has described the ingenious theory of an ingenious teacher of psychiatry regarding the interdependence of ideational process, volitional activity, and affective state. It is difficult to adjust this theory to the "mixed states" sketched previously. For if it is correct that exaltation causes mobility of thought and activity, while dejection produces immobility of thought and inactivity, truly mixed states cannot occur. But perhaps these mixed states need not be taken as such. Thus, "irascible mania" may be considered as pure mania in which the exaltation is hidden by a wrathful mood (see above, clinical picture of mania), but not replaced by its opposite, viz., dejection. Similarly "depressive excitement" may be explained as pure melancholia in which the dejection is increased to anxiety and fear (see above), an affective state that causes restlessness—melancholia agitata. In "manic stupor" the affective state is that of indifference; there is neither genuine exaltation, nor dejection. An occasional smile or witty remark does not necessarily indicate true exaltation. Possibly we may detect now and then a sorrowful expression of the countenance, when we observe the patient without preconceived assumption. Casual restlessness is not necessarily manic in nature, but may be due to fear or to hallucinations.

The occurrence of the mixed state composed of exaltation, mobility of thought, and inactivity is somewhat doubtful yet.

The two mixed states, namely, mania with dearth of ideas (*gedankenarme Manie*) and the other one, which in contrast may be called *melancholia with abundance of ideas* (*gedankenreiche Melancholie*), can hardly be brought in conformity with the theory that exaltation produces mobility and dejection immobility of thought. If for this reason the theory is to be abandoned, there remains the important question to be answered why normally as well as pathologically exaltation is so often associated with acceleration, and dejection, with retardation of the ideational process. Until this question will have received a solution with which the modern views on manic depressive insanity do not conflict, there is good justification in avoiding this misleading designation of the disease and in abiding by the old term recurrent insanity, the more so as Kraepelin himself, the foremost exponent of the theory of manic depressive insanity, remarks:[4] "Die Lehre von den Mischzuständen ist noch zu unfertig, als dass eine weitergehende Kennzeichnung der einzelnen Formen möglich wäre."

Ætiology. Hereditary psychopathic predisposition is so frequently met with in recurrent insanity that the disease may be classed with hereditary insanity which is characterized by a strong tendency to recur.[5] A hereditary taint can be established in eighty per cent. of the cases. The first attack usually occurs before the age of twenty-five years, but in some instances as early as the tenth, in others as late as the fiftieth year of age. Physiological perturbations of the system may bring on the disease. This is perhaps the reason why it is more frequent among women than among men, the former being more often subject to physiological systemic agitations than the latter, at the appearance of the first menses, and during pregnancy, puerperium, lactation, and climacterium. In physiological disturbances furnishing an exciting cause lies another hereditary feature. The usual exciting causes of insanity, such as shock, fright, worry, infectious diseases, physical and mental overexertion, are even more effective in recurrent insanity.

Course and Prognosis. The disease begins with an attack of melancholia or mania which ends in recovery. The attack is repeated in the same character after a longer or shorter interval. Several uniform attacks follow—recurrent (periodic) melancholia or mania. Sometimes an attack unexpectedly presents the opposite character. Only in a small number of cases the disease passes directly from one phase into the other—alternating insanity—or is interrupted after two opposite phases by a lucid interval—circular insanity. The first attack, in the majority of the cases, is of a depressive character, especially in women and in young patients. The depression is followed by a period of well being, or passes uninterruptedly into a manic stage which ends in recovery. But if the first attack is manic, it is nearly always followed by a lucid interval, rarely by a depressive phase. The so called mixed states, as a rule, do not occur before several depressive or manic attacks have preceded.

The duration of the attacks varies from a few days to several years, and that of the lucid intervals from a few days to a great number of years. As a rule the attacks last from six to twelve months. The early intervals are longer than the later ones. In the intervals the mental condition of the patients is normal, or at least appears to be so. But sometimes, especially later in the disease, there occur in the intervals short periods of moderate exaltation, irritability, and restlessness, or of dejection and inactivity.

The prognosis of recurrent insanity is favorable with regard to the single attacks, but unfavorable as to recurrence of the disease. The first attacks ordinarily end in complete recovery, but later attacks leave behind some mental enfeeblement. The danger of pronounced mental deterioration, of secondary dementia, is greatest when the attacks are very frequent or prolonged.

A patient may have an attack of mania or melancholia, recover completely, and remain sane all through the rest of his life. Whether such a case is to be classed with recurrent insanity—manic depressive insanity—or not, is merely a theoretical question. Practically it is of importance that in a given case of mania or melancholia with no history of previous attacks the physician should be guarded in the prognosis, bearing in mind the possibility of a recurrence of the disease, especially when a strong hereditary taint can be established in the family. In cases, however, in which there is a history of previous attacks, the physician is undoubtedly dealing with recurrent insanity and may predict other attacks with a fair degree of probability.

The pointing out of ætiology, course, and prognosis of the psychoses under discussion will contribute to show that their old designation as recurrent insanity is fairly sufficient. Recurrent attacks are met with also in other psychoses, for instance in dementia præcox, but do not form as predominant a feature as in the psychoses sketched above. The modern designation of recurrent insanity with the term manic depressive insanity would seem to be misleading for the reason that the two component parts of the adjective are complete opposites, and yet when they are used in conjunction to characterize a patient, the impression is created that he is suffering at the very same time from morbid exaltation and morbid depression. In a strict sense this is impossible, nor is it at all the case in manic depressive insanity. For setting aside the so called mixed states, the theory of which is still far from being firmly established, we find that the patients present symptoms of exaltation (manic) at some periods and those of depression at other periods, but not both at the same time. As to the six mixed states three need not be taken as mixed states, and the occurrence of one is doubtful yet. Two states seem to be truly mixed and are, therefore, very appropriately called manic depressive. But this designation is incompatible with that theory which so clearly elucidates the interdependence of affective state, ideational process, and volitional activity. The question is now, to put it in words similar to those of the foremost exponent of manic depressive insanity: "Ist die Lehre von den Mischzuständen fertig genug, um die Theorie von dem Zusammenhange von Gemütsstimmung, Vortellungsablauf, und Willenstätigkeit umzustossen?" (Is the knowledge of the mixed states sufficiently complete to subvert the theory of the interdependence of affective state, ideational process, and volitional activity?)

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END RESULTS OF SURGICAL OPERATIONS ON NERVOUS WOMEN.*

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Medical and surgical procedures sometimes become a fad, their importance is overestimated, and the pendulum of appropriation swings too far. When this occurs the wise and conservative ones will retrench, the evidence will be analyzed and estimated, and if the procedure possesses virtue, it will find its rightful place as a therapeutic endeavor.

The ovary, appendix, and retrodisplaced uterus have each had their conflicts with surgery. Lives have been saved, ovaries and appendices have been lost.

The retrodisplaced uterus has been court martialed and punished by suspension, or shortening the round ligament, only to drop back into the same naughty ways. Now that peace is about to be restored where former conflicts raged, the movable kidney is raising a disturbance, and has thrown down the gauntlet. Many nervous phenomena that will not permit of a definite interpretation will be attributed to the movable kidney, and nephropexy will be done.

After studying carefully the results of operations on nervous women, I am persuaded that even where a pathological lesion exists, the end results, in a majority of cases, are unsatisfactory for two reasons: First, as a rule the lesion is incidental to, and not the cause of the nervous symptoms. Second, there is already a psychic instability and depreciated nerve force, which renders the patient a poor subject for an operation. I find a better plan is to endeavor to improve the general health and restore nervous strength to the patient by isolation, rest, and other appropriate treatment, when the needed operation can be done with better results. In selected cases, where the symptoms are urgent and an operation is undertaken, care should be taken to protect the nervous system from physical and psychic shock, and avoid increasing the nervous disorder.

I get patients who have had abdominal operations done with the hope or promise that it will relieve some vague abdominal pain or obscure nervous suffering. Instead of relief, they get an undesirable ventral scar, and perhaps peritoneal adhesions in addition to the nervous affection.

A female patient, twenty-four years old, sent to me from Arkansas, had petit mal of five years duration. Her physical condition was good, but there

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were poor memory, mental apathy, and epileptic vertigo spells, that came on at frequent intervals. Two years previous to my seeing her she was told that her nervous trouble was reflex, and due to a diseased appendix. Appendectomy was done, the spells were less frequent while she was in the hospital, but were more frequent and severe after returning home. In a borderland case of neurasthenia from Alabama, the patient had his appendix removed and gallbladder opened, no gallstones were found. His nervous symptoms continued; he also had two ventral scars to remind him of his failure to get well. A young female patient, twenty years old, from Mississippi, had had a good physical condition, had been healthy from childhood, menstrual period had been regular and easy. Overwork at school brought a severe attack of hysteria, with pains in the occiput and right groin. The appendix was the suspected offender. It was removed and a ventrosuspension of uterus done. For about a month after the operation she felt better, then her nervous sufferings returned with renewed intensity, and the menstrual period thereafter was painful and difficult. A girl, sixteen years old, from Mississippi, suffered from hysteroepilepsy. The appendix, one ovary, and part of the other ovary had been removed. The symptoms continued, and morphine had to be given for pain during the menstrual period. A patient from Tennessee, whose physical health had always been good, for a year previous had suffered from pains in back, left breast, and lower abdomen. Appendectomy was done. Five months later when I first saw her she was having opisthotonos convulsions, and was hysterical to an extreme degree. A most pathetic case of suffering was a woman patient from South Carolina, with intractable neuralgia of fifteen years' duration. She was pale, weak, and emaciated, had no appetite, could not sleep, and complained of excruciating pains about the face and head. She was truly a battle scarred veteran from numerous conflicts with surgery. For several years most of her time was spent in hospitals at Baltimore and Philadelphia, the appendix, both ovaries, and the uterus had been removed, but her sufferings continued.

Neurologists have known for some time that nervous women do not make good subjects for operation, and some of the leaders in surgery are now arriving at the same conclusion.

I will quote briefly some opinions expressed during a discussion of a paper on the End Results of Surgery for Relief of Neurasthenic Conditions Associated with Various Visceral Ptoses, at a joint meeting of the American Gynæcological Society and the American Surgical Association, held in Washington, D. C., May 5, 1910.[1]:

Dr. Edward Reynolds, of Boston, said: "It is important to avoid operation in neurasthenics, unless complete relief of the local symptoms can be expected." Dr. Maurice H. Richardson, of Boston, said: "I approach the treatment of the neurasthenic, for whatever cause, whether a definite, unmistakable pathological lesion or a ptosis or a slight lesion, like a displacement of the kidney, with the utmost discouragement. Before operating upon these patients we should be sure in the first place that there is a lesion; second, that it is the chief cause of the neurasthenia; third, we should see if it cannot be cured without operation; but if operation is to be done, we should see to it that it does not subject the patient to too great a danger. I believe that neurasthenia is more of a disease than we give it credit for; that it is some central, organic, or nervous condition on which operative surgery will have about as much effect as the surgical treatment of epilepsy, and Dr. Wood once said that it would do just as much good to amputate a toe as to resect the motor area of the brain for the relief of this condition." Dr. Lewis S. McMurtry, of Louisville, Ky.: "Operative procedures for all these ptoses, whether of the pelvic organs, the kidney, or the alimentary tract, have been unsatisfactory." Dr. William M. Polk, of New York: "When these neurasthenics come to us, we should say to them, first pass through the hands of a competent orthopædist; pass next through the hands of a conscientious, self doubting neurologist, but beware of the over confident neurologist, then you can say, madam, or sir, as the case may be, as you have reached the end of all things, so far as medical investigation is concerned. I am now more than willing to command all the resources of the surgical art." Dr. A. J. Ochsner, of Chicago: "The relief, after an operation in such cases, even though the neurasthenia was possibly caused by this condition, must be in most cases exceedingly unsatisfactory." Dr. Howard A. Kelly, of Baltimore: "I never operate upon neurasthenic patients without definite local symptoms." Dr. William J. Mayo, of Rochester, Minn.: "I agree with Dr. Clark, that the patients we have under discussion are wrong from the beginning, and my own feeling is that but a small number of them should be treated surgically. For some years at Rochester we have made a careful examination of all patients who presented themselves, no matter whether they had cancer of the breast or gallstones or what not, and to our surprise we find that about twenty-five per cent. of the women had retroposition of the uterus. Even in young girls who come to us, in whom pelvic examinations were made through the rectum, had retroversion of the uterus in about the same proportion of cases as those women who had reached the menopause. Again we found that twenty per cent. of the patients who came to us had movable kidney, and a very large majority of them did not have any symptoms whatever. I think the neurasthenics, from a surgical standpoint, should be treated like the insane, in that we should take no cognizance whatever of their complaints, but if they have sufficient local pathology to warrant operation, we should operate on them."

In the address of the president of the Southern Surgical and Gynæcological Association, at the annual meeting in Hot Springs, Va., December 14 to 16, 1909,[2] Dr. Stuart McGuire said: "It is my object, first to emphasize the importance of refusing to operate upon a neurasthenic patient, unless the symptoms can be clearly shown to be due to organic disease. If neuroses exist, without anatomical disease, an operation will do no good, and may result in harm. If neuroses are found coincident

[illegible]

with pathological lesions, an operation may prove of great benefit; but in relieving the physical disease, care must be taken to avoid increasing the nervous disorder. Some patients are in good nervous and physical condition, and require practically nothing but the mechanical correction of a local trouble. Others are as seriously affected nervously as they are physically, and often will be more benefited by a modified form of rest cure, than by operation. Most surgeons recognize this fact, but are often unable to carry out the principles of seclusion, rest, full feeding, bathing, massage, and electricity."

The end results from operations on patients suffering from hysteria and psychasthenia are equally unsatisfactory. In fact hysteria is the disease most liable to deceive and mislead the surgeon, for two reasons: First, there are few diseases, which flesh is heir to, that hysteria will not simulate so closely that the elect will not sometimes have difficulty in differentiating. The abdomen, especially in the region of the appendix and ovaries, is a favorite seat for pain and suffering. And the patient will describe the suffering as being so acute and circumscribed that a mistaken diagnosis can easily be made. Second, hysteria patients are abnormally suggestible. A surgical operation of any kind strongly impresses the subconscious psychic centres, and often their symptoms will completely subside for a short time following an operation, only to break out with renewed intensity later on.

CONCLUSIONS.

1. Nervous women, as a rule, do not make good subjects for surgical operation.

2. An operation should not be undertaken, unless there is a definite, unmistakable, pathological lesion, and that it is the chief cause of the nervous symptoms.

3. A correct estimate of the end results of surgical procedures cannot be made, unless the surgeon keeps in touch with his patients for months after they return home.

4. In clearing up diagnoses in obscure conditions, every surgeon should seek the aid of a competent internist, neurologist, and pathologist.

5. Last, but not least, to no one is the golden rule more applicable than to the surgeon. When a patient presents herself, she seeks relief from suffering. She is not especially anxious "to be cut, but to be cured," and the surgeon should always ask himself the question: If this was I, my wife, my daughter, would I advise an operation?

REPORT OF A CASE OF DIPHTHERIA OF THE VULVA IN A CHILD, THREE YEARS OF AGE.

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Reference to the medical literature on the subject of diphtheria shows that diphtheritic infection of the vulva and vagina is very rare.

There have been several cases of this infection reported as occurring in the puerperal state. Williams (1) reported a case of puerperal diphtheria in 1808; the diagnosis being confirmed by bacteriological examination; the patient was treated with antitoxine and recovered. He states: "We are not justified in speaking of puerperal diphtheria unless we have demonstrated the presence of diphtheria bacilli in the membranes." As far as he could learn at that time "there were only two cases which had been described as fulfilling this condition, namely, the cases of Nisot, of Brussels, and Bumm, of Bisel, both of which were published during the year 1897." Since the report of this case there have been, as far as I have been able to learn, few cases of similar nature reported. Hirst (2) mentions two cases as coming under his notice in Philadelphia, in which the Klebs-Loeffler bacillus was demonstrated in the vaginal exudate.

In reference to vulvar diphtheria in children I have failed to find any full report of a case. It appears that such cases do occasionally occur, as mention is made of the subject in several textbooks. Ashton (3) states "that diphtheria of the vulva in children is generally secondary to an infection of the pharynx and upper air passages, although it has been known to attack the vulva alone."

The following case may therefore be of interest:

On March 15, 1910, I was called to see a girl, three years of age, who was suffering with a slight cough, there was also a slight elevation of temperature. There was no evidence of nose or throat infection at this time. The throat was carefully examined but a blood serum tube was not inoculated. In a day or two the child had apparently recovered.

A few days later I was called to see the child again, her mother having informed me that the little girl was unable to urinate. Each attempt of the child to void urine was unsuccessful and caused her to cry out from pain. On inspecting the genitals, the orifice of the urethra and labia minora were found to be slightly inflamed and swollen. There was no membrane formation, but there was a slight mucoid vaginal discharge present. The bladder was emptied by catheterization, the usual methods of hot applications over the vulva and lower abdomen having failed. The urine was apparently normal. Ordinary laboratory examination of it was negative. An alkaline diuretic was prescribed, and the child succeeded in voiding the urine thereafter, but only with a great deal of pain and discomfort. There was a slight rise in temperature, 100° F., the tongue was slightly coated; there was no evidence of throat or bronchial trouble. A warm boric acid solution was used to irrigate the vulva, also a solution of argyrol was occasionally applied. The next day the symptoms had not subsided. There was a slight mucopurulent vaginal discharge which was examined at once as gonorrhœal infection was suspected. On microscopical examination of the vaginal discharge and application of Gram's method of staining, gonorrhœa was excluded. As there was no membrane on the tonsils or evidences of diphtheria of the nose or throat, I did not entertain the least suspicion that the case was one of diphtheria, and did not employ cultural methods at first. The next day, the inspection of the vulva showed the parts to be in about the same condition as on the previous day, except that the vaginal discharge had increased slightly. There was no well defined membrane covering the vulva, there was probably a slight exudate covering the labia minora but it was not marked. The inguinal glands on both sides were slightly enlarged and tender. It was decided to inoculate a blood serum agar tube to determine the character of the infection. A tube was inoculated and sent to the curator of the Army Medical Museum for examination, he notified me that the specimen showed an almost pure culture of diphtheria bacillus. Eight thousand units of diphtheria antitoxine was administered at once, and within twenty-four hours the urinary symptoms had begun to subside. Five thousand units were subsequently given, and in a day or two the urinary disturbance had entirely disappeared. A slight grayish white membrane separated from the mucous membrane of the labia minora and from part of the labia majora. The child made a complete recovery without any complications.

As soon as the infection was found to be due to diphtheria and before the antitoxine was administered, blood serum tubes were inoculated from the secretions of the nose and throat, and were found to be negative. As there was no diphtheria in the vicinity, I found it necessary to direct my attention to other sources.

A possible source of infection was as follows: A guest from a locality where there had been a number of cases of diphtheria and where probably she had been more or less exposed to diphtheria, had been visiting the family two days before the little girl was taken ill. The guest had a bad "cold" during the visit, but had not been ill enough to require the services of a physician. The same bathroom where the child was bathed daily had also been used by the guest. Probably a towel used by the guest may also have been used in bathing the child. As the guest had left a few days before the child was taken ill, I was unable to examine the throat for evidence of diphtheria. I subsequently heard that she had not been ill since her departure.

Although I was unable to determine positively the source of infection in this case, I think that the possibility of this child having in some way been infected by a healthy diphtheria carrier should be considered.

References.

1. Williams. *American Journal of Obstetrics*, August, 1898.
2. Hirst. *A Textbook of Obstetrics*, 1909.
3. Kelly. *Practice of Gynaecology*, 1906.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CV.—How do you perform circumcision? (Closed December 15, 1910.)

CVI.—How do you treat obesity? (Answers due not later than January 16, 1911.)

CVII.—How do you treat acute otitis media? (Answers due not later than February 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL OF THE READERS ARE INVITED TO SUBMIT BOTH FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to question CIV was awarded to Dr. John W. Powers, of [illegible], [illegible], whose answer appeared on page [illegible] of volume xcii

PRIZE QUESTION CIV.

THE TECHNIQUE FOR PERFORMING VACCINATION.

Dr. A. C. Matthews, of Earlville, N. Y., states:

Vaccination, properly performed is one of the most beneficial procedures which our science includes. The odium, which it has undergone and, which, to some extent, it still undergoes, is most unjust, as the operation itself is not to blame for that criticism which has been visited upon it.

Before proceeding to perform vaccination, the doctor must be satisfied as to three vital points, viz: 1, that he is himself aseptic; 2, that the field of operation is aseptic; and, 3, that there is no septic condition in the patient's blood. Having satisfied himself as to these three points, the next step is to decide definitely upon a suitable site for the operation. It must always be remembered that vaccination is very likely to leave a noticeable scar and in operating upon females this fact must always be borne in mind. In passing, let me state that in the performance of vaccination it is well for the physician to bear in mind that he is certain to encounter more or less objection on the part of relatives, friends, and meddlesome acquaintances. These persons will have long stories to tell to the detriment of the operation. Personally, I have had little trouble in breaking through these obstacles and preparing the way to go ahead. I am very well aware that I have digressed somewhat; but I hope that it may be tolerated.

Now as to a suitable site. I usually choose the outer aspect of the left arm at about the insertion of the deltoid muscle, or the outer aspect of the left leg at the junction of the middle with the upper third. In very young infants, my experience has taught me that it is usually easier to protect the vaccine sore upon the leg than it is upon the arm. As a rule single scarifications are better than multiple ones. If more than one scarification is made, they should be at least one inch apart.

Technique: The hands of the operator should first be thoroughly cleansed with soap and water, then with alcohol and then thoroughly dried. Next, wash the site to be inoculated with soap and water, dry it, and then wash it with alcohol. Have a capillary tube of pure lymph, some rubber tubing, a needle, and a toothpick flat at one end. Sterilize the needle in an alcohol flame and make about four scratches, one eighth of an inch long, just deep enough to draw blood. Break off the ends of the capillary tube, insert one end in the rubber tubing, and blow the lymph out upon the broad, flat end of the toothpick; apply this to the scratches and rub it in well for a few minutes. The wound should then be allowed to dry, which usually requires from fifteen to twenty minutes. It may then be covered with sterilized bandage or isinglass plaster moistened in boiled water. If well dried, no dressing is necessary. The limb should not be washed for twenty-four hours.

Dr Jacob Sobel, of New York, observes:

In order to perform vaccination successfully and with the least possible danger to the patient, I always keep in mind the following: Obtain a fresh and effective virus, one previously tested bacteriologically and by animal experimentation; such a virus is the glycerinated bovine extract put up in capillary tubes and small vials of different capacity. I use a vial sufficient for ten vaccinations and keep it in a cool, dark place; under no circumstances do I use ivory points. Experience has taught me that "sore arms" and "vaccination rashes" are more frequent after the use of the latter than after the use of the fluid preparations.

Cleanse the field of operation, preferably the outer surface of the left arm (in right handed in-

dividuals) at the deltoid insertion, with castile soap and warm water, dry it, and then rub gently with alcohol. Avoid the use of antiseptics such as lysol or bichloride at the site of vaccination, but use them freely for your hands. Avoid forcible rubbing at the field of operation and see that there are no constrictions to cause congestion. Use new cambric needles which have been dipped in alcohol. Scarify gently and superficially; expose a raw surface without drawing very much blood and limit the scarifications to a small area. Do not use any of the vaccination shields on the market. Protect the scarified area against outside contamination, by the application immediately after the field of operation has dried, of a piece of sterile gauze about three and one half inches long and two and one half inches wide; fasten this gauze lightly at its upper and lower end by a narrow strip of zinc oxide adhesive plaster. Instruct the mother that in a period of from four to seven days—if the vaccination takes—the child may become feverish and restless and that the site of vaccination will show an area of redness followed by a "pimple," a "blister," "matter," and a "crust." Instruct her furthermore to inspect the vaccination by loosening one of the strips of plaster and reflecting the gauze; if the latter is adherent moisten it with boric acid solution (teaspoonful to a glass of hot water) and apply a fresh piece of gauze. The mother's hands are to be washed carefully before and after inspection. Caution the mother to *keep* the site of vaccination *covered* so that the child cannot convey the virus to other parts of his body. Apply boric acid powder when the scab begins to form and keep it covered with sterile gauze until the scar forms. In young children I advise the wearing of white cotton gloves at night from the first day of the take until ten days thereafter. This minimizes the danger of infection from scratching with the finger nails and lessens the liability of auto or heteroinoculation.

Mode of procedure. My hands and the outer surface of the arm having been cleansed, I grasp firmly between the thumb, index and middle fingers of my right hand, two new cambric needles (number 6), which were dipped in alcohol and dried; the under surface of the child's arm is grasped gently but firmly between the thumb and fingers of the left hand, the skin is put on the stretch, the needles are dipped thoroughly in the vial of virus, and three gentle strokes are made downward and inward, and three others at more or less right angles to these, downward and outward, thus making twelve small scarifications which do not measure in all more than one quarter of an inch. Then with the flat of the needles I gently rub in the deposited virus for about half a minute; after the virus dries the sterile gauze is applied and fastened with plaster. The shirt is split along the seam and a double row of tapes keeps the edges together or renders them easily opened for ready access.

Remarks. Putting the skin on the stretch not only prevents bleeding, but it helps to separate the scarifications so that the virus may enter. I always scarify *obliquely* because this exposes a greater area of the middle layer of the rete Malpighii, the layer in which the first changes take place, and oblique incisions bleed less than perpendicular ones. Only one site is scarified. With young children, I usually whistle while scarifying; I have found this sufficiently amusing to detract them from crying, and nothing pleases an anxious or nervous mother so much as a quiet baby.

The full bath is not permitted until the scar forms, a daily sponge taking its place. Before vaccinating any child I question the parent as to the existence of scarlet fever in the house; if that disease is present I refuse to vaccinate, because open wounds offer a portal of entry for the scarlatinal poison. I always refuse to vaccinate on the lower extremity for the reason that this part cannot be kept at rest or protected so well as the arm, there is greater danger of infection, a severe local reaction is more common in my experience and causes greater incapacity, and there is more danger of marked adenitis with secondary suppuration. I always advise that vaccination be performed at an early age, preferably the third or fourth month and irrespective of the seasons. At this age there is usually less constitutional disturbance, the child is less likely to touch the "pock" and the discomforts of teething can usually be eliminated. In primary vaccination of infants, if the first inoculation does not take I revaccinate in two weeks; if the second is unsuccessful, I revaccinate again in two weeks, and if this is a failure I vaccinate at the end of the first year. During an epidemic I should vaccinate a child after the first week of life.

The contraindications to vaccination are to my mind very poor nutrition, acute inflammatory diseases of the skin, active syphilis, furunculosis, scabies, impetigo contagiosa, and ringworm.

I have advised and practised vaccination in selected cases of pertussis and I have seen the paroxysms diminish in number and severity during the febrile period of the "take." I advise vaccination every five years during school life. In epidemic years vaccination is advised at once irrespective of the date of the last successful inoculation.

For the ulcerations that sometimes follow at the site of vaccination, I cleanse with hydrogen peroxide (1-3) and then apply aristol, bismuth subiodide, or balsam of Peru.

Dr. E. J. Kremers, of San Francisco, Cal., writes:

The method I wish to advocate, I owe to Dr. George Dock and I claim no originality whatever. It appears so logical, however, that I present it for consideration.

Time for vaccination. Children should be vaccinated before the sixth month, if possible, and revaccinated on their entrance to school, and again when of high-school or college age. All persons should be immediately revaccinated on exposure to smallpox or at any time an epidemic develops.

Site of vaccination. Ordinarily, the left arm about the insertion of the deltoid is selected, but there is no objection to the calf if that region is chosen.

Method. The arm, or leg, is washed with a pledget of cotton wet in soapy water. It is then wiped dry with more cotton and a fresh pledget soaked in alcohol applied. The alcohol is allowed to evaporate completely and then the arm, carefully guarded from accidental touch, is ready. A *sharp*

scalpel is sterilized by boiling, by immersion in alcohol, or, if a large number of vaccinations is to be done at one time, by thrusting into hot water. It is taken out and shaken. The patient's arm is grasped firmly with the left hand and an incision is made parallel to the axis of the limb, from one to one and one quarter inches in length and just through the epidermis. The scalpel is held parallel to the limb, and the cut is made by drawing the belly of the knife down the arm and through the skin. Very gentle pressure is sufficient. Small droplets of serum and blood appear along the incision but an effort is made to avoid bleeding. To insure a "take," a second incision may be made parallel to the first and an inch away. If the bleeding is at all free, the blood should be wiped away with sterile gauze.

The vaccine, either in capillary tube or on a point, is now pressed on to the incision or gently rubbed in with the point. If the tubed vaccine is used, a sterile needle is used to rub it into the cut. When the vaccine is well distributed, the arm is allowed to dry, preferably before a fire. It is best to allow complete drying, but, if the patient is in haste, a convex shield should be bound over the cut with adhesive strips. In case a shield is used, the patient is directed to remove it that night, for the reason that, by rubbing, it is apt to produce a sore arm. He is told to put nothing on the arm and to avoid scratching it.

Instructions are given the patient to return in one week. Then the arm is inspected and a "take" can be definitely diagnosticated. Failures are at once revaccinated. Should severe constitutional symptoms arise in adults, a ten grain Dover's powder may be given at bedtime or a few doses of phenacetin or perhaps codeine. Scabs should be allowed to drop off, and if the "sores" are slow in healing, ordinary surgigal dressings suffice.

Advantages of this method over scarification. Scarification as ordinarily done by cross scratches is harmless if done very superficially. At times, however, the scratches are made deeper than they are intended and this sort of a wound predisposes to infection and the necrosis of the central area. A severely sore arm is the result.

2. The incision method is much less painful. If the knife is *sharp,* it enters the skin with a minimum of pressure and the patient barely feels it. Babies and children do not complain of the knife but they do complain of the needle.

3. The spreading of the vaccine over a long linear incision practically insures its absorption and "takes" are more certain by this method.

Dr. Theresa Bannan, of Syracuse, says:

However advisable it might be to vaccinate all infants before they are three months old, in this country the time chosen is just before the child enters school for its first term. So it is the child of five years or thereabouts who is the usual subject of the operation of vaccination. In time of epidemic those of all ages are vaccinated.

There has been no greater boon to the human race than Jenner's invention. To supply the demand for vaccine a new industry has been founded to take the place of the old vaccine furnished by the human crusts. The new way of producing and supplying vaccine should be and can be free from danger and entirely unobjectionable, and to insist that it shall be so is the most important step in the performance of vaccination. A producer who for profit tampers with this product, thereby inflicting suffering on little children and giving in consequence argument to the cult which threatens this great boon, should be visited with the utmost penalty; for he has caused to be produced an infection instead of a protection, sickness and distress instead of the passing uneasiness of a typical vaccine reaction.

Given, then, a good vaccine from a reliable producer who has labeled thereon the limit of time during which the vaccine remains active, the next step is to bring this vaccine to the lymph and blood channels of a person in the way that was shown to Jenner, that is through an abrasion or wound in the skin. The vaccine may be in a liquid form, which is preferable, or it may be dry and rubbed into the skin abrasion. If the vaccine has been dried on an ivory point this point may be used to scarify the skin. A lancet, needle, or other suitable instrument which has been rendered sterile may also be used and then the vaccine on the ivory point or the liquid vaccine is applied to the wound. The liquid vaccine is expelled from its capillary tube by a small bulb, or if it is used in bulk it must be carried to the wound by some instrument that can be sterilized after each and every use.

The most satisfactory way found in the vaccination of ten thousand children has been to expel the liquid vaccine from its capillary tube onto the skin. Then pass the point of a small sterile needle through the drop of vaccine to the skin and make the scarification. This method carries the vaccine as deep as the needle goes and insures inoculation by the slightest wound. It has many other advantages. A child is very apt to be frightened under the circumstances anyway, but is reassured when nothing happens but the little drop on his arm; the swift prick that follows also releases him, and it is all done. The arm is usually left exposed until dry, but this is not necessary, as the needle point through the vaccine has carried it beyond the possibility of being wiped away. The after care consists in cleanliness. The whole surface of the vaccination should be freely washed to relieve itching and heat. Soap and water applied with a pledget of cotton is the best because the most easily obtained. Alcohol similarly applied answers every purpose. A dressing which can be applied immediately after vaccination and renewed as often as needed is simply a piece of absorbent cotton or gauze held in place by adhesive strips. It is better omitted, but the surface should be kept clean and free from injury. Before vaccination the arm should be washed with soap and water and alcohol, but as the child is generally freshly bathed and clothed for the event alcohol alone may be used or omitted. The state of cleanliness seems to have little influence on the development of the inoculation.

The scarifications cut through the upper layers of the skin either by crisscross or in a continuous surface. Though two or more points of inoculation promise greater protection, the usual process is for

one only. The site chosen is the left arm just posterior and a little above the insertion of the deltoid. In girls the outer side of the left thigh three or four inches above the knee is recommended. In women vaccination on the lower extremity is very unsatisfactory.

Vaccination is best done in the spring, but there is no probability that the present custom will be changed. It is inconsiderate at least to postpone the operation until the very hour that the little one makes the great change from the home to the school room.

(To be concluded.)

Correspondence.

LETTER FROM EDINBURGH.

Dr. Clouston on the Position of Women.—The Edinburgh Town Council and Compulsory Vaccination.—Hospital Accommodation for Smallpox.—Another Medical Provost.—Scottish Medical Graduates in the New Parliament.

EDINBURGH, *December 19, 1910.*

Dr. T. S. Clouston, late superintendent of the Edinburgh Asylum, gave an interesting lecture on The Psychological Dangers to Women in Modern Social Development on November 28. The lecture was one of a series on The Position of Women: Actual and Ideal, and Dr. Clouston's lecture dealt with the medical aspect of the subject. Man, he said, had more power of control of the outward expression of emotion than woman. That, if a fact, had many social aspects and some dangers. Woman educated according to modern standards was gradually acquiring more power of controlling her emotions, up to a certain point at least, and that would not fail to have a steadying influence. It was when women came to the emotions and actions connected with the maternal instinct that we reached the real crux as to the effects of modern social developments on the sex. The question that above all others we had to devote our attention to was that of whether there was anything in their modern social developments that did or would be likely to change, lessen, or destroy the maternal instinct. Even the slightest diminution of the maternal instinct was dangerous. The ideals which would exalt culture above motherhood were suicidal and should be abandoned. On the other hand, mothers of high brain power were as much needed for the advancing race as fathers—rather more so, in fact. They might make choices, but they would have to be on the lines of evolution. The problem was an extraordinarily difficult one. He thought we now knew enough to show that to subject a hundred girls of more than average ability to the stress of modern study and competitive examinations was attended with the risks of atrophied maternal instincts, loss of femininity, and a lessened development of "woman's ways" in a considerable number of the hundred who might, but for the conditions under which they passed their adolescence, have possessed these gifts. He thought the higher education in some ways lessened the craving and necessity for social intercourse. He believed that woman was frequently not talked of, and even not treated by, men with that form of practical idealism which was the basis of chivalry, and that some matters were now openly discussed by women in much read books and in personal intercourse which would have shocked a modest woman fifty years ago. Both tendencies were evil. Dr. Clouston declared that the special qualities of man and woman were complementary, and were both needed for the evolution of the ideal society of the future: that changes should be gone about in a scientific spirit; and that the equality of the sexes should be limited to opportunity and social position, and should not be attempted as to faculty and instinct.

At a recent meeting of the Edinburgh Town Council of Public Health Committee recommended that the Council memorialize the government on the subject of compulsory vaccination, pointing out that they, as local authority under the public health act, viewed with concern the danger to the community owing to the increasing number of children growing up who had never been vaccinated—and that steps should be taken at as early a date as possible with the view of legislation being passed enforcing compulsory vaccination. On December 6th the committee received a deputation from the Edinburgh and Leith Medical Practitioners' Association, consisting of the president, Dr. Ronaldson, Dr. Ritchie and Dr. Smith, who explained that their society represented the medical profession generally in Edinburgh. They desired to support the local authority in securing stringent measures for enforcing vaccination and restricting the exceptions in favor of "conscientious objectors." A subcommittee has been instructed to prepare the statistics called for by the Town Council.

The Local Government Board has submitted a proposal to the Edinburgh Town Council regarding the provision of further hospital accommodation for the treatment of smallpox. The proposal was discussed at a recent meeting of the Council, and unfavorably criticised. There appears to be a general feeling that if the "conscience clause" were removed, or restricted in its operation, there would be no need for extra hospital accommodation. One councillor remarked that, as a justice of the peace, he received many applications for exemption, and he was surprised at the number of persons who had no idea as to what vaccination meant.

In a recent letter (November 15th) reference was made to the appointment of Professor McKendrick as provost of Stonehaven. Another case of municipal honor to a medical man is worth recording. Dr. James MacLachlan has just been elected provost of Dornoch for the third time. It is seldom that a medical man can find time for municipal work, but when such a man is found there can be no doubt as to his popularity. Dr. MacLachlan had, it is said, an almost unanimous return at the recent municipal election, and his choice as provost for the third year confirms the high opinion in which he is held in his own town.

The general election now in process has so far seen the reelection of three Scottish medical graduates to the new Parliament. These are Dr. W. A. Chapple (Stirlingshire), Sir Robert Finlay (Edinburgh and St. Andrew's Universities), and Dr. A. R. Rainy (Kilmarnock).

Therapeutical Notes.

The Treatment of Typhoid Fever.—In a lecture delivered at the Cornell University Medical College, which is published in the *American Journal of the Medical Sciences* for January, 1911, Frank Sherman Meara discusses the therapy of typhoid fever, which he remarks is a self limited disease, the cure of which depends on the elaboration of specific bodies by the tissue cells of the patient, a result we have not yet been able to duplicate in the laboratory, though it does not mean that we cannot influence the course of the disease. Consideration is paid to the necessity of rest in bed. Where suspicion is aroused to the possibility of typhoid fever, the patient should not be permitted to waste his precious strength while one is awaiting the development of diagnostic symptoms or the result of blood examinations. He should be put to bed at once and prepared for what is likely to be a long siege. Real rest can be obtained only by careful and competent nursing; by the exclusion from the sick room of all business cares and causes for anxiety, and refusal to make the sick room a reception room for solicitous friends. Dr. Meara goes so far as to insist that the patient must not leave the bed to go to the toilet, or even to use a commode, but must use a bed pan. Useful directions are given regarding the proper arrangement of the bed. It must not be forgotten, he says, that the strength of the attendant ought to be economized. In no way can this be done to better advantage than in selecting a bed on which the patient can be readily handled. His ideal bed is the half bed, or single bed, of a convenient height, with strong woven springs and a firm springy mattress. The bed should be prepared by placing a blanket on the wire springs, and on this a rubber sheet, each extending well below and on either side of the bed. On these is placed the mattress, on which the bed is made as usual. The blanket and rubber sheet are then folded over the mattress and its coverings so as to prevent the entrance of air under the clothes.

The state of the patient's mouth requires constant attention, lest, from a foul condition, it become the source of infection of the mucous membranes and their lymphatic supply, the tonsils, the ears, and the lungs; and, upsetting the stomach, destroys the appetite. The teeth should be brushed two or three times a day. The mouth should be rinsed with water or boric acid solution (2 per cent. to 4 per cent.), or one of the many mild alkaline and antiseptic washes, after each feeding. If there is much sordes, and there are fissures, a mild antiseptic containing phenol is of value. The following is recommended:

℞ [illegible] ..... ʒ ss
[illegible] ..... ʒ i
[illegible] and ..... ʒ i

M. et Sig.: To be used as a mouth wash.

Dr. Meara discusses the care of the intestinal tract. If seen early, a catharsis of castor oil, one ounce, or Epsom salt, one ounce, may be given. If seen late, all catharsis should be avoided. Ene[illegible] ater of soapsuds, [illegible] cases, soapsuds with an ounce of sweet oil, or castor oil, should be given every other day. It is the lower bowel one wishes to empty, not the upper, and this can be done effectually with the enema. The upper bowel, the site of the lesion, like any other inflamed part, should be given as much rest as is compatible with its physiological functioning.

In diarrhœa attending the disease prolonged saline irrigations, by improving diuresis, lessening toxæmia, and keeping the bowel clear, may be of distinct advantage. It is tempting to use opium, but it cannot be too emphatically insisted upon that by so doing, pain, the earliest and most important symptom of perforation, may be lacking—to the patient's undoing. It should not be used unless exhaustion from diarrhœa and increasing danger of hæmorrhage and perforation from peristaltic unrest seem to demand it. Then one may give a few large doses, rather than long continued small ones; for example, a pill of opium (one half grain) every two hours for three or four doses, or some such marked astringent mixture as the following:

℞ Pulverized opium, ... gr. iss
Pulverized camphor, ... gr. xv;
Lead acetate, ... gr. xlv;
Bismuth subnitrate, ... ʒ i
M. et ft. bolus in chartulas No. x.
Sig.: One every four hours.

The Treatment of Paroxysmal Pulmonary Œdema.—In a discussion of the treatment of paroxysmal pulmonary œdema, Stengel, in the *American Journal of the Medical Sciences* for January, 1911, says that the prompt effect of a hypodermic injection of morphine in cases of cardiac asthma led him to use the same remedy in one of the earliest cases of paroxysmal pulmonary œdema that was observed by him. The result was so striking that he has used it in a number of cases with satisfactory results, and it was unnecessary to use any other remedy, except as an adjuvant. In a number of cases a single injection, or at most two injections of morphine, with small amounts of atropine, sufficed to break up recurrent seizures. The author, however, regards atropine as of secondary importance. He reviews the value of chloroform, nitroglycerin, and venesection. Compared to the simplicity of a hypodermic injection of morphine, venesection is a procedure of considerable gravity and its effect cannot be more prompt or satisfactory. After the first stage of the attack has been controlled by an injection of morphine and atropine the author deems it advisable to make use of cardiac stimulants to revive the power of the left ventricle and to promote vasodilatation, if this be possible. For these purposes injections of strychnine, digitalin, and nitroglycerin may be employed, and aromatic spirit of ammonia or brandy may be given by the mouth if the patient is able to swallow. In some of the cases under Dr. Stengel's care he has prescribed the immediate administration of aromatic spirit of ammonia, to be followed by an injection of morphine sulphate, one quarter grain, with atropine sulphate, 1/250 grain, when the first definite symptoms appeared; and the subsequent repetition of morphine and atropine after fifteen [illegible] of [illegible] glycerin.

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VICARIOUS PHILANTHROPY.

It will be remembered that the late lamented Artemus Ward, while declining to take part in the civil war himself, declared his entire willingness that all his wife's relations should enlist. The reminiscence is suggested by accounts of a disposition in some quarters to discuss the expediency of persuading bacillus carriers to part with their gallbladders, or at least to suffer cholecystostomy, in the interest of the public. The story is well told by an editorial writer in the *Semaine médicale* for December 21st. He does not explicitly declare himself in favor of the movement, if the plan may be said to have arrived at that dignity, but we gather that he looks upon it with approval.

Among every hundred persons who survive an attack of typhoid fever, says the writer in question, from two to six continue to harbor the bacillus of Eberth and to give it out in their fæcal and urinary evacuations for long periods of time, generally to be reckoned in years. These persons, known as bacillus carriers, have lately been notably represented in New York by "Typhoid Mary," an uncleanly cook who was the means of infecting a number of individuals with the disease after she herself had recovered from it. Now, in these carriers the bacilli are prone to congregate in the gallbladder, whence they gain access to the digestive canal to be voided in the intestinal dejecta. They plainly constitute a menace to the public health, and their suppression becomes an object. Of course we cannot seize upon every carrier *vi et armis* and cut out the gallbladder, but it is thought by some vicarious philanthropists that we may legitimately persuade the carrier of the duty of submitting to some such procedure in the common interest, especially as biliary lithiasis is apt to be associated with the bacillary occupation.

As to the results of operative intervention, the writer says that in one of Dehler's cases every one of thirty-seven examinations of the stools before the operation showed numerous typhoid bacilli, but in 166 examinations during the following months only three times were a few scattered bacilli found. In his second case half the examinations undertaken before the operation revealed bacilli, while only twice in thirty examinations subsequent to intervention were scattered bacilli encountered. The operation was cholecystostomy followed by irrigations of the gallbladder. In a Göttingen case of cholecystectomy bacilli persisted in the stools for fifteen days; then they disappeared and their absence was noted for a period of three years. In three subsequent cases reported by Fromme intervention was undertaken on account of biliary symptoms. One of them terminated fatally as a consequence of heart trouble. In the others the bacilli gradually disappeared from the stools. The demonstration is not absolute, the writer remarks, and he agrees with Fromme that further experience is much to be desired.

SCIENCE AND POLITICS.

The resignation of Dr. Theodore C. Janeway from the post of visiting physician to the City Hospital of New York has brought to light the existence of most regrettable friction in the Department of Charities. The Sage Institute of Pathology has the income from $300,000 given by Mrs. Russell Sage. Under an agreement with the city the institute was given quarters near the City Hospital on Blackwell's Island and supplies to the value of five or six thousand dollars yearly. Dr. Janeway has intimated that since the present Commissioner of Charities took office he has manifested his antagonism to the institute in various ways and has shown a disposition to introduce political methods into the matter of appointments made by the Medical Board of the hospital and in the administration of the affairs of the institute. Dr. Janeway's resignation constitutes his formal protest against this attitude on the part of the commissioner.

The commissioner retorts that the institute occupies a city building rent free and receives between five and six thousand dollars annually from the city, which is spent without any adequate supervision by city officials. This sum, however, is said to represent the value of supplies furnished by the city and not cash expended by the authorities of the institute for the account of the city.

The medical profession will, of course, sympathize with Dr. Janeway in his protest against the

introduction of political methods into the administration of a scientific establishment. It is true that the commissioner denies the charge that such methods are being introduced, but without any investigation into the matter it is readily apparent that the difference in methods pursued by Commissioner Drummond and by his predecessor, Commissioner Hebberd, must be accountable for the development of friction where none has heretofore existed. The services rendered without compensation by the distinguished physicians who constitute the Board of Directors of the institute and the Medical Board of the hospital certainly give these gentlemen some claim to have their wishes regarding the policies and appointments carried out without the introduction of political bias, so long as the results are distinctly to the advantage of the institutions and the community.

It is intimated that this friction may result in the withdrawal of municipal support from the Sage Institute. This would be a great loss both to the city and to the cause of medical science. The work of the institute can be carried on advantageously only in connection with a large hospital. Should the city decline further cooperation with the institute, some other hospital will undoubtedly give the institute every possible facility for the prosecution of its important work, so that there seems little probability of the work being entirely stopped, no matter what action the city may take. But any such change would curtail somewhat the activities of the institute, for it is not probable that any private hospital could furnish quite the facilities or the material afforded by the City Hospital.

If the more intelligent and influential citizens will insist that there shall be a complete exclusion of politics and political methods from the administration of the city hospitals and allied institutions, the threatened separation need not take place. It is the legitimate province of the medical profession to help educate public opinion on this head, and point out the dangers to the health and welfare of the community which are involved in subordinating scientific work to political ends. Every physician can do something toward the creation of a proper sentiment on this head among the laity, and it is distinctly the duty of all to cooperate in creating such a sentiment.

POLIOMYELITIS.

Infantile paralysis may be said to be in fashion. It is not at all to be regretted that our profession is prone to concentrate its interest on a few topics at a time, for this method is excellent as applied to any study, and it cannot be denied that the disease has been more or less epidemic in certain parts of the country during the last year or two. It is said that at least 20,000 cases occurred in the United States last summer. Aggregate statistics are always impressive, but it is well to reduce them to ratios. The 20,000 cases represent a gross incidence of about one to 5,000 of the entire population or of about one to 500 of the population under ten years of age, among which class the great majority of cases of acute anterior poliomyelitis occur. We are rather skeptical as to the present or, rather, recent frequency of this disease. Cases in adults have been mentioned by many, whereas the ordinary view has been that it is exceedingly rare in adults and that most such reported cases have been examples of multiple neuritis or some other nervous lesion. Again, the attention of the profession being once directed to a certain disease, the natural tendency is to exaggerate its apparent prevalence, not only by false positive diagnoses, but by suggesting the true diagnosis in cases that would otherwise be wrongly interpreted and by emphasizing the importance of reports that might otherwise be neglected. That gross exaggeration of the prevalence of diseases at a certain period does occur is illustrated by the following incident: A local committee studying this subject was informed by a physician that he had had a dozen or twenty cases; on following the matter up, it finally succeeded in getting the definite designation of two patients.

We are inclined to doubt that there has been a greater excess of incidence of poliomyelitis within the last year or two than is characteristic of infectious processes generally. The fluctuations of measles, scarlet fever, etc., are well known and occasion no excitement. However, we are contending, not for a diminution of the effort to explain, cure, and prevent poliomyelitis, but simply for the continuance of interest in this disease and a realization of the equal or greater aggregate importance of the commoner children's diseases so called.

Flexner, after passing infected spinal cords through a Berkefeld filter, found that the filtrate, though apparently free from bacteria, was infectious for monkeys. This is a familiar story and we confess to an exceedingly skeptical attitude toward "ultramicroscopic" germs. Porcelain filters have often been proved to be leaky for ordinary bacteria, and it is only two or three years since it was highly respectable to consider the infectious agent of syphilis as ultramicroscopic, whereas it is gigantic in comparison with the average pathogenic bacterium. Artificial infection of monkeys has shown that a state of resistance to subsequent attempts at infection exists. Whether this will prove to be permanent, ranking infectious poliomyelitis among semelincident diseases like the exanthemata, is as yet undecided. Clinical experience does not at present enable an opinion to be expressed, since the

mathematical chance of the recurrence of a rare infection is approximately equal to that of the exceptional recurrence of an infectious process which regularly protects against itself for a lifetime.

The question naturally arises as to whether infantile paralysis is specific; in other words, whether one germ produces essentially the same lesion in practically all cases while, conversely, the same symptom complex is not produced by other germs. It is hardly necessary to make the qualification that a different type of poliomyelitis may be due to an entirely different germ or to an uninfectious process, and that, as in the case of other established specific infections, the same germ may perhaps occasionally produce an aberrant type while some other germ may closely simulate the symptom complex of the specific cause of the disease. As to this point, we can, of course, express no definite opinion. However, it may not be out of place to point out the general probability that a truly specific germ, unless requiring a fomes of rather rare occurrence, as in equinia, or some special process of implantation, as in tetanus, will produce disease in relatively large numbers.

There seems to be no doubt of the infectious nature of infantile paralysis, and yet, with inadequate means of protecting against it, since we know so little of the exact means of propagation, it remains, even at its maximum incidence, quite a rare condition. This fact suggests one of three theories: 1. That the means of conveyance or successful introduction require some special circumstances not readily fulfilled. 2. That a true natural immunity or general state of resistance exists to a degree much greater than for the specific infections that are better understood. 3. That infectious poliomyelitis is not a distinct disease, but a special phase of some other infection, due to the accident of localization in the anterior horns. Of these three hypotheses, the second seems least probable. The fact that Flexner has found the virus not limited to the central nervous system and particularly conspicuous in the nasal and pharyngeal mucous membrane suggests a close analogy to cerebrospinal meningitis. Indeed, we should for various reasons be inclined to regard these two diseases as variants of one and the same specific infection, were it not for the difficulty of conceiving that so well known a germ as the meningococcus could have escaped detection by the expert bacteriologists who have been at work on the problem of the ætiology of infantile paralysis. In passing, it may be remarked that some bacteriologists consider the meningococcus itself as an aberrant type of the pneumococcus.

Bearing in mind the miasmatic theory of malaria and the belief, held for many years without question and then suddenly wiped out, that yellow fever could be contracted from fomites, even after a long period, we would recommend extreme caution against jumping to conclusions as to methods of conveyance and introduction. The sparseness of cases of infantile paralysis is opposed to the conception of a germ readily carried by the air and requiring no particular mode of implantation to secure an infection, as in the case of measles, scarlet fever, diphtheria, etc. Its predilection for summer has suggested conveyance by insects, but, so far as we are aware, the incidence and, still more important, the exemptions do not bear out this conjecture.

We have suggested that the rarity of cerebrospinal meningitis, in connection with the occurrence of the meningococcus in the nasal mucus, may be explained, in spite of the potential infectiousness of the disease, by assuming anatomical variations in the chain of air spaces leading back to the sphenoid cells and in the walls between these and the craniospinal cavity. The same explanation is equally applicable to infantile paralysis. But it is obvious that the real solution of the problem must be reached after the identification of the germ, and, from past experience, we take the liberty to advise bacteriologists to leave the ultramicroscopic conception for a last resort and to look, either for some fairly common germ, perhaps in an atypical form, or for one that requires quite different staining and cultural treatment from that applicable to most bacteria.

APPENDICOSTOMY IN INTESTINAL OCCLUSION.

It is well known that Dr. Weir's ingenious operation has been found of great service in certain forms of disease of the large intestine, notably in chronic ulceration. A French surgeon, Dr. G. Gayet (*Lyon médical*, December 18th), has observed remarkable benefit from it in a number of cases of intestinal obstruction, simply as furnishing for the contents of the colon an outlet very much to be preferred to that afforded by the old operation of colostomy. Properly managed, it is equally effective, and it has the great advantage of not being repulsive to the patient or those with whom he comes in contact. M. Gayet's cases—only two are reported—seem to have been of a nature to admit of gradual spontaneous restoration to the normal condition under the influence of appendicular drainage.

THE ADMINISTRATION OF SALVARSAN.

The preliminaries which are judged to be necessary in preparing the dose of salvarsan at the time of its administration may not impress the ordinary patient's mind with quite the solemnity of an Oriental incantation, but at least they seem capable of

enforcing the need of his following the directions implicitly in the matter of remaining in bed for the required length of time. Such action is an accessory which might heighten the efficacy of many another remedy.

THE *JOURNAL OF CUTANEOUS DISEASES.*

The January number of this excellent monthly comes to us with a new imprint, that of the Rebman Company. In general appearance it is much the same as preceding issues, and it is under the same editorial direction as before. We do not doubt that it will merit and receive a constantly increasing support.

Obituary.

WILLIS GOSS MACDONALD, M. D., of Albany.

Dr. MacDonald died on Friday, December 30th, aged forty-seven years. He was a graduate of the Albany Medical College, of the class of 1887. Early in his professional career he attained to prominence as a surgeon, and he retained his eminence to the last. Personally, Dr. MacDonald was a most amiable and attractive man.

News Items.

Additions to the Brooklyn Hospital.—A children's ward and a solarium have been erected on the roof of the Brooklyn Hospital.

The Harvey Society Lectures.—On Saturday evening, January 14th, the next lecture in the series will be delivered by Professor Arthur R. Cushny, of the University of London, on the Therapeutics of Digitalis.

An Outbreak of Measles in Newburgh.—It is reported by the health officer of Newburgh, N. Y., that there are over two hundred cases of measles in the city, and a call has been issued to the teachers of both public and private schools to have all school buildings thoroughly cleaned and disinfected.

The Androscoggin, Me., Medical Association met in annual session on Tuesday evening, December 6th, and elected the following officers: President, Dr. William S. Garcelon; vice-president, Dr. L. C. Baribault; secretary and treasurer, Dr. J. W. Scannell; board of censors, Dr. L. P. Ducharme, Dr. E. V. Call, and Dr. H. E. E. Stevens.

The Mahoning County, Ohio, Medical Association.—At the annual meeting of this association, held in Youngstown, on Tuesday evening, December 20th, officers were elected as follows: President, Dr. Silas Schiller; vice-president, Dr. J. H. Bennet; secretary, Dr. S. M. McCurdy; [illegible]

The Penobscot, Me., Medical Association held its annual meeting and banquet in Bangor on Tuesday, November 15th. The following officers were elected: Dr. J. A. Lethiecq, of Brewer, president; Dr. George E. Landry, of Old Town, vice-president; Dr. J. B. Thompson, of Bangor, secretary; and Dr. H. H. Crane, of Bangor, treasurer.

The Medical Society of the County of Cayuga, N. Y., held its annual meeting in Auburn on Thursday evening, November 17th. Officers for the ensuing year were elected as follows: President, Dr. W. R. Laird, of Auburn; vice-president, Dr. C. E. Goodwin, of Weedsport; secretary, Dr. D. F. Armstrong, of Auburn; treasurer, Dr. F. D. Putnam, of Auburn.

The Peoria, Ill., City Medical Society met in annual session on Tuesday evening, December 20th, and elected the following officers to serve for the year 1911: President, Dr. A. I. Corcoran; first vice-president, Dr. W. B. Short; second vice-president, Dr. J. H. Ulrich; secretary-treasurer, Dr. E. W. Oliver; censor, Dr. Edward Hassar; delegate to State society, Dr. George W. Parker.

The Columbia, S. C., Medical Society held its annual meeting on Monday evening, December 12th. Officers were elected as follows: Dr. S. B. Fishburne, president; Dr. H. W. Rice, vice-president; Dr. Mary M. Baker, secretary and treasurer. Dr. A. B. Knowlton and Dr. P. V. Mikell were elected delegates to the annual meeting of the State association which meets in Charleston in April.

The Fulton County, N. Y., Medical Society.—At the annual meeting of this society, held in Troy recently, the following officers were elected: President, Dr. R. L. Howland, of Gloversville; vice-president, Dr. F. I. Gidley, of Johnstown; secretary, Dr. S. C. Clemans, of Gloversville; treasurer, Dr. D. V. Still, of Johnstown; delegate to State convention, Dr. Thomas McGann, of Gloversville.

The Founder of the Pittsburgh Academy of Medicine Honored.—Dr. Edward Hannah Small, founder of the Pittsburgh Academy of Medicine and the first contributor to the physicians' library of that city, was presented with a silver loving cup by the members of the academy, at their annual banquet held in Pittsburgh on Tuesday, December 13th. Dr. Small is now living at Lake Saranac, N. Y.

The Clinical Society of the New York Throat, Nose, and Lung Hospital will hold its next regular meeting on Monday evening, January 9th, Dr. E. W. Peterson will present a patient with diverticulum of the œsophagus and will read a paper on Œsophageal Obstruction. Dr. F. de Kraft will read a paper entitled The Heating Effects of the D'Arsonval Current; Its Possibilities in Medical and Surgical Conditions.

The Herter Lectures.—The Faculty of the University and Bellevue Hospital Medical College has issued invitations to six lectures to be given under the Herter Foundation on Irregularities of the Heart, by Professor A. R. Cushny, of the University of London, beginning on Monday, January 9th, at four o'clock, and continuing daily throughout the week at the same hour, at the Carnegie Laboratory, 338 East Twenty-sixth street, New York.

The St. Joseph-Buchanan County, Mo., Medical Society met in annual session in St. Joseph on the evening of December 7th, and elected the following officers for the year 1911: Dr. S. F. Kessler, president; Dr. J. I. Byrne, first vice-president; Dr. J. F. Owens, second vice-president; Dr. J. M. Bell, treasurer; Dr. Herbert Lee, secretary; Dr. C. O. Jeffries, of Savannah, delegate to the State convention; Dr. C. R. Woodson, delegate's alternate.

The Otsego County, N. Y., Medical Society held its annual meeting in Oneonta, on December 13th, and elected the following officers to serve for the ensuing year: President, Dr. J. H. Moon, of Cooperstown; vice-president, Dr. D. H. Davis, of East Worcester; secretary, Dr. J. C. Smith, of Oneonta; treasurer, Dr. F. L. Winsor, of Laurens. The membership of the society was increased by the addition of one new member, Dr. Lewis Burdick, of Maryland.

The Medical Society of the County of Schenectady, N. Y.—At the annual meeting of this society, held in Schenectady on the evening of Tuesday, December 13th, Dr. J. H. Collins was elected president, succeeding Dr. William P. Faust; Dr. A. F. Fay was elected vice-president; Dr. G. A. Gould was re-elected secretary, and Dr. G. V. Johnson was elected treasurer. Dr. H. G. Hughes succeeds Dr. Charles F. Clowe as chairman of the committee of censors.

The Clark County, Ohio, Medical Society held its annual meeting in Springfield on Monday evening, December 12th, and elected the following officers: President, Dr. Horace S. Heistand; vice-presidents, Dr. C. W. Evans and Dr. Benetta D. Titlow; secretary, Dr. A. W. Detrick; treasurer, Dr. W. C. Taylor; members of the executive committee, Dr. C. S. Ramsey. The other members of the executive committee whose terms have not expired are: Dr. J. C. Heistand and Dr. F. B. Anzinger.

The Platte County, Mo., Medical Association.—At a meeting of this society, held in Platte City on the evening of December 7th, the following officers were elected for the ensuing year: Dr. E. R. Hull, of Camden Point, president; Dr. J. W. Shultz, of Weston, vice-president; Dr. A. S. J. Smith, of Dearborn, secretary; Dr. Frank Shafer, of Edgerton, treasurer; Dr. J. J. Carter, of Weston, delegate to the State medical convention at Jefferson City; Dr. J. H. Winter, of Parkville, junior member of the board of censors.

The Starling-Ohio Alumni Association of the Miami Valley held its third annual meeting and banquet in Dayton, Ohio, recently. At the business meeting the following officers were elected: Dr. F. C. Gray, president; Dr. E. E. Bevington, vice-president; Dr. G. W. Ritchie, secretary; Dr. S. E. Hendren, treasurer. Dr. J. Morton Howell was toastmaster at the banquet, and among those who spoke were Dr. Charles W. McGavsan, Dr. W. J. Means, Dr. W. A. Barber, Dr. F. C. Gray, Dr. M. B. Floyd, and Dr. C. L. Patterson.

The Rochester, N. Y., Academy of Medicine.—At a regular meeting of Section I of this academy, held on Wednesday evening, January 4th, Dr. Albert H. Freiberg, of Cincinnati, president of the American Orthopædic Association, presented a paper entitled Some Orthopædic and Surgical Indications in Infantile Paralysis. The subject was discussed by Dr. John Ridlon, of Chicago, Dr. Reginald H. Sayre, of New York, and Dr. Augustus Thorndike, of Boston, ex-presidents of the American Orthopædic Association.

A Low Death Rate in New York State during the Month of October.—During the month of October, 1910, there was a total of 10,942 deaths reported in the State of New York; 5,597 in Greater New York, with a death rate of 14.0; 2,500 in the other cities of the State, with a death rate of 14.7; 2,845 in the nonurban population of the State, with a death rate of 15.8. The death rate for the entire State for the month was 14.5, as compared with a rate of 15.4 for September, and 15.5 for the month of October last year.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the week ending December 31, 1910:

	Cases.	Deaths.
Tuberculosis [illegible]	549	183
Diphtheria and croup	242	25
Measles	228	2
Scarlet fever	211	11
Smallpox	3	
Varicella	122	
Typhoid fever	4	1
Whooping cough	2	
Cerebrospinal meningitis	4	5
Total	[illegible]	243

Public Lectures at Harvard.—The course of free lectures on medicine, surgery and hygiene at the Harvard Medical School was inaugurated on Sunday afternoon, January 1st. Dr. R. W. Lovett was the speaker and his subject was Infantile Paralysis. Next Sunday's lecture will be delivered by Dr. Abner Post, on Syphilis. These lectures are given under the auspices of the medical faculty of Harvard University, every Sunday afternoon, at four o'clock, during January, February, March, and April. Heretofore it has been the custom to hold these public lectures on Saturday afternoons as well as on Sunday afternoons, but the faculty decided to abandon the Saturday afternoon lectures this year.

The Harlem Medical Association of the City of New York [illegible] January 4th. An interesting programme was presented which included the following papers: Radiographic Studies of the Normal Frontal Sinus, by Dr. William H. Stewart; Radiographic Diagnosis as an Aid to Diagnosis in Internal Medicine, by Dr. Lewis Gregory Cole; Radiographic Evidences of Some of the Rarer Bone Lesions of the Lower Extremity, by Dr. Sigmund Epstein. Lantern slide demonstrations accompanied all these papers, and a general discussion followed. The officers of the society are: President, Dr. Frank C. Yeomans; vice-president, Dr. Thomas F. Reilly; secretary, Dr. F. C. Heckel; treasurer, Dr. Carl Goldmark.

The Medical Association of the Greater City of New York will hold [illegible] meeting at the Borough of The Bronx on Monday evening, January 9th. The programme will include the following papers: Electrocardiograms and Their Significance, by Dr. Thomas E. Satterthwaite; Pneumonia with Pleurisy, by Dr. Howard H. Mason; Subphrenic Abscess, by Dr. Henry Roth. Among those who will participate in the discussions are Dr. Alfred E. Cohn, Dr. H. B. Williams, Dr. Louis Faugeres Bishop, and Dr. Thomas J. Dunn. A cordial invitation to attend the meeting is extended to all.

American Urological Association.—The New York society held a stated meeting on Wednesday evening, December 7th, at the New York Academy of Medicine. The subject of the evening was urethroscopy. The chief feature of the programme was a paper by Dr. Leo Buerger entitled A Study of the Normal and Pathological Posterior Urethra, which was illustrated with lantern slides. Among those who participated in the discussion were Dr. James Pedersen, Dr. George K. Swinburne, Dr. Victor C. Pedersen, Dr. A. Hyman and Dr. David J. Kaliski. Dr. Edward L. Keyes, Jr., is president of the society and Dr. G. A. De Santos Saxe, is secretary.

Public Lectures on Medical Topics at the University of Pennsylvania.—Announcement is made that a series of ten popular lectures on subjects relating to public health will be given on Friday evenings during the next three months under the auspices of the medical department of the University of Pennsylvania. The first lecture will be given on January 13th by Dr. R. Tait McKenzie on The Physical Training of the Seven Ages of Man. On January 20th Dr. Alonzo E. Taylor will lecture on Truth and Error in the Popular Conceptions of the Chemistry and Physiology of Feeding and Nutrition, and on January 27th Dr. John K. Mitchell will speak on Body and Mind.

The Herkimer County, N. Y., Medical Society held its one hundred and fourth annual meeting in Herkimer on the evening of December 6th. Dr. George H. Smith, the retiring president, delivered the anniversary address. The following officers were elected for the ensuing year: President, Dr. W. B. Brooks; first vice-president, Dr. A. W. Albones; second vice-president, Dr. J. E. Canfield; third vice-president, Dr. A. D. Chataway; secretary, Dr. A. Walter Suiter; treasurer, Dr. George Graves; librarian, Dr. A. L. Fagan; censors, Dr. Cyrus Kay, chairman, Dr. O. H. Deck, Dr. W. D. Garlock, Dr. S. S. Richards, Dr. C. H. Glidden.

The Council of the New York Academy of Medicine for 1911 is as follows: Dr. William M. Polk, president; Dr. Joseph A. Blake, Dr. L. Emmet Holt, and Dr. Glentworth R. Butler, vice-presidents; Dr. J. H. Huddleston, recording secretary; Dr. Egbert Le Fevre, corresponding secretary; Dr. Reginald H. Sayre, treasurer; Dr. Abraham Jacobi, Dr. Charles L. Dana, Dr. Arthur M. Jacobus, Dr. W. Gilman Thompson, and Dr. A. Alexander Smith, trustees; Dr. Floyd M. Crandall, chairman of the Committee on Admissions; Dr. Henry S. Oppenheimer, chairman of the Committee on Library. Dr. Charles F. Adams, assistant secretary; Dr. A. B. Judson, statistical secretary, Dr. Charles Mallory Williams, executive librarian; John S. Brownne, Esq., librarian; Howard Van Sinderen, Esq., legal counsel.

Vital Statistics of New York.—During the week ending December 24, 1910, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,690, corresponding to an annual death rate of 18.36 in a thousand of population, as compared with a rate of 17.85 for the corresponding week in 1909. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 18.27; the Bronx, 17.68; Brooklyn, 19.32; Queens, 15.73; Richmond, 14.46. There were 127 stillbirths. The deaths of children under five years of age numbered 385, of whom 264 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 31; over five years of age, 40. There were 105 deaths from pulmonary tuberculosis, 208 from pneumonia, 126 from bronchopneumonia, 128 from Bright's disease, 210 from organic heart diseases, and 89 from congenital debility and malformations. There were 13 deaths from suicide, 8 from homicide and 65 due to accidents. Seven hundred and forty-seven marriages and 2,245 births were recorded during the week.

The Presbyterian Hospital Buys Large Plot of Land.—The Presbyterian Hospital has added to the site for its new hospital buildings along the East River front by the purchase of twelve and a half lots facing the block bought a few years ago. The newly acquired property has a frontage of 145 feet in Avenue A, 200 feet on Sixty-seventh Street and at the rear it extends through to the south side of Sixty-eighth Street, where the frontage is 50 feet. Nearly two years ago the Presbyterian Hospital bought the entire block on the other side of Avenue A and extending to the East River, between Sixty-seventh and Sixty-eighth Streets. This property is just north of the large site on which the new buildings of the Rockefeller Institute for Medical Research have been erected.

The Health of Philadelphia.—During the week ending December 17, 1910, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Malarial fever, 1 case, 0 deaths; typhoid fever, 20 cases, 5 deaths; scarlet fever, 33 cases, 3 deaths; chickenpox, 30 cases, 0 deaths; diphtheria, 104 cases, 19 deaths; measles, 156 cases, 8 deaths; whooping cough, 11 cases, 3 deaths; pulmonary tuberculosis, 85 cases, 42 deaths; pneumonia, 65 cases, 77 deaths; erysipelas, 15 cases, 1 death; mumps, 6 cases, 0 deaths; infantile paralysis, 1 case, 0 deaths; cerebrospinal fever, 1 case, 0 deaths. There were 8 deaths from tuberculosis other than that of the lungs, 20 from diarrhœal diseases under two years of age, and 4 from puerperal fever. There were 47 stillbirths, 26 males and 21 females. The deaths of children under five years of age numbered 129, of whom 78 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 534, in an estimated population of 1,508,400, corresponding to an annual death rate of 17.37 in a thousand of population.

The Health of Chicago.—During the week ending December 24, 1910, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 26 cases, 6 deaths; measles, 66 cases, 2 deaths; smallpox, 2 cases, 0 deaths; whooping cough, 10 cases, 0 deaths; scarlet fever, 168 cases, 8 deaths; diphtheria, 374 cases, 28 deaths; chickenpox, 101 cases, 0 deaths; tuberculosis, 105 cases, 63 deaths; pneumonia, 51 cases, 151 deaths. There were 2 cases of infantile paralysis, 1 of cerebrospinal fever, and 37 cases of contagious diseases of minor importance, making the total 944, as compared with 1,157 for the preceding week and 581 or the corresponding week last year. The deaths under two years from diarrhœal diseases numbered 32, and there were 29 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 160, of whom 108 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 609, corresponding to an annual death rate of 14.5 in a thousand of population, as compared with a rate of 15.6 for the preceding week and a rate of 15.3 for the corresponding period last year.

Public Health Education Lectures.—A series of lectures has been arranged to be given in the New York Academy of Medicine on alternate Thursday afternoons and Wednesday evenings from January 12th to March 29th. The lectures will be given under the joint auspices of the Public Health Education Committee of the Medical Society of the County of New York and the Hygiene Committee of the New York City Federation of Women's Clubs. These lectures are open to the public, no cards being required for admission. On the afternoon of January 12th, Dr. William J. Gies will speak on Food in Its Relation to Physical and Mental Development; Dr. Graham Lusk, on The Physiology and Chemistry of Digestion; Dr. Josephine Walters, on Ventilation in Living and Sleeping Rooms; and Dr. Henry P. de Forest, on First Aid to Infants. This will constitute the series on home hygiene. On Wednesday, January 18th, industrial hygiene will be the subject for discussion. Other topics discussed will be the cause and prevention of some common diseases on January 26th; insect borne and water borne diseases on February 1st; pure milk and infant hygiene on February 9th; public hygiene on February 15th; the health of the school child on February 23d; congenital and acquired deformities and their prevention on March 1st; mental hygiene on March 9th; alcohol and meat in relation to disease on March 15th; the health of women in youth and maturity on March 23d; and the care of the eyes on March 29th.

Personal.—Dr. Lewis Hart Marks, for four years assistant to Professor Ehrlich at the Royal Institute for Experimental Therapeutics, at Frankfort on the Main, has been appointed a member of the institute by the Prussian Government.

Society Meetings for the Coming Week:

MONDAY, *January 9th.*—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Society of Alumni of St. Mary's Hospital, Brooklyn; Waterbury, Conn., Medical Association (annual); Williamsburg Medical Society, Brooklyn.

TUESDAY, *January 10th.*—New York Academy of Medicine (Section in Public Health); Medical Society of the County of Schenectady, N. Y.; New York Obstetrical Society; Newburgh Bay Medical Society; Buffalo Academy of Medicine (Section in Medicine); Practitioners' Club, of Jersey City, N. J.; Medical Society of the County of Rensselaer, N. Y.

WEDNESDAY, *January 11th.*—New York Pathological Society (annual); New York Surgical Society; Medical Society of the Borough of the Bronx, New York; Alumni Association of the City Hospital, New York; Brooklyn Medical and Pharmaceutical Association (annual); Medical Society of the County of Richmond, N. Y.

THURSDAY, *January 12th.*—New York Academy of Medicine (Section in Pædiatrics); Brooklyn Pathological Society; Blackwell Medical Society of Rochester, N. Y. (annual); Jenkins Medical Association, Yonkers, N. Y.

FRIDAY, *January 13th.*—New York Academy of Medicine (Section in Otology); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Saratoga Springs, N. Y., Medical Society.

SATURDAY, *January 14th.*—Therapeutic Club, New York.

Physical Director (Male).—The United States Civil Service Commission announces an examination on January 21, 1911, to secure eligibles from which to make certification to fill a vacancy in the position of physical director and assistant disciplinarian at $800 a year at the Haskell Institute, Kansas, and vacancies requiring similar qualifications as they may occur in the Indian Service, unless it shall be decided in the interest of the service to fill the vacancy by reinstatement, transfer, or promotion. It will not be necessary for competitors to report at any place for examination. Their eligibility for the position will be determined upon the evidence furnished in application and examination Form No. 1312 concerning their education, training, and experience. Applications for this position will be accepted only from men who are graduates of medicine. The duties of the position require ability to organize and direct the work of classes in physical culture in connection with the regular school work, and to assist the disciplinarian in the performance of his duties. Applicants must have reached their twentieth but not their fiftieth birthday on the date of the examination. Each applicant is required to furnish with his application a medical certificate showing him to be in good health and free from tuberculosis in any and every form. No person will be appointed who is unable to speak the English language. Each applicant must attach to his application a statement showing the number in his family and the number that will require accommodations at the Indian school or agency in case he receives appointment. This examination is open to all citizens of the United States who comply with the requirements. This announcement contains all information which is communicated to applicants regarding the scope of the examination, the vacancy or vacancies to be filled, and the qualifications required. Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., for Form 1312. No application will be accepted unless properly executed, including the medical certificate, and filed with the commission prior to the hour of closing [illegible] this examination the exact title as given at the head of this announcement should be used in the application.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL

December 29, 1910.

1. Principles Underlying the Study and Treatment of Chronic Arthritis, By H. W. Marshall.
2. Radium Therapy, By Louis Wickham.
3. The Care and Management of the Tabetic Bladder. II. Ætiology, By J. Dellinger Barney.
4. A Biography of Charles Spon, M. D., By Charles Greene Cumston.

1. Treatment of Chronic Arthritis.—Marshall gives his experience with arthritic patients: The causes of chronic arthritis are many, and arthritis must be considered a symptom of many diseases rather than an entity that is produced always by the same specific cause. Cases generally are common diseases of other organs, common infections, and ordinary defects of personal hygiene rather than obscure and rare diseases. The most severe deforming types of arthritis that stubbornly resist treatment and the mildest kinds that are easily controlled and permanently cured have similar origins. They differ only in the degree of severity with which the underlying causes act. Arthritic disease in every stage may often be modified by treatment, sometimes only slightly, and sometimes to a great degree, permitting permanent cures not infrequently. The best period to initiate treatment is in the incipient and early stages before chronicity is established, although the later stages also must be attended to when the disease has progressed to that degree. Diagnosis and treatment of incipient and early arthritis depend upon thorough knowledge of physiological conditions that control health and normal activity of joints, and cures result when defects in these conditions can be recognized and remedied. Proper application of simple hygienic measures and correction of defective personal habits are the most adequate means of treatment in the early stages. Increased efficiency in treatment depends upon greater clearness in understanding of normal physiological conditions that control health of joints, and also upon increased skill in treating diseases of other organs and infections that act as causes; and such knowledge of physiology and increased skill in treatment should be strongly advocated as well as search for new methods and new causes, for obscure conditions generally may be explained more satisfactorily as confusing combinations of common causes than by assumption of unknown, rare, pathological processes. New methods for treatment of chronic arthritis are likely to consist of very dissimilar ones, special drugs, organ extracts, vaccines and physical therapy applied to diseases of different organs and to infections; and better comprehension of physiological conditions governing the health of all organs may also be advantageously emphasized. Future advances in treatment of arthritis, as in pulmonary tuberculosis, appendicitis, and some other diseases, probably will be toward prevention of extensive pathological changes by early recognition of the disease, and treatments will tend to become comparatively simple ones that prove themselves to be efficacious in these incipient stages.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

December 31, 1910.

1. Enteroptosis in Children, By William J. Butler.
2. The Approximation of Widely Separated Wound Margins, By Joseph Rilus Eastman.
3. Tumor of the Spinal Cord, By Herbert C. Moffitt and Harry M. Sherman.
4. The Effect on the Kidney of Temporary Compression of Its Vessels, By D. N. Eisendrath and D. C. Strauss.
5. Ætiology of Epithelioma, By Arthur E. Hertzler.
6. A Further Consideration of the Question of Permanent Drainage in Certain Cases of Pancreatitis, By LeGrand Guerry
7. Pathology of Gallbladder and Bile Tracts, By J. P. Runyan
8. A Case of Diaphragmatic Hernia, By A. Bamberger.
9. Accidents Due to Swiftly Moving Machines, and Their Automatic Rational Prevention, especially as Concerns Industrial Conditions, By William J. Manning.
10. Extensive Wound of Eye by Infected Instrument. Recovery with Retention of Vision, By Edward Armitage.
11. Cerebrospinal Fluid of Anomalous Character in a Case of Intraspinal Tumor, By C. M. Cooper.
12. Saphenous Varix Simulating Femoral Hernia, By Alfred H. Noehren.
13. Simple Apparatus for Accurately Fixing Blood Slides by Heat, By George B. Lawson.
14. An Improved Uterine Clamp and Retractor, By A. Miles Taylor.

1. Enteroptosis in Children.—Butler remarks that it is now generally recognized that the local displacements of the abdominal organs, called enteroptosis, are manifestations of a general status to which the term "habitus enteroptoticus" is applied. This habitus may be recognized by virtue of a body form characteristic of this class of individuals. It is regarded as a congenital and hereditary anomaly and not as an acquired defect. During his examination of the children he inquired as far as practicable into the condition of their nutrition during infancy and early childhood with the view of learning if possible whether disturbances of nutrition might have some bearing on their future development. It seems quite possible that infants who suffer from malnutrition, marasmus, rachitis, etc., may undergo a greater or less degree of underdevelopment in all tissues and that they may ultimately rank in the enteroptosis class. Likewise prolonged periods of low nutrition at any stage of child life might form a foundation for the development of this abnormality. For reasons quite apparent an accurate history of the conditions in early childhood was seldom obtainable. On account of the unsatisfactory results of this inquiry a close relation between early nutritional disease and the enteroptotic habit could not be clearly made out in many instances. He usually found, however, that the older children in whom this condition was present had always been undernourished and presented a greater or less degree of underdevelopment. From his own observations he is convinced that the evidences of the enteroptotic habit are observable throughout childhood, but in more pronounced form in late childhood approaching and in the period of puberty. In the first days of life palpable kidneys and liver are not to be regarded as signs of enteroptosis as these findings are common at this period of life. Beyond the first year and up to late childhood palpable kidneys and displaced

stomachs are exceptional, although signs of this habitus were evident in some of the children examined. On the other hand, coinciding with the development of the adult type of this habitus with the approach and in the period of puberty the displacement of the abdominal viscera become less exceptional, in fact, the actual ptoses are practically first seen at the period of puberty.

4. **Renal Compression.**—Eisendrath and Strauss state that the changes produced by temporary compression upon the vessels of the kidneys consist, first, of round cell interstitial infiltration; later, parenchymatous degeneration of the secreting epithelium; and, finally, necrosis of the secreting epithelium with the deposition in and about it of lime salts. The bloodvessels, although congested, show no degenerative changes, and the glomeruli are noticeable in that they show no special changes. The capillary tufts are somewhat congested, but the glomerular space is normal, as a rule, and Bowman's capsule is intact. The round cell infiltration, which increases progressively with the length of temporary compression of the renal vessels, shows a marked focal distribution, even when generally present, and is found most marked in the cortex between the tubules just beneath the capsule, less marked in the boundary zone of the pyramids and decreases toward the papillæ. The parenchymatous degeneration, and later necrosis of the epithelial cells of the tubules, show how dependent they are on the bloodvessels for their nourishment, and that, in the rabbit, they cannot stand even temporary interruption of this supply for more than three quarters of an hour. One hour compression causes marked necrosis and calcification. The parenchymatous degeneration, also, is most marked in the cortex, less in the boundary zone, and decreases toward the papillæ; and it also is characteristically seen in patches. Even when the degeneration is intense and general there are always ribbonlike areas of intact tubules whose epithelium is normal. This seems to be due to some collateral circulation. Finally, if the compression has been long enough the degenerated cells undergo necrosis and then the deposition of calcium salts occurs in and about them. In the rabbit this occurs if the compression of the vessels has been one hour or longer. The authors, in their experiments, found that, when the kidney was removed forty-eight hours after compression of two hours, marked parenchymatous degeneration was already evident, the cytoplasm staining very poorly and faintly and the nuclei being undemonstrable to a large extent. Histologically the epithelial cells are found well preserved immediately after taking off the ligature. Our authors conclude from their experiments upon rabbits, that temporary compression of the renal vessels, if continued thirty minutes or less, causes very slight changes in the kidney; if continued forty-five minutes, causes considerable parenchymatous degeneration and interstitial infiltration; if continued one hour, an hour and a half, or two hours, causes marked permanent degenerative changes in the parenchyma, as is evidenced by marked interstitial infiltration and extensive coagulation necrosis of the tubular epithelium; and, later, by the deposition of calcium in and about the destroyed tubular epithelium. As the rabbit's kidney is much more susceptible to interference than the human kidney, it is probable that the human kidney would stand temporary compression of its vessels for a longer time than the rabbit's kidney before these permanent changes would be produced in its parenchyma.

5. **Ætiology of Epithelioma.**—Hertzler states that the formation of fibrin is the first step in the formation of connective tissue. Epithelium develops in the presence of fibrin only. In the artificial production of epithelium by Sudan III the first changes are in the subepithelial connective tissue. In x ray cancer the epithelial development is preceded by changes in the connective tissue which are tinctorially identical with those which take place in the Sudan experiments. The changes in the connective tissue in beginning epithelioma are tinctorially identical with those in the Sudan experiments and in x ray cancer. The factor most constant in cancer ætiology is chronic irritation. The sequence of the phenomena of changes suggests as a working hypothesis that the ætiology of cancer is associated with the lessened acidophilic properties of the connective tissue whereby it approaches fibrin in tinctorial reaction.

7. **Pathology of Gallbladder and Bile Tracts.**—Runyon says that since the pancreas has the fatal defect of sharing terminal facilities with the common bileduct, and since to that unfortunate arrangement the majority of the diseases of the pancreas are due, for this exposes it to infections and diseases of the gallbladder and gallducts, the early recognition and removal of the pathological conditions in the gallbladder and bileducts is of paramount importance. Gallstones are by far the most important pathological factors we have to deal with. The most important factors which contribute to their formation are stagnation and infection. In old age the muscular tissue about the bile passages atrophies, and this interferes with normal movements of the bile. Lacing and pregnancy in women, and abdominal tumors and adhesions have a tendency to distort the bile passages; these conditions also produce stagnation by pressure. Heredity also plays a part in predisposing to the formation of gallstones. Stasis is the great factor favoring the development of an infection of the biliary passages. Bile is usually sterile in spite of the open communication that exists between the common duct and the intestinal tract. The current of flow carries material into the intestines, and, even though bacteria are artificially introduced into the bile, they may be carried away by the current without doing any harm. On the other hand a mere ligation of one of the larger bileducts in an animal often suffices to set up an inflammation. It is very probable that infection frequently takes place by route of the portal vein. The bile is apt to contain bacteria in pneumonia, typhoid fever, and other infections. The bacterial infection produces an inflammation of the mucous membrane and a desquamation of its epithelial cells. These latter contain undissolved cholesterin. They likewise contain calcium salts, and these probably react to form the insoluble calcium salt of bilirubin. From this salt, as well as from the amorphous cholesterin in the cells, the biliary calculus takes its

origin. Its further growth is carried on by the deposition and recrystallization of new material, especially of cholesterin. Pancreatitis about the common duct also may favor the formation of gallstones. In the diagnosis of gallstones and cholecystitis the history is of great importance and little attention should be paid to the erroneous statement that gallstones produce no symptoms until impaction takes place. We must also disregard the age of the patient or at least remember that gallstones can occur before middle age. The most prominent symptoms of gallstone disease are a history of long standing dyspepsia, a capricious appetite, constipation, marked flatulence, independent for the most part of the taking of food, associated with discomfort when the stomach is empty and with comparative ease at night after eating a little. In gallstone disease we have often at the beginning a sense of constriction but not of actual pain and this sense of constriction is accompanied by a sensation of chilliness which is characteristic. Jaundice, hæmatemesis, etc., are all late symptoms which will clear up the diagnosis but so late that complications are always present. From the surgical standpoint it does not make any difference whether we have gallstones, gastric or duodenal ulcers, pericholecystic or perigastric adhesions; the same incision will relieve them all. Inflammation of the gallbladder and bile tracts may depend on causes originating within the ducts, as formation and retention of gallstones or microorganisms brought to them from the circulating blood, from the bile, or ascending from the intestines. Disease of the pancreas also may cause inflammation in these parts by obstruction of the common duct. Even the majority of tumors of the gallbladder, the carcinomata, are frequently the result of the trauma and continuous irritation resulting from gallstone disease. The disturbances produced by diseases of the gallbladder and bileducts may be conveniently grouped under the following headings: The resulting jaundice, the result of the occlusion of bile from the intestines, the accompanying pancreatis, the effect of occlusion of the pancreatic secretion from the intestines. These four questions the author treats separately.

MEDICAL RECORD

December 31, 1910

1. A Consideration of Surgical Methods of Treating Hyperthyreoidism, By Charles H. Mayo.
2. Experiences with Arsenobenzol, By William S. Gottheil.
3. Mental Disturbances Following Traumatism; Medico-legal Considerations, By Alfred Gordon.
4. Long Continued High Blood Pressure. Its Results and Prevention, By William Hills Sheldon.
5. The Approximate Estimation of Protein (Globulin?) Contained in the Cerebrospinal Fluid, By D. M. Kaplan.
6. Mercury Succinamid in the Treatment of Tuberculosis, By Leroy S. Peters.

1. Surgical Treatment of Hyperthyreoidism.—Mayo reports the observations on over 1,100 patients operated upon for hyperthyreoidism in St. Mary's Hospital in Rochester. The mortality following ligation was 3.7 per cent., and that following extirpation was 3.9 per cent. This includes the high mortality of the early work, when surgical deaths included many that should have been medical. The Mayos could count out continuous runs between deaths of seventy-six cases and ninety cases, even 150 cases with two deaths, but the general average was not so good. About seventy per cent. of the patients considered themselves cured, and apparently they were well. The others were improved, but not well. Unfortunately they were not operated upon until they were suffering from extensive secondary degeneration and cytolysis of the gland. While the operation checked the toxæmia, the result might be compared to that following the removal of a bullet from its location in the neck, without removing the damage done by its passage through the body. The anæsthetic given in these cases had usually been ether, preceded by 0.01 grain atropine and ⅙ grain morphine. Local anæsthesia was occasionally considered best for the patient when the general condition was serious, or there were heart complications.

2. Arsenobenzol.—Gottheil reports twenty-five cases of syphilis treated with "606." He is not enthusiastic, and says that out of the entire twenty-five cases there is no one that could be classed as an unusual or astonishingly brilliant result. The very best one or two were perhaps quicker than might be expected from mercury; but some of them were slower than we are in the habit of seeing. On the whole, and leaving out of account the necrotic subscapular emulsion cases, in which it may be assumed that arsenical absorption was largely interfered with, he concluded that similar results in a similar series of cases treated with mercury could be regarded only as moderately satisfactory. It seems probable that with the new drug we have to reckon with the possibility of damage to the kidneys in a certain proportion of cases. How large that proportion is, or how permanent the damage, are some of the many questions that only the observation opportunities of private practice can determine. Ten of his twenty-five cases had renal symptoms, in most instances transitory; but some had them when last seen, and one or two had casts. Similar occurrences under mercury are extremely rare; so rare that they are never taken into account. Severe pain seems to be an inevitable feature of the arsenobenzol injection, however administered. This is controllable by morphine; but he thinks that some of our more sensitive private patients will demand anæsthesia. Rest in bed under skilled observation for several days or a week he considers an absolute necessity. A preliminary careful physical examination, to determine the absence of possible contraindications to the treatment in the form of lesions of the internal organs should never be omitted. It seems premature for the present to attempt to give the indications for the use of arsenobenzol in syphilis; but it is his opinion that it is not as yet the treatment of choice in the ordinary run of cases. Definite lesions of the internal organs, syphilitic or other, are recognized contraindications and have so been proclaimed by Ehrlich. On the other hand, there are cases, though extremely rare, that are recalcitrant to the mercurial medication of a rational kind; these are subjects for arsenobenzol. And there are cases also in which, for personal and other reasons, haste is necessary, and in which any treatment that offers a chance of relief more quickly and more permanently than the mercurial one should be employed. Gottheil gives the

following conclusions: Arsenobenzol is of undoubted efficacy in syphilis of various forms, more especially in early cases and in mucosal lesions. Its immediate effect may be better, in some cases, than that of mercury; in others it is slower and less certain. In some cases it fails. It must be used with care, since we are by no means fully informed as to its effects on the kidneys and other internal organs. It should never be given in ambulant or office practice; the patient should be carefully examined before it is administered and should remain in bed under observation for several days after. It is indicated in especially severe or malignant cases, in cases where mercury has failed, and in other instances in which there are reasons for unusual antiluetic measures. While the luetic symptoms usually recede after one or two doses, we are as yet without knowledge as to the permanency of its effects.

3. **Mental Disturbances Following Trauma.**—Gordon observes that trauma may be a determining cause of abnormal psychic manifestations. The latter may follow immediately or some time after the trauma. When they become apparent weeks after the shock there is a suspicion that in a mild form they existed immediately after the accident. A thorough investigation will frequently reveal the presence of mild symptoms. Sufficient precaution should be exercised in regard to a possible existence of mental disturbances prior to the trauma. Trauma may act as a powerful stimulus to further development or accentuation of a preexisting psychosis. Confusional states and delirium are the most frequent forms of insanity that follow traumatism and are caused by the latter. There is nothing especially characteristic in the traumatic confusional and delirious states that can distinguish them from similar states caused by other factors, such as intoxications and infections. Delusions and hallucinations may accompany the psychosis, but again they do not present special characteristics. Dementia may be the ultimate result of persistent confusional and delirious states. There is, however, nothing characteristic in the slowness of mental processes and in the intellectual feebleness, and the inability of retaining various impressions typical of all dementias. Manic depressive insanity, dementia præcox, senile dementia are not caused by trauma. Traumatic psychosis may simulate some of the elements of these psychoses, but there is only a simulation, and not identity. Paresis does not develop as the result of trauma, but the latter may hasten the development of the disease, and sometimes the development may be exceedingly rapid. On the whole it may be said that traumatic phychoses do not present a strictly defined morbid picture, but present a great variety of psychic manifestations which partly suggest the well defined psychoses and partly are unclassifiable. Finally disturbances of a psychic order develop after a trauma, particularly in predisposed individuals whose nervous system is constantly threatened with a break and who are easily influenced by a shock of any origin. They are the so called neurotic individuals.

4. **Long Continued High Blood Pressure.**—Sheldon remarks that attention should be drawn to the fact that high blood pressure is a condition and not a disease. Long continued high blood pressure produces a condition whereby there is leakage of cardiac energy. The arterial tree in health maintains diastolic pressure in normal relation to cystolic. In cases of long continued high blood pressure there is failure of diastolic pressure to maintain its normal relation, therefore, there must be lessened elasticity of the arteries. The increased strain on the heart is in accordance with the amount of diastolic failure. In a series of thirty cases the average pulse pressure was 78.5 mm. while a normal arterial tree will give a pulse pressure of from 20 to 40 mm. Therefore, there was a loss of from 38 to 58 mm. of high pressure. It would seem that in these cases the high systolic pressure was in the nature of a compensatory act, as in order to maintain a diastolic pressure of 108.7 it was necessary to have a systolic pressure of 187.2. There are signs of poor circulation with high systolic pressure if the diastolic pressure is relatively too low. If attention was paid to the first indication of increased pressure and the cause removed, the inevitable bad results noted could be prevented. When the pathological condition of failure of diastolic pressure has been established our efforts should be directed toward maintaining the compensation of the heart.

BRITISH MEDICAL JOURNAL

December 24, 1910.

1. Rest and Movement in Tuberculosis,
   By R. W. Philip.
2. "Eye" in Sport, By Robert W. Doyne.
3. The Influence of Diet upon the Formation and Healing of Acute Ulcer of the Stomach,
   By Charles Bolton.
4. Thyreoid Grafting and the Surgical Treatment of Exophthalmic Goitre,
   By Ernest W. Hey Groves and Cecil Joll.
5. Common Causes of Discharge from the Ears, and Its Treatment, By W. M. Mollison.

3. **Diet and Gastric Ulcers.**—Bolton restates his views on gastric ulcers: Acute ulcer fails to appear if the gastric juice is put out of action, although the animal may die from the effects of the poison. The ulceration produced in the presence of superacid gastric juice is much more extensive than that produced in a stomach secreting juice of the normal acidity. The gastric juice is able to attack the gastric cells and produce an ulcer, although the cells are not actually killed by the poison. It is merely necessary to damage the cells to some extent. Hydrochloric acid of the various strengths found in the condition of superacidity in the human subject is able to act as a poison for the gastric cells. Acute gastric ulcer heals equally well, whether the gastric juice is increased or diminished in acidity to the extent usually found in man, provided that the stomach empties itself in the normal time. Acute ulcer is more easily produced in the digesting than in the resting stomach, and that in the former case it is much more extensive in character. Undue retention of food in the stomach delays the healing of acute ulcer for at least twice the normal time, because the prolonged action of the gastric juice irritates the base of the ulcer, and may cause necrosis of the granulation tissue in the early stages, and excessive formation of fibrous tissue in the later stages. The growth of the new mucous membrane over the base of the ulcer is

thus delayed, and there is produced more inflammatory thickening than usually occurs in the condition of normal healing. From his experiments, he draws the following conclusions: The theory with regard to the part played by the gastric juice in the production of gastric ulcer receives further confirmation, because ulceration is the more rapidly produced in proportion as the gastric juice is allowed a longer period of contact with the wall of the stomach. The epithelium grows over the base of an ulcer more rapidly when the animal is given a milk diet than when it is given a meat diet. In the case of a milk diet the base of a moderately sized ulcer is usually completely covered by the twentieth day, while in the case of a meat diet the same sized ulcer would in most cases be uncovered in the centre at that time. Frequently, in the case of meat fed animals, the ulcer is completely uncovered on the twentieth day, the granulation tissue of the base of the ulcer having become necrotic. Such an ulcer may be only one fifth of the size of the original ulcer owing to the contraction of the fibrous tissue in the base, although healing has only commenced at the edge. In the treatment of a case of ulcer of the stomach the following principles should be observed: (*a*) During the early stages of the healing of acute ulcer the patient should be given a food which does not stay long in the stomach and which does not excite a copious flow of gastric juice. (*b*) The period of treatment in bed should be at least three weeks. (*c*) The starvation diet of the older physicians is not necessary, because the general nutrition suffers too much, and because ulcers heal well on a milk diet. (*d*) In the case of acute ulcers which are extending, or chronic ulcers, healing cannot be expected to occur in three weeks, because the ulcer must first be got into a suitable condition for healing, and then, owing to its size and thickness, the healing must take some weeks longer to be completed, so that the treatment in bed is to be conducted like that of simple acute ulcer, but extended over a period at least twice as long. (*e*) Since in many cases of gastric ulcer there is excessive acidity of the gastric juice, and when the gastric juice is acting destructively excessive acidity increases this destructive tendency, this high degree of acidity should be controlled by the administration of alkali. This is not so necessary in acute ulcer as in the more chronic forms, because the few estimations that have been made of the gastric secretion in acute ulcer show that it is not superacid, and he has found experimentally that the effect of acute ulcer is to diminish the secretion in the early stages, and that the latter becomes normal as the ulcer heals.

4. Surgical Treatment of Exophthalmic Goître.—Groves and Joll report a case of goitre, of which they give the following as the main features: The temporary improvement following partial thyreoidectomy, which lasted only as long as the wound discharged. The occurrence of tetany after subtotal thyreoidectomy in which the parathyreoids had apparently been preserved. The cure of this tetany by thyreoid medication. The persistence of dyspnœa and tachycardia in spite of subtotal thyreoidectomy. The occurrence of tetany of a functional type after thyreoid grafting. The cure of this form of tetany by hypnotic suggestion. The great amelioration of the symptoms by thyreoid grafting. The occurrence of menstruation and coincident swelling of the grafts after thyreoid transplantation. Our authors conclude that it is obvious both from a consideration of their case, together with the review of the literature of the subject, that the value of thyreoid grafting is by no means settled, but enough has been said to encourage further work in this direction. It seems fairly certain that grafting can be successfully undertaken as far as the immediate vitality of the grafts is concerned. Further, that in recent cases of thyreoid inadequacy, a good functional result will accrue from this method. But time only can show what are the permanent results of this method.

LANCET

December 24, 1910.

1. Disorder of Medical Charity, By Lyerston E. Shaw
2. Medical Students and Medical Practitioners, By G. H. Colt.
3. The Treatment of Splenic Anæmia by Splenectomy, By G. A. Sutherland and F. F. Burghard.
4. The Surgical Treatment of Cancer of the Vulva and Its Precancerous Stages, By Frederick J. McCann.
5. The Value of Vaccination and Revaccination, By F. M. Sandwith.
6. A Fatal Case of Anæmia in which the Widal Reaction was Obtained, By Percy Gully.
7. On the Use of Pituitary Extract in Obstetrics and Gynæcology, By S. Jervois Aarons.
8. The Practical Sterilization of Potable Waters by Means of the Ultraviolet Rays of Light, By John C. Thresh and John F. Beale.

1. Disorder of Medical Charity.—We learn through Dr. Shaw's address that the same disorder of medical charity exists in England as with us. He says: The charges which are brought against medical charity by all who have investigated its problems are, first, that there is too much of it; second, that its operations lack proper coordination; and third, that the selection of its beneficiaries is unsatisfactory.

3. Splenic Anæmia.—Sutherland and Burghard say that splenic anæmia or primary splenomegaly is a disease almost always, if not invariably, fatal, whatever the medical treatment may be. The pathology is not yet clearly determined, and reliance on the diagnosis must be placed at present on certain clinical features which are fairly clearly defined. In former years the term splenic anæmia has been loosely applied to other disorders of the blood and other diseases of the spleen, as is clearly shown in many recorded cases. But if surgical treatment is to be adopted it is of the greatest importance to have the disease clearly defined, as otherwise disastrous results may follow and the operation be unjustly condemned. Dr. H. D. Rolleston has summarized the distinguishing characteristics as follows: 1. Anæmia of the type usually spoken of as chlorotic—i. e., a diminution in the number of red corpuscles, with a diminished corpuscular value in the hæmoglobin. 2. Absence of any leucocytosis, usually leucopenia. 3. Considerable splenic enlargement, which cannot be correlated with any other known cause, such as leuchæmia, syphilis, tuberculosis, malaria, or hepatic cirrhosis. 4. The prolonged nature of the disease. 5. The tendency to gastrointestinal hæmorrhage

from time to time. 6. The termination of the disease, if sufficiently prolonged, in hepatic cirrhosis with ascites (Banti's disease). The last three may be described as accidental and nonessential, while the first three give the essential features of the disease. It will be noted that they rather exclude other diseases than indicate any special characteristics of splenic anæmia. In addition the appearance of the patient is very striking, the profound pallor, with a creamy tinge in the skin generally. The authors report two cases, in which splenectomy was performed successfully. The authors give the ultimate result of the operation in one case, the other having been only recently operated on. The first patient when seen at the age of seventeen and a half years, four years after the operation, was a healthy girl without any signs of splenic anæmia. This result may be contrasted with the fate of her sister, who died at the age of thirteen years from progressive anæmia and debility. In the published cases of this disease in which the spleen was successfully removed the ultimate result seems to have been a complete cure, records having been obtained up to eight years after operation. It is probable, conclude the authors, that the two factors present in their cases, the youth of the patient and the comparatively early stage of the affection, were of importance from the point of view of prognosis. While a preliminary course of medical treatment will naturally be adopted in all cases of splenic anæmia, experience has shown that it is never curative, and if the diagnosis is clear treatment by splenectomy should not be unduly delayed.

BERLINER KLINISCHE WOCHENSCHRIFT

December 5, 1910.

1. Theory and Practice of Arsenbenzol, By Touton.
2. The Intravenous Treatment of Syphilis with "606," By A. Geronne.
3. Indications for the Artificial Termination of Pregnancy, By Hammerschlag.
4. Hysteropexia and Pregnancy, By Sante Solieri.
5. The Symptomatic Occurrence of Myotonic Disturbance in Inflammatory Processes in the Muscles, By Max Salzberger.
6. A New Pathological Coloring Matter of the Urine, By Lehmann and Zinn.
7. Metabolic Experiment with "Riba," By C. Virchow.
8. Pathological Ferment Actions *(Concluded)*, By Julius Wohlgemuth
9. The Forensic Estimation of States of Stupor, By Forster.

1. "606."—Touton says that on the eve of the presentation of this remedy to the profession it may interest the members to know that he is accustomed to treat his patients in his office, when the severity of the disease does not necessitate hospital treatment, and that they can continue to live at home, or in a hotel, without the least inconvenience. He gives considerable space to technical minutiæ which seem to him needful to success. He prefers the intravenous method. He reports a case of considerable dermatological interest in which syphilis, malaria, and lichen ruber planus annularis were combined. The result of the treatment with "606" caused the Wassermann reaction to become negative, the plasmodia to disappear from the blood, and the lichen planus to retrogress rapidly until only three or four discolorations remained to mark the place where it had been.

2. The Intravenous Treatment of Syphilis with "606."—Geronne advocates the intravenous injection because of the danger of necrosis following the subcutaneous and intramuscular injections. He finds that the same results are obtained as by the other methods, while the danger mentioned is avoided, the method is painless, without danger if the injection is made with proper care, and causes less annoyance to the patient.

3. Indications for the Artificial Termination of Pregnancy.—Hammerschlag discusses as indications hyperemesis gravidarum, heart disease, pulmonary and laryngeal tuberculosis, kidney disease, diabetes mellitus, and chorea.

4. Hysteropexia and Pregnancy.—Solieri says that the surgeon who performs hysteropexia should always bear in mind the needs of the pregnant and parturient uterus, and direct his care to the possible recurrence in a future pregnancy. If the capacity for procreation is to be retained the means of fixation of the fundus uteri which are most likely to give rise to serious complications in the event of a subsequent pregnancy are to be discarded. Plastic operations on the ligaments are efficient without compromising future pregnancies. Every operation of hysteropexia should be associated with a suitable medical gynæcological treatment such as massage, or hydrotherapy, in order to restore its tone to the physiological ligamentous apparatus. When the power of procreation must be done away with in the treatment of retroversion or serious prolapse of the uterus Spangaro's operation gives good results.

6. A New Pathological Coloring Matter in the Urine.—Lehmann and Zinn found in the urine of a patient a reddish deposit the spectroscopic appearance of which did not agree with that of any known coloring matter of the blood. It showed a broad, very characteristic absorption band at the margin between blue and green, a second weaker one in green, and a third, hardly visible, band in the ultraviolet. It was insoluble in both ether and chloroform.

MEDIZINISCHE KLINIK

December 11, 1910.

1. Psychology in the Treatment of Women, By Hugo Sellheim.
2. Transitory Disease of Fibres of the Vestibular Nerve Met with in Patients Treated with Ehrlich-Hata's "606," By Oscar Beck.
3. Treatment of Tertiary Syphilis with Ehrlich's Arsenobenzol, By Fabry.
4. Experiences in the Subcutaneous and Intramuscular Use of Ehrlich's "606" By Reinhold Lessel.
5. Treatment of Tabes, By F. Walzer.
6. Therapeutic Experiments with Kephaldol, By Kamillo Lill.
7. A Case of Landry's Paralysis, By Wadsack.
8. Attempted Treatment of a Sarcoma in a Rat, By Ferdinand Blumenthal.

2. Transitory Disease of the Fibres of the Vestibular Nerve after Treatment with "606."—Beck reports in detail four cases of this nature that have come under his observation. The first case was that of a prostitute who came to him five weeks after the injection because of dizziness, tinnitus aurium and disturbance of equilibrium. Examination of the condition of the nerves and internal organs proved negative. There were no signs of recent syphilis. The hearing distance of each

ear was about 2 m. The tuning fork test showed an affection of the inner ear. There was a strong rotary and horizontal nystagmus to the right, strongest when looking to the right, weakest when looking to the left. If she stood upright with her feet together and her eyes closed she fell, even when her head was moved, always in the line of the slow, horizontal component of the nystagmus. The left vestibular apparatus was insensitive to caloric, rotary, and galvanic stimulation. Within fourteen days the subjective symptoms improved gradually and the normal excitability of the vestibular apparatus was restored. The patient stated that previous to the injection her hearing had been bad and that she had had tinnitus especially in her left ear. The second case was of a man, twenty-two years old, who had been examined by him before the injection. The primary affection dated back two years. Both auricles were gummatous and the right external auditory canal was stenosed by a gummatous infiltration. There was a bilateral chronic purulent otitis media. Three hours after the injection the patient became very dizzy. On the third day he presented all the signs of an isolated, monolateral involvement of the vestibular nerve. Herxheimer's reaction was not noted in the clinical history. The third case was one in which the syphilis was one and one half years old. The patient had nervous deafness before the injection. The vestibular apparatus was intact on both sides. On the third day after the injection there was a sudden attack of severe dizziness and disturbance of equilibrium. The hearing of each ear was unchanged and the left vestibular nerve was affected. The direction of the fall of the body corresponded to the slow component of the nystagmus. There was Herxheimer's reaction on the third and fourth days after the injection. All symptoms passed away in from ten to fourteen days, and the typical reaction of the vestibular apparatus could be excited again. The fourth patient, nineteen years old, became infected in June, 1910, had an injection of 0.5 gramme of "606" on September 1st, and another of 0.6 gramme on October 1st. Five hours after the injection a distinct Herxheimer's reaction appeared and a previously existing conjunctivitis became worse. At the same time with the Herxheimer's reaction he had a severe attack of dizziness with an inclination to vomit. The otological examination showed an isolated, monolateral affection of the vestibular nerve. In this case also the normal excitability of the vestibular apparatus was restored in fourteen days. An explanation of this phenomenon of transient, isolated affection of the fibres of the vestibular nerve is by no means easy and many possibilities must be taken into account. Several cases are quoted from literature in which the affection was ascribed to syphilis, rheumatism, or other diseases, but in these four cases the simultaneous occurrence of the vestibular affection and Herxheimer's reaction is unmistakable, and the writer counsels care in the use of "606" in patients already suffering from affections of the ear.

3. **"606" in Tertiary Syphilis.**—Fabry reports twenty-one cases of tertiary syphilis treated with success. With regard to perforations of the hard and soft palate and of the septum nasi he finds that "606" presents the advantages of an immediate arrest of the process, quick healing in many cases within a few days and the energetic appearance of healthy granulations which render the defect smaller, results that were not to be expected under former methods of treatment. He uses small doses, 0.4 or 0.5 gramme, and makes a second dose dependent on the effect produced on Wassermann's reaction.

4. **"606."**—Ledermann analyzes the results obtained by him from ninety-two injections in eighty-seven patients, considering first the primary symptoms produced by the injection, the secondary symptoms, the temperature, and the effect on Wassermann's reaction. As regards the curative action of the remedy his experiences do not materially differ from many already published. Herxheimer's reaction occurred almost always. Twelve recurrences were noted some patients recovered under mercurial treatment, some after another injection of "606," some cases proved obstinate to all treatment. He considers Ehrlich's discovery important as a new, powerfully acting remedy for syphilis which either alone or in combination with mercury and the iodides, causes the symptoms of syphilis to disappear, and is useful in any case in which the effects produced by the older remedies are either too weak or completely fail.

5. **Treatment of Tabes.**—Walzer advocates the use of a static current from an especially constructed machine, with a current strength of one half milliampère, and a tension of 130,000 volts. The static current flows from the positive to the negative pole in the form of a violet bundle of rays. The negative pole is attached to the body of the patient, and then the entire body, particularly the spinal cord and the extremities, are irradiated with the violet bundle of rays. He asserts to have obtained improvement in this way. The treatment is very long, extending over months. An advantage given is that it can do no harm.

7. **Landry's Paralysis.**—Wadsack gives this brief description of the true Landry's paralysis, as he says that very different diseases have been classed together under that name. The disease may attack children of twelve years old and upward, but usually attacks adults, men more often than women. The course is without fever unless caused by complications. The paralysis begins in the toes and extends rapidly upward, involves the bulbar muscles, produces attacks of suffocation by a paresis of the diaphragm, and results in death. The entire course may be run in two or three days, but it is usually longer, from two to three weeks. With the severity and duration of the paralyses the reflex and faradic excitability dies away. The trouble is at first a crippling of the hands and feet; pain is absent, or appears only on pressure or passive movement. Then a feeling of weakness and helplessness becomes preeminent. Objectively demonstrable disturbances of sensation are not always present, slight hypæresthesias are frequent, marked anæsthesias are exceptional, but have been observed. Bladder and rectal troubles are absent or transient. Many patients suffer from severe sweating. The pulse is accelerated. The sensorium remains intact to the end. Sometimes there is albuminuria and swelling of the spleen.

December 1916

1. Recent Advances in Hæmatology. By Walter K. Hunter.
2. Prophylaxis in Obstetrics. By A. W. Russell.
3. The Education of the Very Young Deaf Child. By James Kerr Love.

2. Prophylaxis in Obstetrics.—Russell says that contracted pelvis is mostly a legacy of the rickety infant. Much can therefore be done by way of prevention if enlightened attention is paid to the feeding and hygiene of the baby from birth. The education and physical culture of the growing girl must be supervised. This is specially important at the onset of puberty and during adolescence. The young woman should understand her functions, and in her work should be protected from debilitating influences. The young wife, and especially the expectant mother, should receive the further information that is necessary for her guidance in relation to the sexual functions and the preparation for motherhood. As to the complications of pregnancy, it does not seem to be generally realized by the busy practitioner out of how trifling ailments overlooked the most serious troubles arise, and how much special obstetrical studies have in recent years contributed to their more scientific treatment. He mentions pernicious vomiting of pregnancy, which so often develops out of the ordinary digestive disturbances, and eclampsia, which results from renal or hepatic disorders which have not been looked for or have been left untreated. In the ante partum hæmorrhages, too, it has been clearly shown by statistics that if the condition is properly diagnosticated under aseptic precautions, and the patient is put under the care of a skilled obstetrician at an early stage before she has been carelessly handled, the chances of the mother and child are infinitely better. The same remark applies to the early diagnosis of really difficult cases of contracted pelvis, or marked disproportion between the sizes of the child and the pelvis. The author then takes up the process of labor, abortion or miscarriage, induction for premature labor, the prophylaxis in relation to full time labor, and finally vaginal section, Cæsarean operation, and the widening of the pelvis by symphysiotomy or pubiotomy.

Proceedings of Societies.

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Special Meeting, December 6, 1916

The President, Dr. George E. de Schweinitz, in the Chair.

DISCUSSION ON ACUTE AND EPIDEMIC POLIOMYELITIS.

Recent Studies in the Ætiology of Acute Poliomyelitis.—Dr. Paul A. Lewis, of the Rockefeller Institute, read this paper by invitation.

The Lesions of Acute Poliomyelitis.—Dr. Alan J. Smith, of Philadelphia, said that much of the study of this subject had been fragmentary because of the difficulty in obtaining specimens from the living child and opportunity for autopsies. The disease had been looked upon as a nervous affection, but last year the feeling of the whole profession changed and it had been ready to take up the view that it was a general affection with local involvements of the central nervous system, leaving behind serious alterations of the central nervous system with their sequels extending into the muscles. More careful examinations should be made, and we needed to have more data in connection with the rest of the body.

Anterior Poliomyelitis.—Dr. Joseph S. Neff, of Philadelphia, said that the results of a careful study of the reported cases of anterior poliomyelitis in Philadelphia during the last summer demonstrated very little, with possibly two exceptions, and became of value only by adding to statistics for further deductions. The two exceptions were the parts played in the ætiology by feeding and general housing conditions. The disease was practically absent in the wards of the city with the highest congestion of population, and the only location showing apparent grouping of cases had the lowest ratio (excepting suburban wards) of population to each acre. The study tended to show that general sanitation, crowding, and housing conditions did not play a part, at least in Philadelphia, in the ætiology of the disease. From all the cases reported it was evident that poliomyelitis was very mildly contagious, much less so than other so called children's diseases.

Special attention was called to the fact that the week ending July 23d and the week ending August 6th, in which the greatest number of cases occurred, followed the hottest weeks of the summer. The main point to be taken into consideration by health officials, until more definite knowledge of the cause and spread of the disease was obtained, was the means of prevention. Their duty was to prevent the spread of disease, but at the same time the welfare and comfort of the community must be considered. The questions involved were as to isolation, quarantine, exclusion from school of other children in the family, placarding, etc. Up to the present time, and in view of the approaching cold weather, the health authorities of Philadelphia had done nothing further than to order isolation of the patient and the disinfection of all discharges. His own thought was to await developments next spring. Should we have isolated cases only, no further action would be needed. Should the disease become epidemic, his present thought was to compel isolation of the patient, exclude from school other children in the family for a period slightly beyond the period of incubation of the disease, and give written instructions as to the disinfection of all discharges, but he did not believe it would be necessary to placard the house. There seemed to be as many secondary cases where isolation had been maintained as where is had not been attempted.

Special Features in the Symptomatology and Treatment of Acute Poliomyelitis, with Some Discussion of its Probable Pathogenesis.—Dr. Charles K. Mills said that to be opposing the probable cause of acute poliomyelitis was some form of protozoon, which was perhaps carried by an insect to be found in the neighborhood of the prevailing epidemic. In the fulminant cases meningitis was commonly present and might be severe; [illegible] In

several cases which had come under his observation death had occurred with evidences of involvement of the bulb. Paralysis involving one or two of the ocular muscles had been present in some instances. In one case a moderate degree of facial paralysis was the only residual palsy. A second recrudescence of the acute symptoms was seen in several cases. His investigations showed the period of incubation to be usually from one to two weeks. The prognosis as to residual paralysis in the cases he had seen had been relatively bad. In treatment he would advise the use of urotropin in the acute stage; febrifuges, fluid extract of ergot, the large Bier's cups, calomel with salines, and rest when possible on the side or in the prone position. Massage or electricity should not be used for several weeks after the onset, and such treatment should be conservative in character. As a rule operative procedures should not be carried out for several months. Occasionally some kind of support to prevent possible deformity was advisable.

Dr. B. Franklin Royer, of Harrisburg, said that the studies made by the Department of Health led to the suggestion that the disease was a systemic one showing only occasionally paralysis as a symptom. Some of the cases showed fever and went no further. From the standpoint of some observers many died in cases in which the disease was reported as bronchopneumonia and the fever had been high.

Dr. F. X. Dercum remarked that Holt and others had come to the conclusion that the contagion was spread by human carriers not in themselves infected. The mucous membranes and the digestive tract should receive special attention, and certainly close contact with children who were ill should be avoided.

Dr. J. P. Crozer Griffith thought that danger came from the abortive cases because of the inability to recognize them. Therefore some test by which these cases could be determined should be devised.

Dr. Hobart A. Hare believed that if the physician would simply attend to the ordinary hygienic measures the recoveries would be far greater in number than with active medication of the patient. After the sharpness of the attack attention might be paid to strengthening the partially destroyed cells.

Dr. John K. Mitchell believed that damage was done by too early and too severe treatment. Physicians should not yield to the demands of parents that something be done, but should insist that six weeks or two months be allowed before special measures were used. They should particularly avoid the ordinary mistake of allowing the child to sit up too soon. He had seen lateral curvature the result of this mistake. Electricity should not be used under six or eight weeks, and there should not be discouragement from getting no result in the early treatment. The only satisfactory rule about the use of electricity was that the current that would produce the result was the one to be used.

Dr. John B. Roberts understood that this disease was believed to be transmitted usually by infection through the nasal and faucial mucous membrane. If this theory was correct, was it not a physiological error to encourage or adopt the prevalent practice of total extirpation of the faucial and pharyngeal tonsils in children in whom there was inflammation or hypertrophy of these organs? The glossal, faucial, and pharyngeal tonsils were adenoid structures apparently placed as sieves or guardians of the alimentary and respiratory tracts to arrest the entrance of microorganisms into the general circulation. The occurrence of poliomyelitis more frequently in children of the well to do than in those in the lower walks of life might perhaps be due to the fact that such well born children were nowadays deprived by operation of these organs more commonly than the children of the poor.

Dr. William G. Spiller had seen one case in which lumbar puncture with the removal of an ounce and a half of fluid relieved the intense pain and the difficult breathing.

Dr. Henry W. Cattell said that what was done abroad to a very large extent was the application of a plaster of Paris cast to maintain a proper position of the child in bed.

Dr. Alfred Gordon thought that the manner of transmission of the disease and the resistance of the virus to cold were important factors in prophylaxis.

Dr. David Riesman thought that one could not escape the view that infantile paralysis was one of the transmissible diseases. Even though the contagion might be slight, in view of the terrible nature of the disease, all possible precautions against its transmission should be taken. It had also occurred to him that some of the cases of polioencephalitis occurring sporadically in children and in adults might have the same ætiology as anterior poliomyelitis. A short time ago he had seen with Dr. Hand a man, also seen by Dr. Mills and Dr. Spiller, who seemed to be suffering from a very acute attack of polioencephalitis, the first symptom having been facial paralysis. He had also in mind another case of polioencephalitis, that of a little boy of eight who, after a desperate illness, made an almost complete recovery. Nothing remained except diplopia, due to a weakness of the external rectus. It might be, from an epidemiological standpoint, very important to trace the relation of these cases to epidemic anterior poliomyelitis.

Meeting of [illegible]

[illegible] President, Dr. [illegible] Schwenkfelder, in the Chair.

Concerning Nervous Disturbances Following Surgical Operations and Anæsthesias.—Dr. S. Weir Mitchell said that in a case of grave hysteria following operation we must consider the patient as a gun already loaded, and that the surgeon merely pulled the trigger. The proper man might know that the gun was loaded. This raised the question of whether it was not desirable to prepare the patient for the operation more often than our surgical brothers seemed to think it was needed? Not only the risks of death were to be considered, but the possibility of increasing a preceding condition of disease. Many physicians had felt that there was the necessity for more strictly dealing with the before and after of surgical cases. He should limit himself to the consideration of the effect on bodily resistance caused by diet and

point out the extraordinary effect on the irritability of the bladder produced by a strictly milk diet. So satisfied was Sir James Paget upon this point that he never did a grave operation on the bladder without putting the patient under a fortnight of milk treatment. Dr. Mitchell was tempted to say that no operation ought to be done without obedience to the rule in St. Bartholomew's Hospital in London, that no surgeon should ever dare to operate on a patient except after consultation with two physicians. Personally, he should not be selfish enough to insist on two, if he was one.

Postoperative Psychoses.—Dr. James G. Mumford, of Boston, said that the frequency of postoperative psychoses was shown by the careful study of cases seven and nine years after operation, taken from consecutive reports in hospital records. The significance of the words *cure, anatomical cure,* and *psychical results* was discussed. The attempt was made to show that long continued mental and psychical disturbances following operations were due to demonstrable microscopical changes in certain nerve cells of the brain. The significance of these nerve cell changes was discussed, together with the method of their production and reasonable measures which might be taken to limit them.

The Diagnosis of the Postoperative Psychoses.—Dr. J. Chalmers Da Costa said that all sorts of mental disturbance might follow a surgical operation. It was certain that genuine insanity might arise after an operation, though it was seldom met with. Postoperative insanity was more common in women than in men and less common in children than in adults. Contributory causes were pain, insomnia, and shock. In all cases of postoperative insanity there was predisposition, hereditary or acquired. A normal, stable brain would probably never go insane after operation unless that operation attacked the brain, testicles, or ovaries. The anæsthetic was usually the exciting cause in insanity coming on immediately after the operation. The commonest type of postoperative insanity was confusional insanity. Fear and worry were two important causal factors. Anteoperation fear might become a postoperative phobia; yet, he did not believe that fear or sudden fright was usually responsible for postoperative insanity. Most people went to the operating room with reasonable calmness, many with heroic courage, and some with satisfaction at the prospect. Delirium might be mistaken for insanity, and was far more common, from intoxication or infection, than organic brain disease. The entire subject of postoperative psychoses was one of extreme interest and importance.

Postoperative Insanities.—Dr. Edward N. Brush, of Towson, Md., thought it might be assumed that there was no such thing as postoperative insanity per se. Insanity followed operations sometimes, but it manifested itself in various forms. The personal and family histories in a given case were so difficult to obtain that we were not at all sure how far mental instability played a part. This naturally arose from the lack of clinical experience in psychiatry on the part of many observers of these cases. Quite a large proportion of postoperative insanities were due to sepsis, not necessarily from faulty technique on the part of the surgeon. He knew of a woman of unstable mental equilibrium who became insane after the administration of gas for the extraction of teeth and who remained insane for several months. Before we could study postoperative mental disturbances intelligently we must have the histories of our patients carefully recorded. From the lack of this knowledge the postoperative insanity was often erroneously attributed to the operation when in reality the condition might have been present preceding the operation.

Dr. Howard A. Kelly, of Baltimore, said that postoperative psychoses, he believed, were due to the mental shock of the operation per se, and not necessarily to any particular kind of operation. The duration and severity of the procedure were minor factors. The condition was due rather to the attitude of intense expectancy, even of dread, inspired by a new and untried force with which the patient felt he had to cope. It was important that the physician should be able to inspire the patient with confidence sufficiently. The conditions after operation should be as natural as possible and the patient should be out in the sunlight upon the porch when practicable. Treatment should be prophylactic in determining the predisposing factors. The utmost care should be taken to minimize the unpleasantness of the operation.

Dr. Edward Martin thought that every surgeon in the room had felt that when Dr. Mitchell said "the surgeon pulled the trigger" he practically covered the whole subject. We did not recognize that a perfectly healthy individual in good mental health could be made insane by any form of surgical intervention practised at the present day. We did recognize certain postoperative mental disturbances as rather common. We saw the type of depression which we called "hospitalism," of which the patient was cured by being sent out of the hospital. We saw the type of homesickness, and again the patient was cured by being sent home. We did not see the type mentioned by Dr. Mumford, in which the patient was depressed by the thought of loss of organs, and brooded upon a physical deformity.

Dr. Francis X. Dercum thought that the great rôle played by neuropathy in postoperative mental disturbances should discourage operations in such subjects, except under circumstances of grave necessity.

Dr. John K. Mitchell said that there seemed to be no relation between the severity of the operation and that of the mental disturbance. Fright, he felt sure, played a larger part than was generally attributed to it. There were good surgical reasons for getting a patient out of bed as soon as possible, but these troubles would be less frequent if the period of rest in bed were increased and general treatment instituted. Should the question of surgical treatment of a neurasthenic patient arise, much more than ordinary care must be observed in deciding upon an operation.

Dr. Charles K. Mills said that, of many serious cranial operations under his observation, he could recall perhaps only two or three in which insanity had followed the procedure. There had been very few also following operations upon the spinal cord. In his experience these insanities occurred in women of a certain temperament and of

a certain predisposition rather than in the neurasthenic type.

Dr. S. Weir Mitchell said that the question arose concerning the result of the use of local anæsthesia, which had become so fashionable in some circles. He heard of abdominal operations done under local anæsthesia. He thought that to have the interior of one's abdomen exposed to one's own view would tend as much as possible to produce some of the insanities spoken of. It was a fact that occasionally insanities had been cured by grave operations. One such case was an amputation. Another was an attempt on a man's part to cut his throat. The man bled almost to the point of death, but his life was saved, and he recovered from his insanity. He did not recommend the method. The greatest of surgeons known to him was the surgeon called "War," and he had seen many cases in which sudden delirium or sudden delusion followed instantly upon a gunshot wound. One case was that of a colonel who, after being shot, cried to his men to run, that the enemy were upon them. He fell to his face, was delirious for some time, but after amputation of his arm he returned to the regiment that evening. Another case was that of an officer in the Mexican war, a man of well known courage. A ball struck his heel; he limped up and down the line calling to his men to run, saying that everybody was going to die, and for hours he was in a condition of the wildest maniacal excitement. This passed away within forty-eight hours. He asked for a court of inquiry, which, of course, was denied a man so well known for courage.

Book Notices.

[*We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits we review those in which we think our readers will be interested.*]

Dyspepsia. Its Varieties and Treatment. By W. Soltau Fenwick, M. D. (Lond.), Late Physician to the Evelina Hospital for Sick Children, etc. Illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Pp. 488.

The author states that this volume is the outcome of the clinical experience gained by the personal treatment and examination of more than eighteen thousand patients suffering from indigestion. He says that the difficulties that beset the clinical study of indigestion are due in great measure to the almost universal disposition to regard the condition as a substantive disease dependent upon a primary failure of the gastric functions, whereas in a large proportion of the cases the symptoms originate entirely in the intestines and ensue from a derangement of the liver, pancreas, or bowel; that a disturbance of digestion in the stomach itself is rarely due to a primary disorder of that viscus, but is usually a consequence of serious disease of another and perhaps remotely situated organ of the body; and that the majority of the secretory, motorial, and inflammatory affections of the stomach result from the failure of some other organ to execute its proper function.

He urges that few physicians regard dilatation of the stomach as the result of a definite lesion or grasp the fact that gastrectasis is not a disease, but merely the consequence of one. Dyspepsia is due to gastric or to intestinal indigestion; and the former may be due to disorders of secretion, disorders of motility, disorders of the nervous mechanism, inflammation of the stomach, displacements of the stomach, the presence of foreign bodies or living creatures in the stomach, the dyspepsia peculiar to infancy and old age, and the dyspepsia due to diseases of other organs.

He has found that supersecretion is indicated by the presence of more than twenty cubic centimetres of gastric juice in the fasting stomach, and it is always due to organic disease either in the stomach or in some abdominal organ. In almost every instance in which the vermiform appendix is diseased there is some perversion of the gastric secretion. Long continued hyperacidity is apt to induce severe gastritis accompanied by numerous erosions of the mucous membrane; and it is likely to convert a simple erosion of the stomach or duodenum into an ulcer. He thinks it is doubtful if persistent hyperacidity ever exists independently of supersecretion. He directs special attention to the latent period of gastric myasthenia and the comparative rarity of true gastrectasis. Gastroptosis is so frequent in those who have migraine that he thinks future investigation will demonstrate a causal connection. The book presents the results of a ripe experience, and is an excellent guide to the treatment of dyspepsia.

Die Pathologie und Therapie der Lepra. Von Wilhelm Ebstein, Dr. und o.ö. Professor der Medizin. Leipzig: Dr. Werner Klinkhart, 1909. Pp. 112.

This work is much more comprehensive than its title would seem to indicate. In it the author has given a pretty complete exposition of the subject of leprosy, including its ætiology, history and present geographical distribution, pathological anatomy symptomatology, complications, course, diagnosis, prognosis, and treatment. He reviews the parasitology of the disease, the fish, insect, and other theories pertaining to its development, propagation, and spread and shows by very convincing figures the effect of segregation upon its prevalence in countries where it has been adopted.

The various forms of treatment which have proved effective are passed in review, including the more recent x ray and serum therapy. There is also subjoined, a very useful bibliography.

Any one looking for the latest knowledge on the subject of leprosy will find it here.

Hydrotherapy. A Work on Hydrotherapy in General, Its Application to Special Affections, the Technic or Processes Employed, and the Use of Waters Internally. By Guy Hinsdale, A. M., M. D., Lecturer on Climatology in the Medico-Chirurgical College of Philadelphia, etc. Illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Pp. 486. (Price, $3.50.)

The author aims to make the reader understand the physical and chemical qualities of the water used in hydrotherapy; the anatomy and physiology of the skin, the nervous system, the heart, and circulation; and the many ways in which water is used therapeutically.

The first section, on general hydrotherapy, re-

views the rationale of that treatment, the physiological action of saline baths, the influence of baths on metabolism, and the effects on blood pressure, on the rate of the heart, on the blood, and on respiration. The second section describes the use of water as a means of treatment in the different diseases. The third section gives the technique of hydrotherapy; a fourth section, the use of mineral waters internally; and a fifth section, prescriptions of hydrotherapy. In general the author has stated the underlying principles, and the reader is expected to apply them. There is no fanaticism in the treatment of the subject, and all other means that make for recovery are to be used in connection with hydrotherapy. The work is well illustrated, and its temperate and comprehensive survey of the field makes it a valuable guide.

A Treatise on Orthopædic Surgery. By Royal Whitman, M.D., Assistant Professor of Orthopædic Surgery to the College of Physicians and Surgeons, Columbia University, New York; Professor of Orthopædic Surgery in New York Polyclinic Medical School and Hospital, etc. Fourth Edition, Revised and Enlarged. Illustrated with Six Hundred and One Engravings. Philadelphia and London: Lea & Febiger, 1910. Pp. xii-908.

Whitman's *Orthopædic Surgery* appears in its fourth edition as a portly volume filled with instructive illustrations, many of them new. The page, as usual, is handsome and accords well with the author's clear and convincing descriptions and precepts. The book ranks well among the standard works in this specialty.

Diseases of the Colon and Their Surgical Treatment. Founded on the Jacksonian Essay for 1909. By P. Lockhart Mummery, F.R.C.S. Eng., B.A., M.B., B.C. Cantab., Jacksonian Prizeman and Late Hunterian Professor, Royal College of Surgeons, etc. Illustrated by Colored and Other plates and Numerous Figures in the Text, Many of which are Reproduced from the Author's Sketches. New York: William Wood & Co., 1910. Pp. vi-322. (Price, $3.25.)

The author states that he has concluded that diseases and abnormities of the colon are becoming more frequent. He thinks that this is due to modern methods of dietary more than to any other factor, because the animals that supply our meat are bred and cared for so as to render it free from gristle, and the vegetables are cultivated to contain little cellulose. Add to these factors a sedentary occupation, and the normal stimuli to peristalsis and digestion are to an extent absent. Consequently there is constipation, and that, and addiction to aperient medicines, favors the origin of diseases of the colon.

The earlier chapters are devoted to the anatomy, physiology, bacteriology, and congenital abnormities of the colon. It seems as if the chapter on diagnosis should have had a complete description of the use of the sigmoidoscope, which to us appears to have done most to prove the existence of conditions that were overlooked formerly, rather than a reference to a book by the author on the use of that instrument. We believe that the operative relief of coloptosis is, if performed by competent surgeons, likely to give more relief to more patients than the author seems to think possible.

We agree with the author that appendicostomy, as first advocated by Dr. Robert F. Weir, is a better operation than right sided colotomy or ileosigmoidostomy. This indicates one of the valuable features of the book, that different methods of procedure are described while the author indicates his preference. The book is well illustrated and is an excellent manual for reference.

The Microscopical Examination of Foods and Drugs. A Practical Introduction to the Methods Adopted in the Microscopical Examination of Foods and Drugs in the Entire, Crushed, and Powdered States. By Henry George Greenish, F.I.C., F.L.S., Professor of Pharmaceutics to the Pharmaceutical Society of Great Britain, Director of the Pharmacy Research Laboratory, etc. With 209 Illustrations. Second Edition. Philadelphia: P. Blakiston's Son & Co., 910. Pp. xx-386. (Price, $3.)

Six years have elapsed since the first edition of this work, one so important to pharmacognosists and drug analysts, was issued. In the new edition the method of treating the subject remains the same, but a new chapter on the Fibres has been added, together with other new matter, saffron having been introduced, for instance, as an example of part of a flower, while licorice, gentian, and calumba have been included in the section dealing with roots. In a new appendix to the work are named a list of the chief varieties of *cell wall* and *cell contents*, accompanied by a general scheme of identification, which should prove especially useful for students. The work has already found considerable favor among teachers and students, and the new matter added in the second edition should further enhance its value, making it an indispensable text and reference book for students of medicine and pharmacy.

Tuberculosis. A Treatise by American Authors on Its Pathology, Ætiology, Frequency, Semeiology, Diagnosis, Prognosis, Prevention, and Treatment. Edited by Arnold C. Klebs, M.D. With Three Colored Plates and Two Hundred and Forty-three Illustrations in the Text. New York and London: D. Appleton & Co., 1909. Pp. xxix-930.

To one who has followed current medical literature even superficially the number of papers published on tuberculous disease and its various manifestations would seem large; but hardly any one would suppose that in one year, 1908, nearly three thousand publications upon that disease were issued. In the production of the work before us the editor wisely decided, in view of the mass of material at his disposal, to associate with him numerous collaborators, each of whom should be an expert in his particular line. To these men, with the editorial supervision of Dr. Klebs, the credit is due of giving us a volume in which the problems connected with the disease are presented in a readable manner. Each subdivision is brought up to date. Dr. Edward R. Baldwin, of Saranac Lake, writes on resistance, predisposition, immunity, and individual prophylaxis. Dr. Jarvis Barlow, of Los Angeles, writes on climatic therapeutics. Dr. Hermann M. Biggs contributes an introduction to prophylaxis. Dr. Lawrason Brown, of Saranac Lake, writes on specific treatment. Dr. Thomas D. Coleman, of Augusta, writes on tuberculous disease among the dark skinned races of America and on the home treatment of the disease by sanatorium methods. Dr. Leonard Freeman, of Denver, writes on the lymph glands, primary disease of the muscles and farciæ, tubercle in ischiorectal abscess and anal fistula, and tuberculous disease of the genitourinary

system. Dr. Ludwig Hektow, of Chicago, writes on the pathology of the disease. Dr. Richard H. Hutchings, of Ogdensburg, writes on the frequency of the disease in insane asylums. The editor writes on its frequency and on the sanatorium, its construction and management. Dr. S. Adolphus Knopf, of New York, writes on public measures in the prophylaxis. Dr. L. L. McArthur, of Chicago, writes on tuberculous disease of bones and joints, the brain and its membranes, the intestines, and the peritonæum. Dr. Charles L. Minor, of Asheville, writes on symptomatology, physical examination and diagnosis. Dr. William Osler, of Oxford, furnishes the historical introduction. Dr. Clemons von Pirquet, of Baltimore, writes on the disease in childhood. Dr. Mazyck P. Ravenel, of Madison, writes on the ætiology and the *Bacillus tuberculosis*. Dr. Henry Sewall, of Denver, writes on the physiology of climate, Dr. Edward L. Trudeau, of Saranac Lake, contributes the introduction to treatment, and Dr. Gerald B. Webb, of Colorado Springs, writes of the specific therapeutics of mixed and concomitant infections.

The different chapters are well written, and the latest literature is thoroughly reviewed, so that the one who seeks information upon any of the subjects treated is sure of finding an authoratative résumé of the questions involved. The book is well printed and well illustrated.

Physiological and Medical Observations among the Indians of Southwestern United States and Northern Mexico. By Ales Hrdlicka. Smithsonian Institution. Bureau of American Ethnology. Bulletin 34. Washington: Government Printing Office, 1908. Pp. ix-460.

The author discusses the general environment, the subdivision of the tribes, their location and physical types, their clothing, dwellings, occupations, food, alcoholic drinks, general habits of life, character, and social conditions, with general physiological observations on children and adults, with considerations of sex, age, reproduction, size of families, marriage, etc. There are chapters on social abnormities, various diseases, prevention of disease, treatment of disease, medicine men, etc. The appendix contains numerous tables of measurements, weights, temperature, pulse, respiration, condition of the hair, the teeth, and muscular strength. There are several interesting photographs in the volume.

Dislocations and Joint Fractures. By Frederic J. Cotton, A. M., M. D., First Assistant Surgeon to the Boston City Hospital, Assistant Professor of Clinical Surgery in Tufts College Medical School, Boston. With 1201 Illustrations, 830 from Drawings by the Author. Philadelphia and London: W. B. Saunders Company, 1910. Pp. 654. (Price, $6.)

The author states that this book is not an effort to "revise to date," but an attempt to state what is really known of these subjects to-day, and that he has spent five years in its preparation. We agree to the conclusion that the more fractures and luxations are studied the more it is realized that they may be arranged in series of somewhat constant types: but these types are not constant in detail, and each fracture is a problem in itself, so that in each case we must obtain the best results possible by any available means and irrespective of traditional methods.

The author commends the work of the general practitioner and thinks that, good as his work is to-day, it will be better to-morrow. Doubtful results after reduction or replacement must be tested by the x ray, and one must not be satisfied with poor results without further operative or nonoperative attempts at betterment; an x ray plate two weeks after the injury would obviate most instances of disaffection or eventual legal process. So the text acquaints the practitioner with the types of these injuries that commonly occur; familiarizes him with the points of diagnosis; portrays the characteristic x ray appearances; shows, by description and illustration, how to carry out the methods of reduction and of the application of apparatus that have proved of real value; warn him of failures in reduction that are common, and of complications that are to be watched for; instruct him in methods of detecting them and of remedying them, if possible; and outline after treatment and prognosis.

The style is lucid and convincing and the text is admirably illustrated.

The Practice of Surgery. By James Gregory Mumford, M. D., Visiting Surgeon to the Massachusetts General Hospital, Instructor in Surgery in the Harvard Medical School, etc. With 682 Illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Pp. 1015. (Price, $7.)

The author's purpose has been to prepare a work that will give an account of the practice of surgery as it is seen at the bedside, in the accident ward, and in the operating room, and to give the results of many years of active surgical practice and teaching. He discusses surgical diseases in their order of interest, importance, and frequency, and places stress on those subjects that Nature seems to accentuate, thus seeking to present the conditions in their true perspective.

The first part of the book is devoted to the abdomen, and the first chapter is on appendicular inflammation, subsequent chapters discussing the surgical diseases of the several abdominal organs. The second part treats of the female organs of generation; the third, of the genitourinary organs; the fourth, of the chest; the fifth, of the face and neck; the sixth, of the head and spine; and the seventh, of minor surgery.

The book is compact, admirably illustrated, and a safe guide to the student and practitioner.

Nephrocoloptosis. A Description of the Nephrocolic Ligament and Its Action in the Causation of Nephroptosis, with the Technic of the Operation of Nephrocolopexy, in which the Nephrocolic Ligament is Utilized to Immobilize both Kidney and Bowel. By H. W. Longyear, M. D., Professor of Gynæcology and Abdominal Surgery, Detroit Postgraduate Medical School, etc. With Eighty-eight Special Illustrations and a Colored Frontispiece. St. Louis: C. V. Mosby Company, 1910. Pp. 258. (Price, $3.)

The author presents in this monograph his view that in the nephrocolic ligament he has discovered the principal ætiological factor in nephroptosis, and that the latter, because of the action of this ligament, must always—except when due to trauma—be secondary to and the consequence of a coloptosis. He urges the truth of Glénard's observation "enteroptosis without nephroptosis, but never nephroptosis without enteroptosis."

There is much force in his argument that it is a

serious pathological error, that will lead to unsatisfactory therapeutic results, to treat a displaced kidney by itself and ignore its cause and unavoidable accompaniment, a displaced colon.

He believes that a more general use of the x ray, a more thorough palpation technique, and due appreciation of symptomatology will aid in diagnosis and result in fewer patients so affected being treated for neurasthenia, intestinal indigestion, chronic appendicular disease, gastric dyspepsia, etc. The operation devised for the relief of the condition has been well thought out and is admirably illustrated.

Neurologists as well as surgeons are indebted to the author for a clear exposition of an important condition that is causative of great suffering, and the presence of which can be determined by proper examination.

The Care of the Child. By Mrs. Burton Chance. Philadelphia: The Penn Publishing Company, 1909. Pp. 242.

Many mothers will find this little book helpful in its advice, and while it is not intended to supplant the nurse or the doctor, a knowledge of its methods will enable the young mother to aid both more intelligently.

Modern Materia Medica and Therapeutics. By A. A. Stevens, A. M., M. D., Professor of Therapeutics and Clinical Medicine, Woman's Medical College of Pennsylvania, Lecturer on Physical Diagnosis in the University of Pennsylvania, etc. Fifth Edition. Thoroughly Revised in Conformity with the Eighth Revision (1905) of the United States Pharmacopœia. Philadelphia and London: W. B. Saunders Company, 1909. Pp. 675. (Price, $3.50.)

The latest revised edition of this useful compendium of materia medica and therapeutics contains numerous modifications and additions, the chapter on the action and uses of drugs having been considerably enlarged and in parts rewritten. As a companion to the *Pharmacopœia of the United States* it will be found exceptionally useful both by students and by practitioners, notwithstanding the fact that the author persists in the use of the curiously deformed spelling of the faddists in nomenclature as regards the naming of alkaloids, glucosides, and the halogen preparations.

MEDICOLITERARY NOTES.

There will probably be general excitement among magazine readers at the reappearance, in the January *Strand*, of Sherlock Holmes. Sir Arthur Conan Doyle, discoverer of the famous detective, prototype of a veritable army of fictional sleuthhounds, gives us the first half of The Adventure of the Devil's Foot, which we acknowledge to be, as far as we are concerned, an impenetrable mystery. Sir Hiram Maxim, in addition to his therapeutical activities once referred to here, has run afoul of J. N. Maskelyne in stating his belief that some rope tying tricks he once saw are inexplicable except through supernatural means. Mr. Maskelyne, in undeceiving Sir Hiram, is divulging for the first time in the *Strand* how the famous Davenport Brothers accomplished their clever tricks. We believe this exposé to be of great importance, as the Davenports induced in many people a belief in the supernatural agencies that has by no means died out and has played an important part in enriching a credulous soil that grew Christian Science, the New Thought, and a host of strange cults opposed to all tangible therapeutical methods, antitoxine, vaccination, and other scientific safeguards against disease.

* * *

Mrs. Belloc Lowndes has a story, The Lodger, in the January *McClure's*, in which she makes the doorkeeper of Mme. Tussaud's London wax works establishment say "Ladies always like 'orrors, that's our experience here. 'Oh, take me to the Chamber of 'Orrors!'—that's what they say the minute they get into the building." If a man had written that, we should have scornfully refused to cite it. The articles on Mormon polygamy, by Burton J. Hendrick, are most interesting; the peculiar anthropomorphic conception of the Deity attributed to the Mormons is that of believers in many another cult. Ellen Terry's articles on the stage are almost as charming as her acting; this month she betrays the high susceptibility to surroundings that is a mark of the great artist. We admit a personal interest in matters of excise; The Lemon in the Tariff, by Samuel Hopkins Adams, refers to a real lemon, not to the vulgar, figurative citrus.

* * *

The January *American* is an exceptionally entertaining number. The fiction, by William J. Locke, Dorothy Canfield, Olive Higgins Prouty, Inez Haynes Gilmore, and Frances Hodgson Burnett, is of a high order. Elias Tobenkin's Father and Son reads like a maiden effort of promise. The anonymous Drinking in Dry Places will be endorsed as to its facts by any traveler through prohibition States who likes his daily beer or high ball. We acknowledge frankly the efficacy of prohibitory enactments in driving good whiskey out of a town or State, but an appalling mixture usually remains, of cologne spirit, caramel, capsicum, and, too often, methyl alcohol.

* * *

The recent death of Benn Pitman reminds us that few accomplishments are more useful than a knowledge of shorthand. The intending student of medicine cannot do better than pass part of a summer vacation in the acquisition of the principles of stenography. It is not difficult to learn enough of the art to write much faster than is possible in longhand and in a style legible to the writer at any future date. Many a valuable note will be the student's reward.

* * *

There is something very wrong with our system of elementary education when scores of thousands of our fellow citizens are confidently expecting the bodily resurrection of a recently deceased old woman; positive evidence of such belief lies in the rebuke administered to them by their less credulous brethren.

* * *

Dr. Ben Trovato is disposed to believe that the physician in his 30 h.p. runabout will soon overtake the pale horse and its rider. The Destroyer, however, is very modern himself, and his ally, *atra cura*, now sits in the tonneau.

Why do many publishers use a hyphen with such words as ill disposed? Ill is not here an adjective, but a perfectly good adverb, greatly superior to "illy," which we find in some magazines. Over is another good adverb, unsatisfactory for some reason to unpractised writers, who insist upon replacing it with the hideous "overly." The worst of them do not write "welly" or "underly," but they may in time. A recent writer in the *American Journal of Obstetrics* states that it is not his custom to "operate uterine myomata"; there is no authority for this transitive use of the verb.

* * *

Recent discussions of the causes of insanity give a high place to alcohol and narcotic drugs. We cannot help thinking, nevertheless, that complete surrender to narcotic agencies is not so much a cause as a symptom of mental weakness. When a boy is found to be smoking a hundred cigarettes a day, we may be sure there is something fundamentally wrong with his mental apparatus which would have manifested itself in other ways if tobacco had never been discovered. All of us know octogenarians who smoke thirty strong cigars a day and others who drink Scotch whiskey from before breakfast till far into the small hours without any perceptible effect upon their appetite for food, their care about their dress, or their business acuity. When, however, there is smoking or drinking to the exclusion of all other activities, there is at bottom some fatal weakness, organic or molecular, of which the moral degeneration is but one sign. In a recent sensational case the allegation was made that the defendant was accustomed to take daily twelve grains of morphine, frequent doses of strychnine, three pints of whiskey, and a quart of sherry. Would this case be classed as insanity from drug habituation, or is it fair to suppose that only a weak, unstable brain and nervous system would ever incur such a collection of habits?

NEW PUBLICATIONS

Oertel, Horst.—The Anatomical Histological Processes of Bright's Disease and their Relation to the Functional Changes. Lectures Delivered in the Russell Sage Institute of Pathology, City Hospital, New York, during the Winter of 1909. Illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Pp. xi-227. (Price, $5.)

Lea, Arnold W. W.—Puerperal Infection. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1910. Pp. xvi-384. (Price, $9.)

Marie, A.—Pellagra. With Introductory Notes by Professor Lombroso. Authorized Translation by C. H. Lavinder, M. D., Passed Assistant Surgeon, United States Public Health and Marine Hospital Service, and J. W. Babcock, M. D., Physician and Superintendent, State Hospital for the Insane, S. C. With Additions, Illustrations, Bibliography, and Appendices. Columbia, S. C.: The State Company Publishers, 1910. Pp. 434.

Horder, Thomas J.—Clinical Pathology in Practice. With a Short Account of Vaccine Therapy. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1910. Pp. viii-216. (Price, $3.)

Wullstein und Wilms.—Lehrbuch der Chirurgie. Bearbeitet von Prof. Klapp, Berlin, Prof. Kuttner, Breslau, Prof. Lange, München, Prof. Lanz, Amsterdam, et al. Zweite umgearbeitete Auflage. Zweiter Band: Bauchdecken, Leber, Milz, Pankreas, Magen, Darm, Hernien, Harn- und Geschlechtsorgane und Becken. Mit 207 zum Teil mehrfarbigen Abbildungen. Jena: Gustav Fischer, 1910. Pp. xvi-[illegible]

Gierke, Edgar.—Taschenbuch der pathologischen Anatomie. I. Allgemeiner Teil. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. 143.

Gierke, Edgar.—Taschenbuch der pathologischen Anatomie. II. Spezieller Teil. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. 207.

Vierordt, Hermann.—Medizinisches aus der Geschichte. Dritte vermehrte Auflage. Mit Namen- und Sachregister. Tübingen: H. Laupp'schen Buchhandlung, 1910. Pp. 216.

Zuelzer, Georg.—Innere Medizin. Leitfäden der praktischen Medizin. Herausgegeben von Professor Dr. Ph. Bockenheimer, Berlin. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. ix-330.

Pappenheim, A.—Ueber die verschiedenen lymphoiden Zellformen des normalen und pathologischen Blutes. In Gemeinschaft und Mitarbeit mit A. Ferrata. Mit 4 lithographischen Tafeln. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. 152.

Rothschild, Alfred.—Lehrbuch der Urologie und der Krankheiten der männlichen Sexualorgane. Mit 162 teils farbigen Tafel. Pp. xii-522.

Axenfeld, Theodor.—Lehrbuch der Augenheilkunde. Bearbeitet von Prof. Axenfeld, Freiburg, Prof. Bach, Marburg, Prof. Bielschowsky, Leipzig, et al. Zweite Auflage. Mit 11 Farbentafeln und 455 zum grossen Teil mehrfarbigen Abbildungen im Text. Jena: Gustav Fischer, 1910. Pp. xvi-708.

Ramström, Martin.—Emanuel Swedenborg's Investigations in Natural Science and the Basis for his Statements Concerning the Functions of the Brain. Till Kungl Vetenskaps-Societeten I Uppsala vid Dess 200 Arsjubileum at Uppsala Universitet den 19, November, 1910. Uppsala, 1910. Pp. 59.

Pinkus, Felix.—Haut- und Geschlechtskrankheiten. Leitfäden der praktischen Medizin. Herausgegeben von Professor Dr. Ph. Bockheimer, Berlin. Band II. Leipzig: Dr. Werner Klinkhardt, 1910. P. xi-272.

Forchheimer, F.—The Prophylaxis and Treatment of Internal Diseases. Designed for the Use of Practitioners and of Advanced Students of Medicine. Second Edition. New York and London: D. Appleton & Co., 1910. Pp. xxvi-712. (Price, $5.)

Marquat, J.—Principles of Therapeutics. Translated by Simbad Gabriel, M. D. New York and London: D. Appleton & Co., 1910. Pp. vi-298. (Price, $3.)

de Rothschild, H.—Actualités médicochirurgicales. Conférences faites en Mai et en Juin 1909 par MM. P. Bonnier, Borrel, P. Delbert, A. Desjardins, H. Dominici, Dienlafoy, C. Ducroquet, E. Fournier, H. Huchard, M. Letulle, Léopold-Lévi, C.-L. Maillard, A. Péchin, S. Pozzi, F. Raymond, A. Robin, P. Segond et Thoinot. Recueillies et publiées par le Dr. H. de Rothschild. Avec 226 figures et 16 planches dont 3 coloriées. Paris: O. Doin et fils, 1911. Pp. ix-537.

Lévi, Léopold, et de Rothschild, Henri.—Nouvelles études sur la physiopathologie du corps thyroïde et des autres glandes endocrines. (Deuxième série.) Avec 2 figures et 18 planches. Paris: O. Doin et fils, 1911. Pp. lxiv-558.

Hawks, Ursula I.—Care of the Patient. A Book for Nurses. With Six Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. vii-173. (Price, $1.)

De Lorme, M. F.—A Manual of Pharmacy for Physicians. Second Edition, with Nineteen Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. viii-199. (Price, $1.25.)

Ehrlich, Paul.—Beiträge zur experimentellen Pathologie und Chemotherapie. Leipzig: Akademische Verlagsgesellschaft, m.b.H., 1909. Pp. 247.

Rubner, Max.—Volksernährungsfragen. Leipzig: Akademische Verlagsgesellschaft, m.b.H., 1908. Pp. 143.

Rubner, Max.—Kraft und Stoff im Haushalte der Natur. Leipzig: Akademische Verlagsgesellschaft, m.b.H., 1909. Pp. 184.

Hegar, A., Kaltenbach, J., Liepmann, W., und Gross, O.—Handbuch der Geschlechtskrankheiten unter Mitarbeit von Prof. Dr. G. Alexander, Wien, Prof. Dr. K. Benda, Berlin, Prof. Dr. A. Blaschko, Berlin, et al. II. Lieferung. I. Band, Bigen 11-20. Wien und Leipzig: Alfred Hölder, 1911. Pp. 161-[illegible]

Hoxey, Reynold B.—The Treatment of Disease: A Manual of Practical Medicine. Third Edition. Thoroughly Revised and Enlarged. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xxv-1023. (Price, $7.50.)

Freud, Sigmund.—Three Contributions to the Sexual Theory. Authorized Translation by A. A. Brill, Ph. B., M. D. With Introduction by James J. Putnam, M. D. New York: The Journal of Nervous and Mental Disease Publishing Company, 1910. Pp. x-91.

Vincent, Ralph.—On Acute Intestinal Toxæmia in Infants. An Experimental Investigation of the Ætiology and Pathology of Epidemic or Summer Diarrhœa. An Address Delivered Before the Glasgow Obstetrical and Gynæcological Society, on November 23, 1910. London: Bailliere, Tindall, & Cox, 1911. Pp. 83. (Price, 3s. 6d.)

Ross, Hugh Campbell.—Induced Cell Reproduction and Cancer. The Isolation of the Chemical Causes of Normal and of Augmented, Asymmetrical Human Cell Division. Being the Results of the Researches Carried out by the Author with the Assistance of John Westray Cropper, M. B., M. Sc., M. R. C. S., L. R. C. P., Assistant to the Research Department of the Royal Southern Hospital, Liverpool. With 129 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xxx-423. (Price, $4.50.)

Stitt, E. R.—Practical Bacteriology, Blood Work, and Animal Parasitology. Including Bacteriological Keys, Zoological Tables, and Explanatory Clinical Notes. Second Edition, Revised and Enlarged, with Ninety-one Illustrations. Philadelphia: P. Blakiston's Son & Co., 1910. Pp. xiii-345. (Price, $1.50.)

Lévi, Léopold, et de Rothschild, Henri.—Etudes sur la physiopathologie du corps thyréoïde et de l'hypophyse. Préface de M. Ch. Achard, professeur agrégé à la Faculté de médecine, médecin de l'Hôpital Necker. Avec 4 figures et 9 planches. Paris: Octave Doin et fils, 1908. Pp. lxix-306.

Wolf, Max, und Fleischer, Fritz.—Nova therapeutica. Führer durch das Gebiet der neuren Arznei- u. Nährmittel zum Gebrauch für den praktishen Arzt. Berlin: Gustav Braunbeck & Gutenberg-Druckerei Aktiengesellschaft, 1910. Pp. 611.

Fishberg, Maurice.—The Jews: A Study of Race and Environment. London: The Walter Scott Publishing Company; New York: Charles Scribner's Sons, 1911. Pp. xix-578. (Price, $1.50.)

Wechselmann, W., Harrison, and Westcott, W. Wynn.—Salvarsan, or "606" (Dioxydiamidoarsenobenzol). Its Chemistry, Pharmacy, and Therapeutics. London: H. K. Lewis, 1911. Pp. xv-77.

Baum, W. L., and Moyer, Harold N.—Skin and Venereal Diseases. Miscellaneous Topics. Volume IX of the Practical Medicine Series. Under the General Editorial Charge of Gustavus P. Head, M. D., and Charles L. Mix, M. D. Series 1909. Chicago: The Year Book Publishers, 1910. Pp. 245.

Baar, Gustav.—The Modern View of Syphilis and Its Treatment. New York and London: D. Appleton & Co. Pp. xii-285.

Transactions of the Eighth Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine Hospital Service, held in Washington, D. C., on April 30, 1910. Public Health Bulletin No. 40. Washington, D. C.: Government Printing Office, 1910. Pp. 191.

Annual Report of the Department of Health of the City of Minneapolis for the Year Ending December 31, 1909. P. M. Hall, M. D., Commissioner. Pp. 68.

Special Report of J. M. Dickinson, Secretary of War, to the President, on the Philippines. Washington, D. C.: Government Printing Office, 1910. Pp. 96.

First National Conference on Industrial Diseases, held in Chicago, June 10, 1910. Publication No. 10, American Association for Labor Legislation. Pp. 52.

Report and Appeal of the Governors of the Albany Hospital for the Year Ending October 1, 1910. Including the Reports of the Treasurer of the Hospital, the Treasurer of the Endowment Fund, the Superintendent of the Hospital, the List of Annual Contributors, the Medical and Surgical Staff, and the Albany Hospital Training School for Nurses. Pp. 55.

The Third Annual Report of the Commissioner of Health of the Commonwealth of Pennsylvania, 1908. Pp. 1339.

Official News.

Public Health and Marine Hospital Service

Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending December 30, 1910:

Place.	Date.	Cases.	Deaths.
[illegible]	[illegible]	3	3
Austria-Hungary	[illegible]	15	11
[illegible]	[illegible]	3	1
[illegible]	[illegible]		Present
[illegible]	[illegible]		1
India—Calcutta	Oct. 24-Nov. [illegible]		
Italy	Dec. 14-26	41	9
[illegible]	[illegible]		
Italy	[illegible]		
[illegible]	Nov. 27-Dec. 3	2	
[illegible]	Nov. 27-Dec. 3	1	
Italy—Rome	[illegible]	24	1
[illegible]	[illegible]	4	1
Persia—Ispahan	[illegible]		Present
[illegible]	[illegible]	9	93
Persia—Hamadan	[illegible]	32	20
[illegible]	[illegible]	7	514
Persia—Kazvin	[illegible]	7	6
Persia—Meshed	[illegible]	55	24
Persia—Resht	[illegible]	5	5
Persia—Koyes	[illegible]		Present
Siam—Bangkok	Dec. [illegible]-Nov. 5	66	66
Turkey—Salonika	[illegible]	1	1
[illegible]	[illegible]	15	4
[illegible]	Oct. 1	19	9
Plague—Brazil.			
Brazil—Bahia	Oct. [illegible]	1	1
Brazil—Manaos	Nov. 27-Dec. [illegible]		8
Venezuela—La Guaira	Nov. 15-30	1	1
Plague—Ecuador.			
Ecuador—Bahia	Nov. [illegible]	1	1
Plague—Egypt.			
Egypt—Cairo	[illegible]	15	11
Egypt—Province	[illegible]		Present
Egypt—Alexandria	Oct. 16-Nov. 28	3	2
Egypt—Assiout, [illegible]	Nov. 1-Dec. [illegible]	27	21
Egypt—Gabbari, [illegible]	Sept. 30-Nov. 27	6	
Egypt—Menieh, [illegible]	Nov. 4-Dec. [illegible]	21	4
Egypt—Minieh, [illegible]	Sept. 24-Nov. 21	1	
India—Bombay	Nov. 19-26		6
India—Calcutta	Oct. 24-Nov. 12		22
India—Kurrachee	Nov. 13-19	2	2
[illegible]	[illegible]		1
[illegible]	[illegible]		1
[illegible]	[illegible]		1
Manchuria—Jalentum	Nov. 14-20	5	4
[illegible]	[illegible]	2	2
[illegible]	[illegible]	2	2
Smallpox—Canada.			
[illegible]	[illegible]	1	
[illegible]	[illegible]	7	
Smallpox—United States.			
California—Sacramento County	Nov. 1-30	1	
[illegible]	[illegible]	1	
Florida—Calhoun County	Dec. 11-17	1	
Florida—Duval County	Dec. [illegible]	1	
[illegible]	[illegible]	2	
Florida—Gadsden County	Dec. [illegible]	11	
Florida—Hillsboro County	Dec. [illegible]	3	
[illegible]	[illegible]	2	
Florida—Leon County	Dec. [illegible]	1	
Florida—Madison County	Dec. [illegible]	3	
Florida—Manatee County	Dec. 11-17	1	
Florida—Orange County	Dec. [illegible]	1	
Florida—Putnam County	Dec. [illegible]	1	
[illegible]	[illegible]	1	
Indiana—Dekalb County	Oct. [illegible]	1	
Indiana—Elkhart County	Nov. [illegible]	1	
[illegible]	[illegible]	22	
Indiana—Monroe County	Nov. [illegible]	5	
[illegible]	[illegible]	2	
[illegible]	[illegible]	1	
Illinois—Coles County	Nov. 1-30	2	
[illegible]	[illegible]	1	
Illinois—Jackson County	Nov. 1-30	8	
Illinois—Kane County	Nov. 1-30	1	
Illinois—Peoria County	Nov. 1-30	4	
Illinois—Sangamon County	Nov. 1-30	1	
Illinois—Stevenson County	Nov. 1-30	1	
[illegible]	Nov. [illegible]		
Kansas—Allen County	Nov. 1-30	3	
Kansas—Barton County	Nov. 1-30	1	
[illegible]	[illegible]	2	
[illegible]	[illegible]	1	
Kansas—Dickinson County	Nov. 1-30	1	
[illegible]	[illegible]	1	
[illegible]	[illegible]		1
[illegible]	[illegible]	1	

Place.	Date.	Cases.	Deaths
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
New Hampshire—Carroll County	Nov. 11-Dec. [illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]

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Original Communications.

A FEW NEGLECTED POINTS CONCERNING THE TREATMENT OF FRACTURES, WITH SPECIAL REFERENCE TO THOSE OF THE LEG.*

By Carl Beck, M. D.,
New York,

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While on the part of some surgeons there is still a widespread indifference toward operative treatment of fractures which show tendency to considerable displacement, there is a certain number in the fraternity which sees a chance for excessive activity in most cases of cleavage of bone. Condemnable as indifference is, the furor operativus on the other hand which characterizes some work of the more strenuous colleagues, deserves restriction and, as long as it is possible to reduce a fracture, especially a nondisplaced one, by a bloodless method, it is unjustifiable to change a subcutaneous fracture into an open one when not necessary. At the basis of proper therapeutic action stands a correct diagnosis, in other words the foundation of our treatment consists in the correct anatomical details of the fractured area. The character of the treatment is therefore anatomical, the exact apposition of the bone fragments being the essential therapeusis.

In fact, the treatment of the more or less injured soft tissues around the fragments is practically of little importance, the correct apposition of the bone ends being the all important factor, and the sequelæ of too long continued immobilization will be avoided and suppressed by early, careful motion and methodical massage, often combined with the application of a removable splint of plaster of Paris. Surgical instinct, educated by Röntgen ray observation, will tell which method is the best to pursue at first, giving the individual case an exploratory character. In some cases the opinion may not be furnished before the elapse of several weeks, when continued displacement may urge the necessity of a chisel operation, after some milder means which were tried at first, have proved to be in vain. As the best bloodless means of reposition in displacement I regard the good old extension method of Gurdon Buck, which has lately been greatly improved by Bardenheuer. It is sometimes very practicable in cases of much displacement, but not as reliable as wiring and will be described later on.

To illustrate some of my statements I present a boy of seven years who sustained a fracture (supracondylar) of the right humerus forty-one days ago. There was considerable backward displacement, the joint having remained intact. Reduction was attempted and apparently the fragments were kept *in situ* by a Bardenheuer splint which pulled the dislodged fragment back into place by exerting traction on the forearm anteriorly. Fig. 1 illustrates the position of the elbow three weeks ago. A bloody exposure was made November 1st, and with the aid of a round chisel the severing and apposition of the fragments could be so well performed that the alignment of the fragments in the extended position became perfect. I was prepared to immobilize by wire, but apposition seemed to be so good that I left the extremity in the corrected shape, omitting the introduction of a wire suture and securing the fragments in an extended plaster cast. A few days ago I removed the splint, found union by first intention and slight possible motion (Fig. 2). At the time of this writing the function and shape of the elbow are blameless. We learn that in this case bloodless manipulation was insufficient and wiring would have been too much. Thus some ordinary points of view are illustrated. The various features of fractures of the lower extremity yield still greater opportunities for teaching us different rules, which are also mostly based upon anatomical details.

Fracture of the leg is the second most frequent form (sixteen per cent.) following directly after the classic fracture of the radius (twenty-four per cent.), and deserves a great deal more attention than is generally meted out to it. The tibia, on account of its solid and prominent form, is regarded as the principal factor in these cases and the supposition has arisen that when the tibia fragments are again brought into alignment the most necessary operation has been completed. The fibula is ignored because it is looked upon more as an appendage than as one of the sustaining elements of the leg. P. von Bruns was the first to call attention to the fact that the line of fracture in these injuries is generally oblique, and that a considerable quantity comes under the heading of the "torsion type." His dictum was very much doubted until the Röntgen rays corroborated it eleven years later. But even now, when the Röntgen rays require no further *raison d'être*, some of our colleagues refrain from using them, asserting that the superficial location of tibia and fibula make a positive diagnosis by palpatory talent a very simple procedure.

In approaching the anatomical details of the frac-

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ture more closely we shall find that the relation of the fibula to the tibia is a peculiar one. In most cases the kind of violence is of a direct nature (knock, blow by heavy objects, being run over, etc.), and produces a bending of the tibia in direct proportion to the degree of violence, the fibula participating more or less. If the degree of violence is great, then the tibia will break, but the fibula may assume a bent position without breaking. This elasticity of bone is especially apparent in infants. Fig. 3 shows the leg of the nine year old son of a physician and illustrates this mode of bending, the tibia having been broken. By muscular traction the fragments became displaced in the direction of the violence, i. e., toward the fibula. But as part of the violence was parried by the tibia the fibula did not receive the full amount of force. It was not fractured.

In any osseous zone which is thus insulted, tissue changes always occur. Within the area of the most extensive bending a destruction of osseous molecules always takes place. This is not recognized macroscopically, but finds its expression in the stronger shading of the medulla in the Röntgen plate, similar to the discoloration we observe in severe contusions. In such cases, then, if the broken tibia is not reduced, the tension of the fibula "to the top of its bent" is not relieved, and considerable reaction in this fibula area must be the consequence. Examinations by the Röntgen ray several weeks later have frequently shown signs of inflammatory atrophy in this maltreated area. The immediate reduction of the tibia would have rendered the manœuvre an easy one, while in this case where such reduction was omitted until two months after the accident, great technical difficulties were encountered.

Cross fractures of this kind are usually dentated (compare Fig. 3), which favors their steadying after successful reposition. It is in this type of fracture that sometimes after inefficient reposition the final result is still a passable one. But in most cases both bones are broken and the direction of the line of cleavage is an oblique one. The formation of the lines may also be different. Figs. 4 and 5, with their triangular form of the tibial fragment, illustrate this character, the overriding of the fibular fragment being especially apparent. In proportion to the extent of the fibular overriding the leg is so much shorter. This fact alone, the shortening of the extremity on simple inspection, indicates the presence of a fracture.

An ugly result of lateral displacement is illustrated by Fig. 6. In such cases of long standing the soft tissues are reduced with difficulty. I have expressed myself on the form of flute mouthed fractures and the possibility of Röntgen errors before. (On a Grave Possible Error in Skiagraphy, *New York Medical Journal*, January 6, 1900.) A form of fracture of the lower extremity as mentioned above, and occurring about once in every four cases, is the spiral shaped, produced by torsion, the fragmentary end resembling the shape of a hollow carving chisel (Fig. 7). As a rule the fracture line of the fibula is higher up in this type than that of the tibia. The intense violence necessary to cause these spiral shaped fractures explains the tendency to comminution which makes reposition so difficult. Sharp fragments frequently penetrate into the muscular portions, so that an open fracture often results. However, the perforation into the muscle may remain subcutaneous. To develop and expose fragments from an open area of this kind without injuring adjacent tissues represents one of the most difficult of tasks even when performed under Röntgen ray control. In many instances there will be an indication for free exposure of the fragments and their exact location. The Röntgen rays often prove to be the determining factor. The details of procedure will be mentioned further on. Fig. 10 illustrates the character of this double fracture. An impediment to the continuous reposition is caused by the oblique form of the fragments, the form which provokes a tendency to gliding. Another difficulty exists in the necessity of reducing the simultaneous displacement of the fibular fragments. As mentioned before there is a tendency to assume that after apparent reduction of the tibial fragments automatic reposition of the displaced fibula is a self understood proceeding. This fortunate event sometimes happens in fractures of the upper third, but even then it is rare. In the absence of fibular displacement, which fact should always be verified by the Röntgen plate, no further procedure but the adaptation of a well padded plaster of Paris dressing after the reduction of the tibial displacement is required. I regard the circular plaster of Paris dressing as the dressing *par excellence* for the reason that it adapts itself to the contour of the limb so intimately that a subsequent slipping of the fragments practically does not occur. This direct immobilization is in fact always the consummation devoutly to be wished.

But in the cases of the usual oblique fracture simple retention of the fragments by dressing alone, desirable as it may appear, does not suffice. The tendency of slipping out is best overcome by the well known and valuable first aid principle of forced extension of Gurdon Buck, and improved upon by Bardenheuer, but employed as shown in Fig. 8, under anæsthesia. Of course the Röntgen plate taken beforehand will act as a guide, indicating the direction in which the efforts at reduction are to be carried out. In practice strong extension and counterextension (Fig. 8) are to be attempted in such manner that by placing a sling (preferably muslin) around the trunk of the assistant the tension may be increased. Thus the assistant while leaning heavily against the sling, after the Buck fashion, is able to keep his hands free and use them in influencing the direction of the fragments. Fig. 8 shows the sling directed toward the front. It may, however, be adapted to the nature of the fracture by dislodging it forward or backward. While a second assistant keeps up forcible counterextension by grasping the femoral condyles, reposition in ordinary cases is accomplished by the cooperation of the operator and first assistant. If the knee and ankle are now immobilized in the overextended position, a sufficient amount of extension continues to persist until the dressing has hardened and no disturbance is to be expected after the muscular contraction has disappeared. Accordingly,



Fig. 1.—Supracondylar fracture, seventeen days after injury.

the possibility of friction from fragments is to be excluded, swelling of the soft parts disappears, and the patient feels comfortable.

The best proof of a reduction well performed is the Röntgen plate taken through the cast. The old *periculum in mora*, "gangrene after plaster of Paris," proves to be an unjustified war cry, for where should pathological pressure come from so long as the osseous fragments are kept in proper immobilization? The danger lies in insufficient reduction, which means continuation of the irritating moment. In practice I have frequently observer gangrene beneath the best padded splints and dressings, because the fragments were not sufficiently reduced and under this screen of cotton cuirass the simplest laws of Nature were outraged. It is clear that the friction of the movable fragments insults the surrounding soft tissues more and more. Care must be taken not to apply the dressing too tightly. The force should be exerted exclusively by the hands of the assistant who is pulling, while the surgeon himself takes care of the directing and moulding. The joints are best surrounded with a strip of cotton, while the diaphyses are embraced by a muslin bandage coated with petrolatum. The great tendency of the fibular fragment to lean against the tibial portion may be combated by elastic interposition, which originally I have advised in lateral displacements of metacarpal fracture. This manœuvre is carried out best by placing a rubber drainage tube, of about the size and thickness of a man's index finger, above and along the interosseous space, retaining it by strips of adhesive plaster across its ends (Fig. 8). Pressure must be slight so that only a small groove in the integument results. In the beginning the elevated position of the leg on a well padded underlayer is recommended. For the period of observation and after treatment the patient is best taken care of in a hospital where he may remain under permanent control. But if, contrary to all expectations, signs of arrested circulation, like cyanosis and anæsthesia of the toes, should manifest themselves, then the dressing must be changed

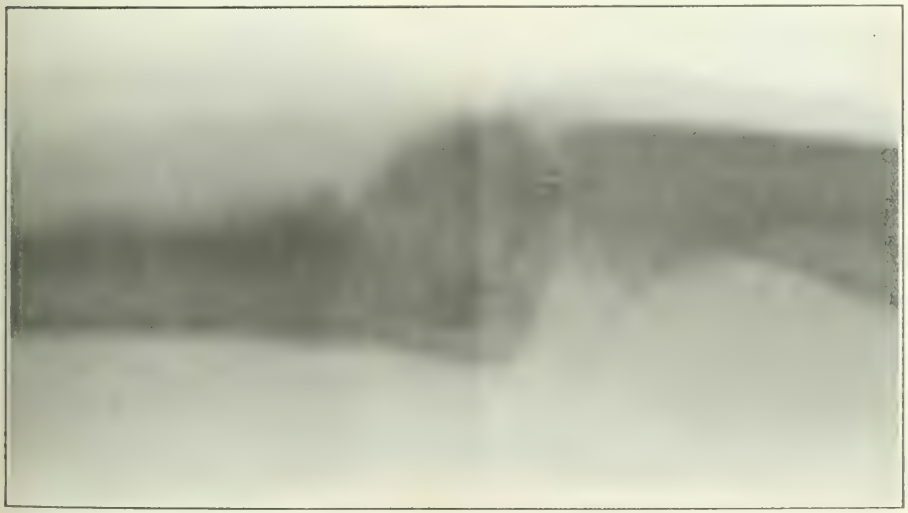


Fig. 2.—Dis[illegible] fracture reduced [illegible]



Fig. 3.—Union of tibia, showing bending of tibia, in a boy of nine years.

at once. Such stasis, however, could be due to an inefficient modus operandi, not to the method itself, and is best foreseen by taking a Röntgen ray plate through the cast at an early stage. On the other hand, if there is no reaction, the dressing which has become too loose in the mean time as the soft tissues have resumed their normal contours, is to be removed after about a week and a smaller and tighter dressing carefully substituted for it. From the outset it must be borne in mind that the best surgeon is unable to tell before having made any attempt at reduction whether he will be able to get a result or not. Only the *fait accompli* itself will enable him to form an opinion. As there are possibilities which may spring into the foreground during the period of reduction, it is required that the whole mode of reposition be given an exploratory character. As mentioned it may happen that the fragments are entangled in such a manner that exposure by blunt means becomes impossible. Then a chisel operation becomes a necessity.

By using the chisel as a lever and working it up and down, removing loose and penetrating splinters, the area is freely exposed and the separated ends approximated with bronze wire. This wire is so flexible that it will not even break when twisted into a tight knot, in other words it will permit of sufficient force to press the fragments firmly together. If it should prove too difficult to keep the fragments *in situ* in this way, then a straight direction may be preserved by shaping one of the ends triangularly and making a shallow groove in its fellow into which the first end may fit. In this wise the wiring of the fibula may be dispensed with. In the spiral type of fracture when we have difficulty in adjusting the fragments it may become necessary to flatten off the triangular ends, thus creating two smooth surfaces which fit exactly and will prevent



Fig. 4.—Oblique fracture of tibia and fibula, illustrated in anterior position, nine weeks after the injury.



Fig. 8.—Oblique fracture of tibia and fibula, illustrated laterally, [illegible] weeks after the injury.

gliding when wired together. The limb may grow a little thinner by this procedure, but need not necessarily become shortened. Exact adaptation is of great importance, as I have frequently observed that after careless attachment of the fragments to each other, a kind of vacuoles had formed between the irregularly sawed edges, and insufficient union of the bony ends was the result. (Fig. 9.) The question of coaptation is of the same moment in bone surgery as it is in accurate union of the soft tissues.

In toto the principles governing the operation are about identical with those concerned in the technique of plastic operations, viz., careful asepsis, accessibility, avoidance of force and tension, complete hæmostasis, and accurate adaption of the wound margins, be they those of bones or soft tissues. For a number of years (see *Deutsche Aerztezeitung, August* 1, 1901) I, like other American surgeons, have made it a habit to paint the integument covering the field of operation with a solution of tincture of iodine. For each bone, tibia as well as fibula, a separate longitudinal incision is made and the fragments lifted from their beds. It is only thus that free access is gained. If gut is to be united in the abdomen it is not left in the deepest recesses of the cavity, but the intestinal area is brought without the abdominal zone before any attempt at thorough union is made. Similarly the osseous fragments are most accessible when most prominently brought forward. While the ends of the fragments are grasped with a strong bone holding forceps, a hole is drilled through the bone extremity about an inch from its distal margin. I use a modified drill nickel plated, modeled after the excellent American carpenter's drill (Fig. 11). This bores through the osseous structures in a straight and even line. The bronze wire is passed through the perforations in the bone and knotted loosely (Fig. 10). The bones are pushed back into their normal position, and then the wire ends are knotted tightly. The ends are left long, protruding from the wound and are wrapped about with xeroform gauze. Fascia and periosteum may be united with the catgut.

In old and badly united fractures the principles of procedure remain the same, but first the use of the chisel must make the fragments movable.

Special attention must be paid to those forms which are situated in close proximity to the joints, as the question of function becomes a burning one. In open fractures we followed the principles laid



Fig. 9.—[illegible] of tibia and fibula, five months after the injury.



FIG. [illegible]—Septic closed fracture in a man of forty years, produced by torsion, taken six months after the injury. The considerable shortening was relieved by chisel and wire sutures.

down before, that is, first of all we were guided by the Röntgen plate which taught us before we resorted to bloody interference, whether we could hope to reduce individual bone fragments into their normal situations and fasten them there, or whether we had better remove them and resort to drainage. We would treat them through a fenestrated plaster of Paris dressing, closely following the precepts of



FIG. [illegible]

the Röntgen ray plate. In septic infections a moist bichloride dressing is applied and immobilization kept up by means of wire splints until the dry treatment through the fenestrated cast, i. e., when the swelling has disappeared, appears to be more desirable. To illustrate the *modus operandi* in such cases I may refer to Fig. 12, which represents demolition of the bones in a man of twenty-four. The injury was caused by a fall upon an iron prominence. The patient was admitted to St. Mark's Hospital in a septic condition a few weeks after the accident. For several weeks the alternative oscillated between conservative and destructive tendencies. At first the ulcerated surface of the external malleolus was smoothed over by means of the chisel. The fistulous tracts which extended upward along the inflamed fibula were widely laid open and covered with a bichloride dressing. This treatment was continued for several weeks until, after repeated correcting resections, the large wound showed a normal appearance. Then followed a fenestrated cast after union of the fibular fragments with bronze wire. It is interesting to observe that the small bone offers sufficient firmness to steady its large comrade in the proper direction. The wire was extracted ten weeks after its insertion and the wound had healed completely, some weakness, however, still remaining in the extremity.

Similar conditions were observed in the case of a woman of thirty-eight, as illustrated by Fig. 13. The patient sustained a comminuted fracture by a fall from a staircase and was treated expectantly for four weeks. As there was but a small wound, opening leading toward the outside, and as the Röntgen ray method had not been employed, the severity of the injury was not recognized. Reposition was performed at St. Mark's Hospital, the wire suture of the fibula steadying the tibia indirectly. The fragment being a small one, it was not expected that direct suturing would be very reliable. Although a portion of the small fragment became entangled between tibia and fibula, the functional

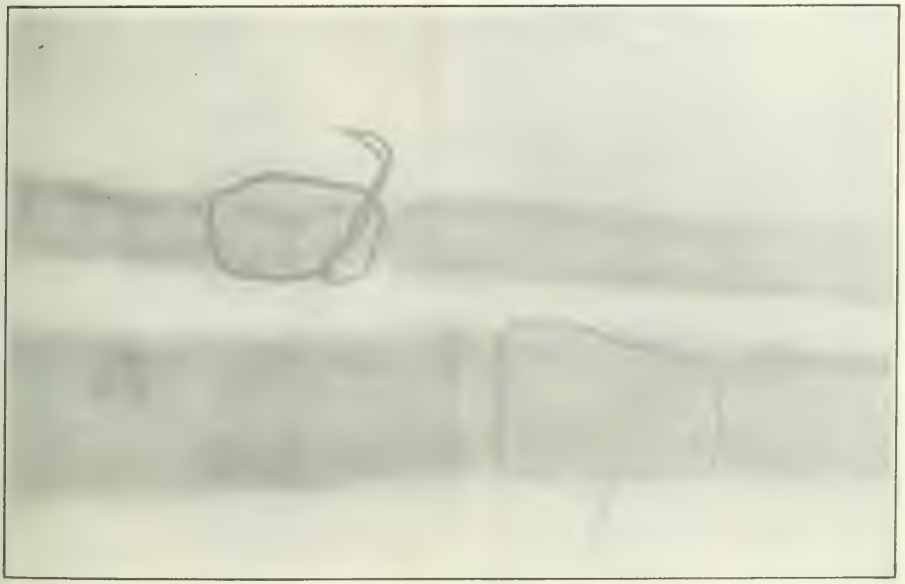


Fig. 6.—Vacuoles causing malposition in right tibia (the fibula being [illegible] two and a half years after the injury, in lateral position.

result in this case was a very satisfactory one. Thus by combining mechanical and aseptic principles badly damaged osseous zones are sometimes made useful again, a task which may tax the patience of the injured and the surgeon to a great and cruel extent.

As a precautionary measure for the soft tissues I utilize, whenever possible, a so called abdominal spoon (Fig. 11) which was originally recommended for the protection of the peritoneal walls in order to prevent penetration of the intruding intestine. By using this spoon more extensively it was soon found that it could well be utilized for retaining protruding tissues in gallbladder operations and finally as a protecting medium in chisel operations on the bone. As to further technical details I may refer to my general work on operations in fractures of the bones (*New York Medical Journal*, December 27, 1902).

Of course, all methods have their disadvantages. But all roads may finally lead to Rome. Under favorable circumstances, wiring, however, seems to me to give the best results if the bloodless methods do not avail.



[illegible] fragments (see Fig. 4 and Fig. 5) in accurate position.

HOW PURE MILK CULTURES OF LACTIC FERMENTS MAY BE OBTAINED.

By Frédéric S. Mason, M. D.,
New York.

Lactic ferments became a "fad" with the public and with the profession soon after Metchnikoff published his book entitled *The Prolongation of Life*. But because the ferments have not done all that was expected of them by the public, and perhaps also because physicians have been somewhat annoyed at the unseemly publicity which the newspapers have given to this form of therapy, they are losing ground. Some months ago, one of the manufacturers of lactic ferment tablets saw fit to expose the alleged shortcomings of competitors by publishing the results of examinations made with commercial lactic ferments which appeared to prove that such ferments were impure and undesirable. This has created a suspicion among physicians that all lactic ferments are unreliable and has doubtless prevented many from making further trials with them.

With reference to the purity of the commercial lactic ferments of various makers, it is only fair to say that the examinations reported were incomplete, since in one instance, the temperature at which the cultures were made by the expert, was stated to be 37° C., and in the others, no mention of temperature was made. Such examinations, therefore, may give rise to misleading deductions, for it is well known to bacteriologists that cultures made at such low temperatures as 37° C. do not inhibit the development of other microorganisms present, due to accidental contamination of lactic ferment tablets by handling, from contact with the containers, or even from the air. Under such circumstances I have found that other bacteria may predominate or even prevent the growth of the useful Bulgarian lactic ferments, which flourish best at high temperatures (from 50° to 55° C.).



Fig. [illegible] Method of drill perforating tibia and protector held underneath.
(St. Bark, Treatment of Fractures.)

It is rather unfortunate, therefore, that these published examinations were not more explicit and apparently open to criticism. The object of this communication, however, is not to rehabilitate any of the commercial lactic ferment tablets, but merely to show how misleading any so called examination may be unless the proper technique is strictly observed.

From clinical trials which are now being made, I have reason to believe that we shall find true lactic ferments, in tablets or even in the dry, powdered form (diluted with sugar of milk or dry milk), very useful in the treatment of suppurating ears and for insufflation into the nasal cavities, as well as in the form of crayons for introduction into the cervix of the uterus, the male urethra, etc., for their field of action is far from being limited to the treatment of gastrointestinal autointoxication.

While of course absolutely pure cultures are desirable, I do not consider them essential in practice, and it is difficult to obtain pure cultures owing to the necessity of such special apparatus as is not at the disposal of every nurse, physician, or hospital, but this does not necessitate the lactic ferments being abandoned or classified among the failures by therapeutic nihilists.

It is found that better results are obtained when two lactic ferments are employed together, and the *Streptobacillus* and *Streptococcus lebenis* are typical of those most approved as lactic acid forming bacteria, since they make a palatable sour milk and will keep in the dry form for a reasonable length of time, hence they can be conveniently handled. Both these lactic ferments are found in the Bulgarian fermented milks and reference to their characteristics will be found in the communication of Rist and Khoury, Etudes sur un lait ferment comestible (*Annales de l'Institut Pasteur*, p. 65); also in a pamphlet by Professor P. Mazé, chief of the Pasteur Institute Laboratory. *Extraits des annales de l'Institut Pasteur*, xxii, June, 1905, and xxii, August, 1905.

Both the *Streptobacillus lebenis* (which is also known as the *Bacillus bulgaricus* of Metchnikoff, of Cohendy, of Massol, etc.), and the *Streptococcus lebenis* (which may appear as diplococci or as streptococci), take the Gram stain. They develop best in milk at a temperature of between 50° and 55° C., and render this liquid strongly acid (lactic acid with traces of succinic acid).



Fig. 12.—Septic fracture of nutrient and external malleoli, the latter only being visible [illegible]
See Beck, Treatment of Fractures.

The Bulgarian bacillus is distinguished from other rods which take the Gram stain, such as *Bacillus subtilis*, etc., in that it strongly acidifies the milk culture when incubated at a high temperature in open or partially closed tubes. Other bacilli, which may be mistaken for it, render the milk alkaline, or only grow under anaerobic conditions.

The *Streptococcus lebenis* belongs to the so called "industrial" lactic ferment group, but is distinguished by proliferating best at temperatures between 50° and 55° C. Other industrial lactic ferments develop best below 40° C.

In order to examine specimens of these milk cultures, a specimen of the coagulated mass is thinly spread on a slide, fixed in the flame, and stained with methyl violet, then treated with the Gram stain, and immediately washed with pure alcohol and finally with distilled water. The slide is then dried and examined under the microscope (oil immersion).

If the technique described has been carefully followed out, the two microorganisms, *Streptobacillus lebenis* (either in short rods, or in long characteristic curved rods), and *Streptococcus lebenis*, will be found without difficulty. The predominance of one or the other of these lactic ferments, as I have



Fig. 13.—Compound comminuted fracture, overriding of fragments. See Beck, Treatment of Fractures.

found by repeated experiment, depends, to some extent, upon the ferment which begins to develop first, and, as I shall explain later, according to the amount of air which is able to filter through the cotton plug of the container, the streptococcus being less active when the supply of oxygen is limited. Several cultures, therefore, should be made at the same time, in order to arrive at fair conclusions. The *Streptobacillus* and *Streptococcus lebenis* will be found either alone or together and without contamination by other microorganisms. They can also be detected in the living state before staining, without difficulty.

TECHNIQUE FOR MAKING MILK CULTURES OF THE STREPTOBACCILLUS LEBENIS AND STREPTOCOCCUS LEBENIS.

Take pure milk and separate the cream by centrifugal method. Place 50 c.c. of this milk in tubes of a capacity of 100 c.c. (closed with a plug of cotton) in the autoclave. These tubes are then submitted to a temperature of 120° C. for twenty minutes. The temperature is then brought down to between 55° and 60° C., and eight tubes are inoculated with a crushed tablet of the authentic lactic ferments, taking the usual bacteriological precautions to prevent the admission of any floating microorganisms from the air. Two tubes of milk are retained uninoculated as witnesses. Four of the inoculated tubes and one of the uninoculated tubes are now capped with rubber caps and the whole ten tubes are then placed in an incubator, so arranged that any variation in the gas pressure of the heating apparatus will not make the temperature vary more than one or two degrees.

At the end of from eight to twelve hours, it will be observed that four of the uncapped tubes have become solid without any appreciable serous exudate, and they may be removed from the incubator or allowed to remain, as desired. The five capped tubes are allowed to remain in the incubator from thirty-six to forty-eight hours, by which time the four inoculated tubes of milk will be coagulated, but there will be some serous fluid.

The capped and uncapped witness tubes, which are uninoculated, should not coagulate if the milk was sterilized properly. An examination of the uncapped tubes will show an abundant growth of the *Streptococcus lebenis*, and may or may not show presence of the *Streptobacillus lebenis*.

The capped tubes on examination will be found to contain some streptococcus and some diplococcus forms of the *Streptococcus lebenis* and an abundant growth of the *Streptobacillus lebenis* in the A or B form, that is, in long curves or as isolated batons.

These cultures will not show the presence of any other microorganism if the temperature of from 50° to 55° C. has been strictly observed. The two lactic ferments (*Streptobacillus* and *Streptococcus lebenis*) are aerobic, but the streptococcus proliferates better and more quickly when air is allowed to filter freely through the cotton plug. This explains why a coagulation of casein in the milk takes place less rapidly than when the tubes are capped and air cannot penetrate.

The streptobacillus will be found to predominate in these tubes, but it requires a greater length of time for proliferation.

We can well understand that lactic ferments after remaining as compressed tablets in a dry, latent condition for some time, may require time to regain their maximum vitality and that the percentage yield of lactic acid will therefore vary. If, however, a *repiquage* is made and the process of culture is repeated once or twice, they regain their maximum capacity for lactic acid production. In the case of pure cultures of the *Streptococcus lebenis*, the yield is about 1.3 per cent., while the streptobacillus in pure culture may go as high as from two to even three per cent. In the mixed cultures of lactic ferments, the percentage will average 1.5 to 1.6, after they have regained their activity by *repiquage*.

Incidental contamination of the tablets, either in the process of making the compressed tablets, by contact with the air or from the sides of the containers, may, when incubation is carried on at low temperatures, give rise to proliferation of foreign microorganisms, since the two lactic ferments (*Streptobacillus* and *Streptococcus lebenis*) grow only slowly at temperatures below 45° C., and may not be able to produce sufficient lactic acid at first to counteract alkali producing germs. This does not, however, occur if the temperature of from 50° to 55° C. is maintained, neither does it prove that the ferments were contaminated by other organisms when first made.

These lactic ferments will prevent the proliferation of pathogenic organisms in milk, when the correct temperature is employed and render it harmless. (See Rosenthal's communication to the Société de biologie, Paris, February 26, 1910), showing that the Klebs-Löffler bacillus will not grow in the presence of the *Streptobacillus lebenis*. The same author also reported that lactic ferments inhibit the growth of the enterococcus of Thiercelin and other pathogens (*Pædiatrics, April*, 1910).

HOTEL BREVOORT.

STEREOSCOPIC PHOTOGRAPHY WITH A SINGLE CAMERA. SOME POINTS IN OPTICS AND PHYSIOLOGY.*

BY WALTER G. ELMER, M. D.,
Philadelphia,
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While taking some stereoscopic photographs recently with a single camera several interesting questions arose in my mind in reference to the optics and the physiology of the subject, and for that reason I present them to you this evening.

In the first place the method of making the photographs is very simple, and it appears to me that the results obtained are more beautiful and the optical illusion more perfect than when the pictures are taken with the usual stereoscopic camera. The folding pocket kodak No. 1 is a convenient size. It has a universal focus, and therefore if a near object is to be photographed—as a flower, for example, at a distance of about three feet—a portrait at-

* Read before the Section on Ophthalmology of the College of Physicians of Philadelphia, March, 1910.

tachment is used to increase the focal depth of the lens.

The camera is carefully centered on the object and the picture taken. The camera is shifted three inches to one side—about two and one half inches if the object is very near—carefully centered on the object and the second picture taken. We have now produced two views of the object by converging the axes of the camera upon it in the same manner that the axes of the eyes converge upon a near object. The optical illusion is therefore more perfect than when the axes are parallel, as in the use of a stereoscopic camera.

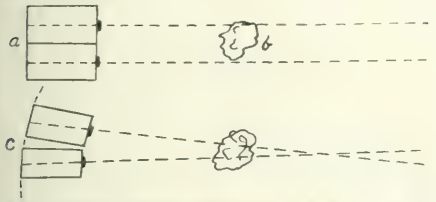


Fig. 1.—Camera with its parallel axes. *B* is the object photographed. *C* represents the single camera swung in the arc of a circle and the axes converging upon a near object in the same manner that the axes of the eyes converge.

The optical illusion is very perfect and, I think, quite unusual, as some of these photographs will illustrate.[1]

If we look at the far distant point and then at a point close at hand, does the pupil contract in this apparent change of distance? I am under the impression that it does. If we look at a distant object in the photograph the axes of our eyes are very nearly parallel, but if we look at an object in the foreground the axes of our eyes must converge in order to properly merge the two images in the same manner that they would converge if looking at the object itself. If the eyeballs do converge, the stimulus which is putting the oculomotor nerve in a state of activity, overflows into the filaments which run to the ciliary body and iris and the iris also responds and contracts accordingly. This contraction is probably very slight and very rapid and is difficult to detect with certainty—nevertheless it must be there.

Fig. 2 shows that the eyeballs must converge in changing from a distant to a near point in the photograph. Fig. 2 represents a stalk of the gladiolus growing in a garden. The flowers were three feet

[illegible]

from the camera. In the foreground, only eighteen inches from the camera, is a stalk containing only buds. A shift in the position of the camera of two and a half inches from right to left of course greatly changes the relative positions of these two main objects to each other and also to the background. Now if this picture is examined in the stereoscope we are able to see the single stalk of buds directly before us, if we look off at some point in the distance beyond, we see *two* stalks of buds in the same manner exactly as if I look at a pencil I see one pencil. I look off to the opposite side of the room in line with the pencil and I see two pencils.

If we look at an object which is exactly in the centre of the picture—as the stalk of blooming flowers, for example, upon which the camera was each time carefully centered—the axes of our eyes must be parallel; if we look at the right edge of the picture they are still parallel; if we look at the left edge they are still parallel; if we look at the stalk of buds in the near foreground our eyeballs must converge in order to properly merge this image. Let us prove this by taking the photograph out of the stereoscope and examining it by actual measurement. We will select a fixed point from which to take our distances, a slender stalk in the middle distance which is at the extreme right margin of the picture and occupies exactly the same position in both photographs. I measure from the tip of this stalk directly across the picture to a tree trunk which is in the distance and compare it with the same measurements in the other photograph. The difference is just 2/16 of an inch. From the same fixed point I measure across to the stalk of buds, and compare it to the same measurement in the

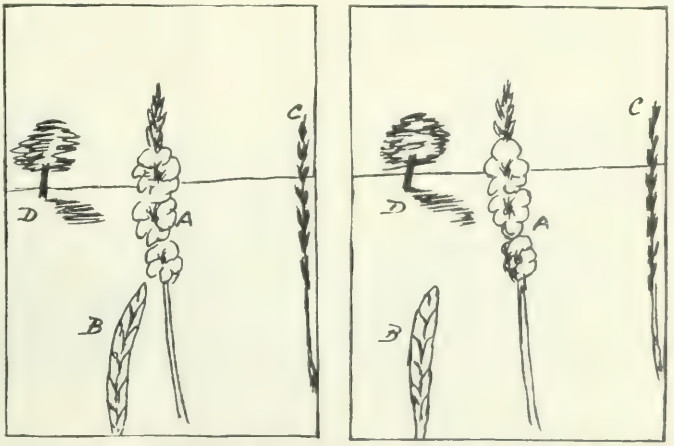


Fig. 2.—[illegible] half inches. *A* is the stalk of [illegible] away. *B* a stalk of buds, eighteen inches from the camera. *C* a stalk which occupies the same relative position in both photographs, and when the observer is looking at this stalk through the stereoscope the axes of the eyes are parallel, and it forms a convenient point from which to make measurements. Measuring from the stalk *C* to the tree trunk *D* straight across the picture in a horizontal line shows very little difference in the distances. Measuring from the stalk *C* in a horizontal line straight across the picture to the stalk of buds *B* in the foreground shows a wide difference in the measurements, 6/16 of an inch, about, in the photographs. This variation must be compensated for if the object is clearly merged and focused by convergence of the eyeballs. If the eyeballs converge the pupils contract.

other photograph—the difference is just 7/16 of an inch.

The axes of the eyes are therefore nearly parallel in looking at the distant tree trunk, but in changing to the near stalk of buds, only eighteen inches away and merging the images, this difference of $7/16 - 2/16 = 5/16$ of an inch must be made up. The photographs do not move, the prisms of the stereoscope do not move. The only objects which can move are our eyeballs. The right eyeball must move inward a little to the left to reach the object, and the left eyeball must move a little inward to the right to reach the object. If this is true, and it undoubtedly is, the pupils also at the same instant contract, even though all the while we are looking at the surface of a piece of flat paper only nine inches away from our eyes and which never changes its position.

I present these opinions as a result of my own study of the subject and will be interested to hear what others may think about them.

In closing, I would say that the method of shifting the camera is very simple and easy. I made a small platform with the lid of a cigar box and by means of the tripod screw clamped it firmly on the tripod. On this I had ruled lines 2½ inches apart. The camera could be placed on a garden bench or table or any convenient object or simply held against a tree trunk and then shifted to the other side of the tree trunk. If one were photographing a scene remote from the camera it would make little difference whether the tree trunk was three inches or six inches wide, because the lines of projection are so nearly parallel. In photographing any near object, however, about two and a half inches should be the limit, otherwise our eye muscles would have difficulty in merging the images of any objects which were very close to the camera.

1801 PINE STREET.

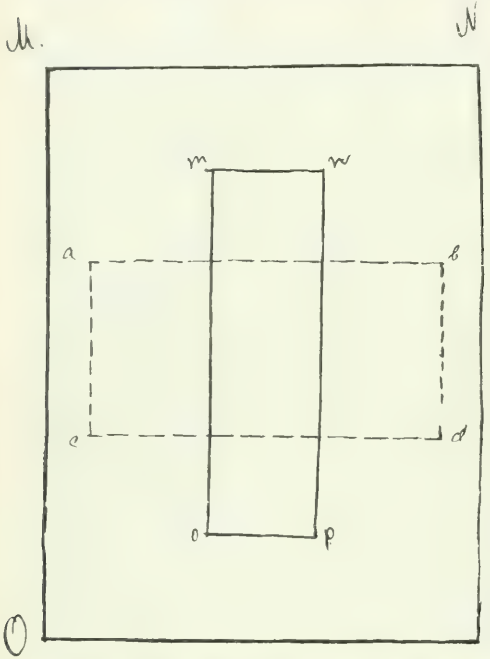


FIG. 1.—A screen made of wood or cardboard, *M, N, O, P;* in the middle of which a window, *m, n, c, d,* is cut out, part of which is covered with glass slides, *a, b, c, d.* The glass slides serve as a substantial target upon which the eyes can be focused with greater ease than they would upon an empty window; after a little practice these slides can easily be discarded.

(See Girsdansky, Röntgenograms.)

A SIMPLE METHOD OF VIEWING ROENTGENOGRAMS IN THREE DIMENSIONS.

A Preliminary Report.

BY M. GIRSDANSKY, M. D.,
New York.

Briefly stated, my procedure is as follows: The x ray apparatus and the photographic plate are adjusted in the usual manner.

Assuming that the object is of such a size as to enable one to photograph it twice on the same plate, I put the object over one half of the plate, while the free half of the plate I protect with a sheet of lead, and a picture is taken. The operation is now reversed: The lead is put over the already exposed part; the object is moved over the still unexposed part with the utmost care, that it maintains a position as symmetrical as possible to the source of light and to its own former position, and the picture is taken again.[1] When the plate is developed, it shows a picture which resembles one taken with an ordinary stereoscopic camera. A print from such plate differs from the commercial stereogram in that it is, in relation to the commercial picture, a transposed one, i. e., opposite to the right eye occurs the picture as would be seen by the left retina, and opposite the left eye occurs the picture as would be seen by the right retina.[2]

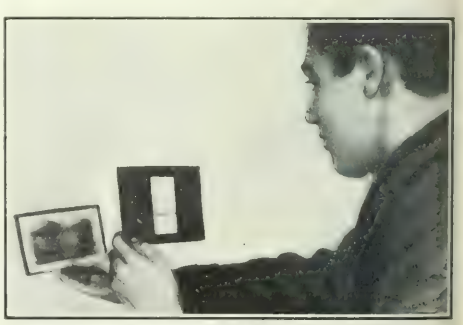


FIG. 2.—Illustrating the use of the screen and the print.

A Röntgenogram from such a plate is placed at a convenient distance from the eyes; a card board

[1] If the object is at all of a considerable size, two different plates may be used; the plate and the object during the second exposure should be placed, as nearly as possible, over the same place as the first plate, but the x ray tube should be moved about two or three inches on a line parallel with the line of the supposed base of the object which is being photographed.

[2] It will be noticed that in a commercial stereogram the positions are just reversed; opposite the right eye occurs the picture corresponding to the image of the right retina and vice versa.

of a convenient size is prepared, and in the centre of it a window is cut out which is about equal in size to any one individual picture of the twin Röntgenogram. The fenestrated screen is held in front of the print and at such a distance and in such a position that the right hand picture is in its entirety visible to the left eye, and the left hand picture to the right eye. (See Fig. 2.) When both eyes are focused upon the brim and frame of the card board window, the Röntgenogram appears at the plane of the window, as an image in three dimensions. If any difficulty at all is experienced at the beginning in the focusing of the eyes at the place of the empty window, one or more microscopical slides are fastened to the windowed card board by means of adhesive plaster, so as to cover it completely or in part and the observer proceeds as before. The image in three dimensions seems to appear upon or between the glass slides. (See Fig. 1.)

To obtain good results, the following rules should be observed:

1. The picture should be held upright, as slanting sideways of the picture or of the head will produce a double image.

2. The card board should be held in front of the picture and at such a distance as to enable the image of each picture to reach to the eye of the opposite side.

3. The two eyes must not seek to see the print itself, but must be focused upon the window of the card board or upon the glass slides covering it.

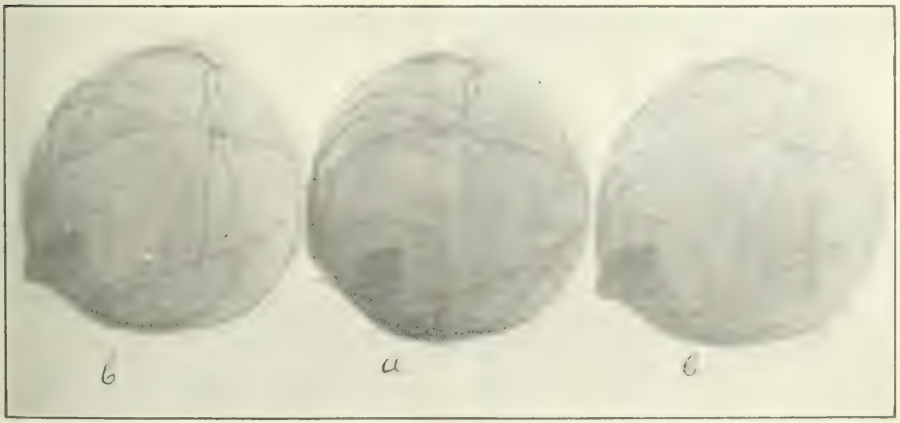
The advantages of this method are:

1. Its simplicity. The ordinary method of x ray stereoscopy by means of two mirrors joined together at an angle of 90° is bulky, complicated, costly, and gives questionable results. The ordinary stereoscope has also very serious limitations and can be used to view x ray pictures within very narrow limits only, while this method is so simple that a very little practice will enable any one to use it, and discard the use of even the glass slides.

2. Views printed in books and journals can be viewed without removing the pages, i. e., without mutilating the book or the journal.



A pair of X ray Röntgenograms mounted and prepared for viewing. The pictures are held in a box-like frame of wood, wire and a rubber string. A screen should be made of cardboard with a window cut out of it, 3½" inches long. The screen should be held about fourteen inches from the face and the screen midway between the print and the face.



Pair of X ray Röntgenograms mounted and prepared for viewing. In order to bring the pictures to Fig. 1 it will be noticed that a b, when viewed [illegible]

3. Views prepared by this method can be made to be thrown upon a screen, and no matter how many times enlarged thereby, they still can be viewed in three dimensions by the same simple process.

4. Not only very large but very small views as well can be viewed in three dimensions by this method.

There seems to be but one drawback. The view at the visual focus, i. e., at the point where both eyes converge, appears to be smaller than either one of the individual pictures of the twin-stereogram. This, however, is purely a psychological phenomenon and has nothing to do with the physiological vision, as all details, no matter how fine in the print, appear clearly in the three dimension image. Moreover, even this apparent diminution in size can be remedied and even turned into an advantage by the substitution of a lens of a suitable focal distance for the glass slides.

233 East Broadway.

THE IDENTIFICATION OF THE TUBERCLE BACILLI BY MEANS OF ANTIFORMIN.

By David Felberbaum, M. D.,
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The usual method of searching for the tubercle bacilli, namely the Ziehl-Neelson, has been found to be associated with a considerable percentage of error and therefore various means have been tried to lower or eliminate this defect. The isolation of the tubercle bacilli by cultural means is too tedious and difficult for ordinary purposes, while the inoculation of guineapigs requires too much time, since the importance for an early diagnosis lies in a rapid determination of the presence or absence of the bacilli.

Naturally the ideal method would be some means of causing the disintegration of the suspected material without destroying the tubercle bacilli. Heretofore the nearest approach to this was the Bierdert method of boiling with sodium hydroxide and sedimentation, but this requires usually twenty-four or more hours, and the results are not sufficiently satisfactory.

Uhlenhuth[1] recently described a method of isolating the tubercle bacilli by means of a substance called antiformin. This is a mixture of Javelle water and sodium hydroxide, and is put up for commercial use in concentrated solution. This preparation has the property of dissolving all organic substances within a short time and destroying all bacteria, save those that are acid fast. The possible utility of this substance is obvious and the procedure is as follows:

A from fifteen to thirty per cent. solution of the proprietary preparation is made and is added in about equal proportion to the entire quantity of sputum obtained. I have obtained best results with a thirty per cent. solution. The mixture is stirred with a sterile rod, and the sputum is dissolved in a moment or two. This solution may be hastened by incubating for a short time at 37.5° C., or by the addition of a little more antiformin.

The next step is to centrifuge the resulting fluid. For this purpose it is necessary to employ a high speed centrifuge at least one of 3,000 revolutions, and the type with large tubes is best, so that all or most of the fluid is used. Centrifuging is continued for at least fifteen minutes and a small amount of a dirty looking sediment results. The supernatant fluid is poured off, the sediment clinging to the bottom and normal saline solution is added the quantity of saline exactly replacing the antiformin. After thoroughly shaking up the sediment, again centrifuge for fifteen minutes; decant off the saline solution, and the entire washed sediment is spread on a glass slide. It is surprising what little residue a large quantity of sputum will leave. The advantage of this is apparent, all the tubercle bacilli contained in the given specimen will be obtained on one slide and consequently will be more numerous than with the ordinary method.

At this stage one of the great difficulties of this method is the danger of the film becoming detached. To avoid this Uhlenhuth advised drying in a thermostat at 50° C., but I have had quicker and better results by slowly drying over a small flame. During further manipulation care must be taken in washing. This is best done by having tap water running slowly through a tube into a beaker. The specimens are stained the usual way with carbol fuchsin; decolorized with nitric acid and alcohol counterstaining with methylene blue. The final drying is completed by gently blotting off the excess of water and drying again slowly in a small flame. Usually if positive, in the first field will be found clumps of bacilli in a blue amorphous background. The bacilli stain about as well as in the ordinary way, but no knowledge of the accompanying bacteria or cellular elements can be obtained. To determine their presence it is well to make first a plain smear, and in all those that are negative to run through with the antiformin process. The time consumed is not very great when the work is systematized; as many as a dozen of sputa can be easily completed in two or three hours.

At first to test its efficiency I examined many sputa positive with the usual Ziehl-Neelson method and by antiformin, but never found one negative with the latter means. On the contrary, the antiformin preparations, as a rule, show such large numbers of tubercle bacilli that they look frequently like pure cultures, even in cases where only a few could be found after a prolonged search with the Ziehl-Neelson method.

During the past ten months I have examined 891 sputa at the Montefiore Home Laboratory. Of these 238 or twenty-nine per cent. were positive with the Ziehl-Neelson method. Four hundred and twenty-nine negative sputa (Ziehl-Neelson) were examined with the Uhlenhuth's antiformin method, and of these forty-six or a little over ten per cent. were found positive for tubercle bacilli, increasing the total number of positive sputa to thirty-two per cent. These results are not as good as those reported by Uhlenhuth and others, but

[illegible]

when it is considered that the specimens examined were from incipient or only suspected cases of pulmonary tuberculosis it is quite a valuable finding.

Besides its employment with sputum, antiformin can be applied to many other pathological materials. It is well known that these bacteria are seldom found in the pus from empyema, except by inoculation. Of five such cases, all negative with the Ziehl-Neelson method, I found three positive with antiformin. I also found the tubercle bacilli through the use of antiformin in the fluid taken from a case of a tuberculous peritonitis and in the vomitus of a tuberculous individual. Antiformin can be applied to fæces and even to pieces of tissue. It is often difficult to distinguish the picture of tuberculosis from that of syphilis, except by special and complicated methods of staining the tubercle bacilli in the section. With antiformin, however, a rapid and easy determination of their presence is possible. Pieces, about the size of a millet seed, of tuberculous spleen, liver, lungs, and nodes, taken from an infected guineapig, were placed in test tubes containing thirty per cent. solution of antiformin. The test tubes were placed in an incubator at 37.5° C. for twenty-four hours, from time to time shaking them up. Previously smears were made from crushed pieces, and no bacilli were found when stained by the usual way. In all the antiformin smears tubercle bacilli were abundant. A piece of tuberculous lung, fixed for a long time in four per cent. formalin, was similarly treated, and tubercle bacilli were only found in the slide prepared by antiformin. A very useful purpose Uhlenhuth applies this method to, is to obtain pure cultures of tubercle bacilli. He takes 15 c.c. of sputum, mixes it with an equal quantity of twenty per cent. antiformin, centrifuges for thirty minutes, washes twice with saline solution, and inoculates the sediment into serum agar or gelatin, often getting a pure culture. It is of immense value in inoculating guineapigs to prepare the sputum in the same way, employing the doubly washed sediment, suspended in a few cubic centimetres of sterile saline solution. Guineapigs, when thus injected, will never be lost by secondary infection.

From my experience with antiformin the following conclusions may be added:

1. The Ziehl-Neelson method, if carefully carried out, gives such high percentages of positive results, that it is sufficient for ordinary routine clinical purposes.

2. The antiformin process is destined to take a permanent place in laboratory methods, inasmuch as it is the best means of concentrating the tubercle bacilli yet advanced and should be applied to all doubtful cases.

3. To determine the presence of tubercle bacilli in pathological exudate other than sputum it is the best method at our disposal.

4. Antiformin is an exceedingly valuable aid to the bacteriologist in preparing pure cultures or in inoculating guineapigs, making both a much easier and more certain procedure.

STUDIES OF DIET, NUTRITION AND GROWTH IN CHILDHOOD

By E. Mather Sill, M. D.,
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Polyclinic Hospital and Medical School.

Proper nutrition of the body is a subject that has always been of great importance, yet up to comparatively recent date has received no scientific study. It is only when we begin to study the composition of foods that we realize how complicated they are, and it is then that we learn that the chemical substances of which the body is made up are very much the same as the foods which go to nourish it. The chemical elements are the same in the foods as those found in the body, and these elements form a great variety of compounds, the most important of which are protein, fat, carbohydrates, mineral matter, and water. These compounds in the food are to nourish the body, supply it with heat and energy to repair the tissues of the body, to form new bone, blood, muscle, nerve, tendon, cartilage, and other tissue; and produce growth.

It has been found that sixty per cent. of the body weight of the average man is water; mineral matter forms five or six per cent.; protein, about eighteen per cent.; fat, about fifteen per cent., but varies greatly with food, exercise, age, and other conditions. Carbohydrates form less than one per cent. of the body weight. Each of these several compounds in the food has its special office to perform in the economy and metabolism of the body, they either build tissue or yield energy. Protein, fat, or carbohydrates, any of them can be burned in the body to produce heat or energy. This, however, is a less usual and less important function for the protein, its principal function being to build new tissue and for this purpose it is the most important ingredient of the food, since it is the most important ingredient of nearly all the tissues of the body. Mineral matter is necessary, but in smaller quantities in the structure of the body. The fats and carbohydrates are necessary to form heat and muscular energy in the body. It has been found that about 0.9 of the fat in the ordinary mixed diet comes from the animal foods, and about 0.9 of the carbohydrates from the vegetable foods, while the protein is obtained chiefly from meat, fish, milk (among animal foods), cereals and legumes (among vegetable foods).

Knowing the composition of the body, and the composition of foods, the amount of the different compounds in the body, the amount or percentage of the different compounds in each food, and the function of each of these compounds in the food when taken into the body enable us to construct intelligently and scientifically proper diets for the various ages and occupations.

Having this knowledge before me, as obtained from research work made by the United States Department of Agriculture, and others, and knowing from clinical and dietary studies the requirements of the growing child, I have constructed suitable dietaries for children at different ages, with kinds

ing the different foods, and number of meals to be taken.

In this article I am taking up in detail the matter of food and feeding for the malnourished and also the well child, together with the report of the amount of nutrient ingredients found in a study of each of the dietaries in thirty-four malnourished children, also the cost of this food for every child during twenty-four hours as found from this study, the results in the table having been obtained by calculating the amount of the different nutrients in each of the foods used in each family for a period of ten days by use of known percentages taken from *Farmer's Bulletin No. 142* of the United States Department of Agriculture.

The sum total of these values divided by the number of days equivalent to one man for a period of ten days, three meals a day, as obtained by use of Atwater's factors for diet at the different ages, will give the amount of the different food ingredients for each man during twenty-four hours, which, multiplied by the factor corresponding to the malnourished child in question, gives the amount of these nutrients for this child for each day, and by comparison with standards we may determine whether or not the child is getting sufficient nourishment.

These studies were made of thirty-four families that had malnourished children and showed the average number of rooms were three; the average number in the family six; the average number of children eating candy seventy-five per cent. (these figures correspond with my previous studies of 210 school children); the average rent for each month $14.00 or $3.50 a week; the average cost of living to be $11.00 a week for each family, including rent, food, fuel, etc.; the average cost of food for each family for each week to be $7.50; the average income for each family to be $11.00 a week.

It is evident from these statistics that these families spend every cent that is made for their living expenses, and are thus unable, living as they do, paying the present rents, and receiving the present wages, with the present cost of living, to save anything or buy more food or better food which is needed. We tell them the children need good food and plenty of it, but they already spend all they have. In order to improve their condition and that they may be able to save a part of their earnings at least one of three things must be done, their wages must be increased with no corresponding increase in their living expenses; the rents must be less; or the food stuffs used must be reduced in price. It would be a very hard matter to regulate any of these conditions, even although it is evident necessity demands it. What, then, can be done to alleviate this state of affairs in our great cities? Must these poor unfortunates born in poverty and ignorance ever remain so, living from hand to mouth? When sickness comes to the bread winner of the family, the other members must starve, be cast out, or live upon charity.

There is one way, in a measure, to solve this problem, and that is by educating these people and their children as to food and food values. They are, most of them, profoundly ignorant in this respect. Another way by which these people can be helped is by giving their children a nourishing breakfast when they come to school.

Table compiled from a study of the diets of thirty-four malnourished children, with a comparison of the amount of the different food ingredients they should have received:

Age.	Cost of food for each child during twenty-four hours.	Proteid. in grammes.	Fat. in grammes.	Carbohydrates. in grammes.	Fuel value, in calories.
1— 1	0.078	*48.8 †90.0	*34.8 †71.3	*206.4 †266 to 270	*1,231.2 †2,305 to 2,325
2—11	0.078	27.0 90.0	24.0 103.0	160.8 266 to 270	960.0 2,305 to 2,325
3—8	0.065	23.0 82.0	20.0 84.0	134.0 247 to 251	800.0 2,081 to 2,091
4—8	0.09	40.0 82.0	38.5 84.0	206.0 247 to 251	1,350 2,081 to 2,091
5—8	0.084	47.0 82.0	35.4 84.0	242.4 247 to 251	1,502.4 2,081 to 2,091
6—10	0.102	54.0 90.0	49.2 103.0	222.6 266 to 270	1,551.6 2,305 to 2,325
7—8	0.095	50.0 82.0	38.0 84.0	300.0 247 to 251	1,812.5 2,081 to 2,091
8—8½	0.085	40.5 82.0	25.5 84.0	203 247 to 251	1,512.5 2,081 to 2,091
9—8	0.105	50.5 82.0	38.5 84.0	197.5 247 to 251	1,300 2,081 to 2,091
10—8	0.120	66.0 82.0	30.0 84.0	300 247 to 251	1,866.5 2,081 to 2,091
11—5	0.076	45.2 66 to 78	30.8 69 to 76	132 147 to 205	980 1,500 to 1,850
12—9	0.175	81.5 82.0	55.4 84.0	287 247 to 251	1,950 2,081 to 2,091
13—7	0.11	40 82	47.5 84.0	195.5 247 to 251	1,377.5 2,081 to 2,091
14—5	0.084	46.4 66 to 78	36.6 69 to 76	248.4 147 to 205	1,400 1,500 to 1,850
15—1	0.138	70.8 90	52.2 103	289.2 266 to 270	1,224.6 2,305 to 2,325
6— 10	0.078	51 90	25.8 103.0	252 266 to 270	1,465.2 2,305 to 2,325
17— 1	0.132	55.2 66 to 78	44.4 69 to 76	213.2 147 to 205	1,412 1,500 to 1,850
18— 10	0.162	91.8 90	54 103	254 266 to 270	1,704 2,305 to 2,325
19— 10	0.09	46.8 90	34.2 103	196.8 266 to 270	1,246.8 2,305 to 2,325
20— 8	0.195	90 82	66 84	421 247 to 251	2,673 2,081 to 2,091
21—11	0.102	54.6 90	33.6 103	254.4 266 to 270	1,554 2,305 to 2,325
22—8	0.095	46.5 82	33 84	127.5 247 to 251	1,261.5 2,081 to 2,091
23— 9	0.185	73 82	48.5 84	265.5 247 to 251	1,272.5 2,081 to 2,091
24—9	0.110	30 82	30 84	189 247 to 251	1,214 2,081 to 2,091
25— 12	0.231	111.3 90	92.4 103	389.2 266 to 270	2,836 2,305 to 2,325
26—7	0.105	52.5 82	30 84	207 247 to 251	1,354.5 2,081 to 2,091
27—7	0.125	53.5 82	44 84	188 247 to 251	1,371 2,081 to 2,091
28— 8	0.1	54 82	44 84	203.5 247 to 251	1,430 2,081 to 2,091
29—5	0.085	46.5 82	38 84	128 247 to 251	1,113 2,081 to 2,091
30—5	0.085	43.5 82	29.5 84	128.5 247 to 251	1,175 2,081 to 2,091
31— 8	0.175	53.5 82	55.5 84	247 to 251	1,515.5 2,081 to 2,091
32—8	0.065	43.5 82	26.5 84	167.5 247 to 251	1,112.5 2,081 to 2,091
33— 6	0.065	43.5 90	26.5 103	167.5 266 to 270	1,112.5 2,305 to 2,325
34—	0.078	60.2 90	34 103	254 266 to 270	1,335 2,305 to 2,325

*First line of each age indicates amount of food received. Second line of each age indicates amount of food that should have been received.

Thus from glancing over these figures it will be seen that these ill nourished children had a comparatively high amount of carbohydrates in their diet, but it was low in proteid and fat, and the number of calories for each day were far below what they should have been in spite of the large amount of carbohydrates used. In other words, these diets were very deficient in building material.

Atwater's figures, as advocated in the adult, and reduced by means of factors for the different ages

in the child are as follows and vary from my own only slightly in that less protein and more fat and carbohydrates are given with a corresponding caloric value.

TABLE COMPILED FROM ATWATER'S FIGURES.

For a child of from two to five years of age, protein 50 grammes, 1,660 calories.

For a child of from six to nine years of age, protein 62.5 grammes, 2,075 calories.

For a child (boy from ten to eleven years of age, girl from ten to twelve years of age), protein 75 grammes, 2,490 calories.

For a child (boy from twelve years of age, girl from thirteen to fourteen years of age), protein 87.5 grammes, 2,905 calories.

For a child (boy from thirteen to fourteen years of age, girl from fifteen to sixteen years of age), protein 100 grammes, 3,320 calories.

It is understood in this table that sufficient fat and carbohydrates be added in the diet to make together with the protein the requisite number of calories.

We must not forget, however, that the child differs from the adult, in that it must have food not only to supply the wear and tear and waste of the body, but it must have an extra amount beside this of protein for building purposes to produce growth, to make bone, muscle, blood, nerve, brain, and other tissue.

The following is the diet of many school children in an undernourished condition which I have studied:

Breakfast: Tea or coffee; two slices of bread, or a röll = 150 calories, 6 grammes proteid.

Dinner: One potato = 100 calories, 2 grammes proteid; one ounce of meat = 60 calories, 7 grammes proteid; one slice of bread = 75 calories, 3 grammes proteid.

Supper: Meat soup, which contains about one ounce of meat and a tablespoonful of carrots and equals: One ounce of meat = 60 calories, 7 grammes proteid; tablespoonful of carrots = 30 calories, 1 gramme proteid; one slice of bread = 75 calories, 3 grammes proteid. Total for the day = 550 calories, 29 grammes proteid.

A simple and fairly nourishing diet for a school child which could be obtained for from fifteen to twenty cents is the following:

	Fuel value in calories.	Fat, grammes.	Carbohydrates, grammes.	Proteïn, grammes.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2 tablespoonfuls oatmeal or [illegible]	60	..	11	2
[illegible] of large egg = 2 [illegible] baked	200	..	40	4
[illegible]	200	1	.	12½
[illegible]	120	.	.	24
[illegible]	22	1	.	1
3 rounded teaspoonfuls of cane [illegible]	75	..	18	.
1 ounce of butter or oleomarjorum 1½ cubic inches = ...	225	24	.	.
[illegible]	45	..	1	.
Carrots, squash, or turnips = 1 tablespoonful apple or orange or [illegible]	30	..	6	1
[illegible]	60	.	13	..
[illegible]	[illegible]	..	[illegible]	[illegible]

This should be divided and given in three meals.

Average values from various investigations. (From Pfaundler and Schlossmann.):

TABLE I.

Age in years.	Proteïn, grammes.	Fat, grammes.	Carbohydrates, grammes.
[illegible]	[illegible]	[illegible]	[illegible]
8-10.....	60-88	30-70	220-250
[illegible]	[illegible]	[illegible]	[illegible]

Diet for malnourished patients and those convalescent from severe illnesses and for afebrile patients with wasting affections or chronic afebrile diseases. (From Pfaundler and Schlossmann.):

Years.	Proteïn.	Fat.	Carbohydrates.	Calories.	Proportion of nitrogenous to non-nitrogenous.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2-4	51·3	4	51	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

"These values are about what the healthy child should receive with regard to the proteid, but the values for fat and carbohydrates exceed the normal requirements."

According to Camerer and others the rational proportions of animal to vegetable foods is 1:22. Nitrogen containing food to that free from nitrogen 1:4 to 1:5. At least fifty per cent. of the proteid introduced should be of animal origin.

The proteid is obtained as follows in table:

From	2-4 years.	5-6 years.	7-10 years.	11-14 years.
Milk, per cent.....	42	28	18	9
Meat and eggs, per cent.....	36	69	42	45
Vegetables and [illegible]	.	03	4	46

Amounts of food for healthy children given in five meals per diem. (Steffen.)

	Total, [illegible]	Total, [illegible]	Total, from 4 to [illegible]
Proteid, grammes	68	79	95
Fat, grammes	[illegible]	[illegible]	[illegible]
Carbohydrates	[illegible]	[illegible]	[illegible]
Calories	1,200	1,525	2,060

Camerer has made the observation that children of different ages, but of about the same weight, require the same amount of food per kilogramme weight. The following table is calculated according to Camerer's data and taken from Pfaundler and Schlossmann's *Diseases of Children:*

Age in years.	Sex.	Total amount of food.	Water.	Proteid.	Fat.	Carbohydrates.	Calories.
2-4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	girls	84.3	66.6	3.5	2.5	10.9	76.6
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	girls	70.8	55.5	2.8	1.3	10.4	61.6
11-14	boys	54.0	41.4	2.1	1.4	8.4	51.4
	girls	56.1	44.4	2.5	1.0	7.7	47.3

To find the amount of fat, protein, and carbohydrate required it is necessary to multiply these figures for the different periods of age by the total weight of the child in kilogrammes. Thus by use of the following tables it is a simple matter to make the calculations for the different ages—1 kilogramme = 1,000 grammes = 2.2 pounds.

Table of weight in pounds and kilogrammes taken from Koplik's work on *Diseases of Children:*

Years.	Sex.	Weight. Kilogrammes.
5½	girls	18.9
	girls	19.5
	boys	19.1
	boys	20.4
	girls	20.5
	boys	21.5
	girls	21.5

Table of average weight of American boys and girls (collated from thousands of children in various States by Bowditch, Burk, MacDonald, and Hastings), Koplik.

The following table is one which I have compiled and found most suitable for both healthy and malnourished children.

Proper dietary and amounts for the healthy child per diem at the different periods of age:

	Proteids.	Fats.	Carbohydrates. grammes	Fuel value.	Proteids.	Fats.	Carbohydrates. grammes	Fuel value.	Proteids.	Fats.	Carbohydrates. grammes	Fuel value.
Mixed food 2-5 years, milk, 2 pints; 6-9 years, 2½ pints									25		32	502
Meat							217					571
Chops, fowl, fish, steak, roast beef, etc. 2-5 years, 60-90 gms. 6-9 years....100 gms. 10-13 years...125 gms.												
Egg												72
Butter or oleomargarine 1½ to 2 ounces				112						14		225
Clear soups and broths. 2-5 years.....100 gms. 6-9 years.....150 gms. 10-13 years...200 gms.												
Total animal food.		65/70	43		19		32					1,070
Vegetable food												
Bread, 3-9 slices, 50/100, 125, 150 grammes.												
Potatoes, 1 to 2.....							10					
Legumes	2/4					3						14
Baked beans, boiled or purée, 2-5 years, 25-50 grammes; 6-9 years, 50-75 grammes; 10-13 years, 75-100 grammes.												
1 to 3 tablespoonfuls.												
Cereals					8		17					75
oatmeal, cracked wheat, farina, hominy, etc.												
Green vegetables				0			14	70			14	
1 to 2 tablespoonfuls; spinach, carrots, asparagus, stewed tomatoes, green peas, cauliflower, squash.												
Fruit				5	4	4	24	0	1	4	24	75
1 to 2 tablespoonfuls; custard, corn starch,												
Bread					0						13/17	50/70
or 1 orange, pear; or 6 stewed prunes.												
Total					33	19		1,065/1,085			234/238	1,235/1,255
Total					84	47	2,081/2,091				260/270	2,305/2,325

Meat and fish (cooked): One ounce has an equivalent of 60 calories, 3 grammes fat, and 7 grammes proteid and is about a ½ cubic inch, also the lean of a lamb chop weighs an ounce.

Bread: One slice 4 inches square and ⅜ of an inch thick = 1 ounce.

Clear soups or broths without rice or barley have practically no nutritive value.

The nutritive value of spinach, asparagus, lettuce, tomatoes, etc., is so slight that it may be disregarded, but they give bulk to the food, stimulate the appetite, and give variety to the diet.

Cereals (cooked): One tablespoonful has an equivalent of 25 calories, 5.5 grammes carbohydrates, 1 gramme proteid.

Butter: One and a quarter inch cube = 1 ounce, equivalent to 225 calories and 24 grammes of fat.

Potato, of the size of a large egg, has an equivalent of 100 calories, carbohydrates 20 grammes, proteid 2 grammes.

Carrots, squash, and turnips (cooked): One tablespoonful = 30 calories, carbohydrates 6 grammes, proteid 1 gramme.

A good method of increasing the fuel value and fat in a diet is by giving olive oil, one tablespoonful = calories 125, fat 14 grammes.

The proteid is obtained as follows in the foregoing table:

Milk	11.35	3.6	5
Meat and eggs, lean meat	21.25	2.6	1
Vegetables, cereals, and legumes as plants	2	41	2

It has been found best to give this dietary according to the following schedule:

One half hour for *breakfast,* 7 to 8 a. m.: Glass of milk, baked apple, or orange. Cereals: Oatmeal, cracked wheat, farina, hominy, etc., 2 to 3 tablespoonfuls of one of these cereals, with cream and milk. Eggs, 1 to 3, according to the age of the child, either soft boiled, scrambled, poached, or in the form of an omelet; or a lamb chop or fish for variety occasionally. 1 to 3 slices of bread, ⅜ of an inch thick, with butter.

10 a. m.: An apple, a banana, a couple of graham crackers, or a small glass of milk.

One hour for *dinner,* 12:30 to 1 p. m.: Soup, bread, and butter. Meats: Rare steak, rare roast beef, mutton, or chicken (fish may be given once a week. From ⅛ to ¼ of a pound of meat should be given, according to the age and capacity of the child. Baked or boiled potatoes, with butter and salt, or stewed with milk, and a green vegetable, such as spinach, carrots, string beans, green peas, cauliflower, squash, a purée of dried soy beans, or dried peas, may be given three or four times a week at this meal, or baked beans may be given, 1 to 2 tablespoonfuls, and this will in a measure take the place of meat. A glass of milk.

Hominy or rice may be given three or four times a week (2 to 3 tablespoonfuls). A simple dessert, such as plain rice pudding, plain bread pudding, custard, blanc mange, ice cream.

At 4 p. m.: An apple, peach, or pear may be given if the child is hungry.

Half an hour should be taken for *supper,* at from 6 to 7 p. m.: Bread and butter and a glass of milk, or bread and milk, milk with one of the cereals, bread and butter with jelly, fruit juice or syrup, a small piece of cold meat, or omelet, or scrambled eggs. Plain cake, stewed prunes, apple sauce.

In order that a young animal grow steadily and develop into a large and healthy specimen of its kind it must have plenty of good nourishing food with a high percentage of protein suitable to its age; if it does not receive this food while still young it becomes stunted, and although later by giving plenty of good food it may become healthy and fat, it never attains the size of one which has had plenty of the right kind of food from birth. So it is with the child if improperly nourished while young—it becomes stunted and dwarfed.

It is up to the twelfth year of age that we see most of the cases of malnutrition, and it is up to this age that the greatest demands are thrown upon the child, since this is the period of rapid development and changes in all the tissues of the body, and on this account it is also a period of particular susceptibility to disease.

It is at this period of age that the child is entirely dependent for its care, feeding, clothing, sleep, care of the teeth, bathing, play, etc., upon its family, therefore by educating the people along these lines we will be enabled to help the child and instil into its mind the principles of health and hygiene.

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THE HEART IN LOBAR PNEUMONIA AND ITS TREATMENT.*

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Short and dramatic in its course, full of the unexpected, deadliest of acute infectious diseases among adults, pneumonia has for us a never failing interest, and this interest is intensified in each case by anxiety, for we have as yet no cure. The limit of our power is to relieve or alleviate some of the symptoms. We can only watch and ward, while we wait the outcome, always doubtful, of Nature's fight with the "captain of the men of death."

The point of greatest danger in pneumonia, where we must watch and ward most zealously, is the heart. The heart is always more or less seriously disturbed by the regular conditions of the disease, and sometimes it is directly infected by the pathogenic microorganism.

Direct infection by the pneumococcus may produce acute inflammation of the heart. Endocarditis, while it may occur in any case, attacks by preference those who have scars of an old valve lesion; it is frequently of the septic or malignant type; and its physical signs are often slight or deceptive. Pericarditis is a more frequent complication of pneumonia than endocarditis; it is not usually attended with much effusion and its exudate is often purulent; it is apt to appear late in the disease; and it is often overlooked. The majority of these patients with pericarditis die, and of those who recover from the acute condition a large percentage, according to my experience, go on with chronic adhesive pericarditis. After a protracted convalescence the patient may get out of bed, but in a comparatively short time, usually not more than a few days or weeks, symptoms of cardiac weakness reappear, which increase steadily until death comes after a period usually measured in months. In eighty cases of lobar pneumonia seen by me between January 1, 1909, and July 1, 1910, acute endocarditis was noted once and acute pericarditis three times.

I will not dwell on the direct infections of the heart by the pneumococcus, but proceed to discuss the behavior of that organ under the regular conditions of the disease, which is a subject of wider and more practical interest. The regular conditions of pneumonia which particularly disturb the heart are the toxæmia and the mechanical obstruction suddenly interposed in the lesser circulation by the consolidated lung.

Osler says: "The pneumococcus does not produce in artificial cultures any strong, soluble toxine, analogous to the diphtheria toxine or tetanus toxine, but its poison is contained within the bacterial cells, from which it may be extracted in various ways, or it may be set free from the dead or degenerated cocci." It is reasonable to suppose that the same conditions obtain in the human body, and that the specific toxæmia is due to the dissolution of dead pneumococci in the blood.

Besides the specific toxæmia there may be asso-

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ciated or secondary toxæmias. The physiological control of gastrointestinal affairs and the balance of power between the friendly and unfriendly bacteria in the *primæ viæ*, may be disturbed by the specific toxæmia, the fever, nervous reflexes, wrong diet, and passive congestion, permitting development and absorption of the products of intestinal putrefaction. Imperfect aeration of the blood in the embarrassed lung makes for suboxidation in the tissues and clogging of the circulation with the products of imperfect combustion. And if the circulation fails the elimination of toxines is lessened.

Interest specially centres on the specific toxæmia. What we particularly desire to know is the *extent* to which the specific toxæmia disturbs the heart: Does the pneumotoxine act regularly as a notable heart poison, and has it a special antipathy for the cardiac apparatus like the specific toxine of diphtheria and influenza? In the general run of cases, in the majority of cases, does the specific toxæmia cause serious disturbance or degeneration of the nervomuscular apparatus of the heart?

Facts throwing any light on this difficult and complicated subject are scarce. The following, considered together, are at least suggestive:

1. As has been stated, the living pneumococcus does not in a pure culture produce a strong, soluble toxine, and we assume the same condition to hold in the human body. We know that in many or most cases of pneumonia the pneumococcus gets into the blood. We conclude that the amount of the specific toxæmia depends on the number of pneumococci in the blood which escape the phagocytes and die a natural death; for it is from dissolution of the dead bacteria that the toxine is probably derived. This conclusion harmonizes with the observation that when there is a high leucocytosis severe toxæmic manifestations are less likely to appear than when the leucocytosis is slight or absent.

2. Clinically we are familiar with a tolerably large group of cases of pneumonia in which the heart seems to be overwhelmed by the toxæmia, and sometimes in an early stage of the disease. There is also a group, first described by Romberg and Pässler, in which failure of the heart seems to be secondary to great dilatation of the arteries, particularly in the splanchnic area, apparently caused by toxæmic paralysis of the vasomotor centre.

3. As a very rare occurrence, which may be a result of toxæmic disturbance, but is not necessarily so, we find sudden failure of the heart after defervescence, sometimes several days after, when the patient is apparently in good condition. I have seen one such case, in which the patient died suddenly from heart failure five days after defervescence. There was no discoverable cause for this accident, unless it may have been the ammonium carbonate which the patient had been taking steadily in five grain doses every four hours for over a week.

4. In perhaps the majority of cases in which there is no preexisting myocardial weakness, we find the left ventricle maintaining an approximately normal blood pressure until after the failure of the right ventricle has diminished the supply of blood which it receives. In fact, in very many cases the left ventricle does not in its action indicate any disturbance of its muscle or nerve connections that can be ascribed to a toxæmic cause; it acts quite as well as could be expected in view of the mechanical difficulties under which its partner on the right is laboring. Witness Delafield on this point: "At about the fourth day of pneumonia we find only too often that the bronchi and lungs are beginning to fill up with mucus and serum. This is a most unfavorable symptom. The failure seems to be on the part of the right heart." Again Delafield says: "It seems to be failure of the right ventricle which causes the venous congestion and œdema of the lungs. It is curious in some cases to observe a good radial pulse at the same time with evidence of failure of the right ventricle." W. G. Thompson says: "It is a curious fact that patients in an advanced grade of cardiac valvular disease sometimes bear pneumonia much better than one would expect." The wonder in these cases is lessened if we suppose that the left ventricle suffers no toxæmic weakening; if the right heart does not fail, the left has no reason to be disturbed, provided its defective valvular action was originally compensated.

5. In a majority of cases we find that the thin walled right ventricle maintains an abnormally high blood pressure, which is shown by the accentuated closure sound of the pulmonary valves; and when the right ventricle does begin to fail we usually get such a response to stimulation as we would expect under the circumstances from a relatively sound myocardium, and not from one undergoing toxæmic degeneration.

6. Osler says: "A patient with complete consolidation of one lung may show no signs of a general infection."

The suggestion made by the foregoing facts seems to be, that while the specific toxæmia is the effective cause of heart failure in a certain proportion of cases of pneumonia, in a larger proportion, perhaps the majority, it cannot be considered a powerful primary factor in disturbing the heart. In the majority of cases of pneumonia with originally healthy hearts, the picture presented seems to resemble more a struggle against a mechanical obstruction in the lesser circulation than it does the bad action of a heart which is undergoing toxæmic degeneration and paralysis. And in the cases in which the heart does fail from intrinsic weakness instead of from exhaustion of the right ventricle by overwork, it is not always easy, as Mackenzie says, to distinguish between those due to direct invasion of the heart by the pneumococcus and those due to general infection. A partial explanation of this difficulty lies in the fact that acute pneumonic pericarditis, endocarditis, and myocarditis often exist without giving distinctive signs.

Looked at from the clinical standpoint, a closer resemblance seems traceable between pneumonia and the streptococcus and staphylococcus infections, as regards the anticardiac manifestations of their toxæmia, than between pneumonia and those infectious diseases like diphtheria and influenza, whose specific toxines are regularly serious disturbers of the heart. In a streptococcus or staphylococcus infection the local lesion, though it may be attended with constitutional symptoms, is not

regularly attended with serious toxæmic heart disturbance; it is only when pronounced septichæmia occurs that the heart is apt to suffer. So in pneumonia, the pneumococcus septichæmiæ, which occurs in marked degree only occasionally, seems to be the toxæmia that gravely disturbs the heart and vasomotor system.

In this conception of the heart as always overtaxed on its right side and always in danger of failure from exhaustion of the right ventricle, and occasionally subjected to a severe disturbing toxæmia, we find our main indications for treatment, pending further developments along the line of serum and vaccine therapy, along which line hope continues to beckon in spite of disappointments. In the light of our present knowledge a case of pneumonia, from the therapeutic viewpoint, appears essentially a heart case, in which the regular problem is to support the heart until a temporary obstacle in the pulmonary circulation is relieved, and in which an occasional additional problem is to support it under the stress of a severe disturbing toxæmia. Following are a few suggestions as to how to meet these therapeutic indications:

Diminish the functional demand on the heart by absolute recumbency and quiet; make as few examinations as possible; toward the crisis, in bad cases, neglect even baths and bowel movements.

Give fluid diet, chiefly modified milk and strained gruels. The diet in this disease, whose period is usually short, need not be regulated so much with reference to nourishment as to the condition of the gastrointestinal tract. It is better to starve the patient for a little while than to expose him to the dangers of indigestion, intestinal toxæmia, disturbing abdominal reflexes, and especially abdominal distention. In prolonged cases and cases of delayed resolution, however, the question of nourishment becomes more serious.

Secure sufficient sleep in the early days of the disease, by bromides and opiates if necessary, never by chloral or the coal tar sedatives, for nervous exhaustion from loss of sleep may fatally turn the scale in a critical case.

Increase the elimination of toxines, both specific and secondary, by stimulating the kidneys. These organs, though always more or less disturbed in pneumonia, are not often seriously disordered, and usually can be made to do some extra work. The best diuretic is water, which should be given in considerable, but not in excessive, quantities. When trying to flush out toxines do not forget that the work of pumping the water through the kidneys falls on the heart. In the beginning of the disease a simple saline purge, or such a purge following a small dose of calomel, makes for lessened toxæmia; but for more than moderate catharsis there seems to be no good reason. The lessening of the toxæmia has been made a frequent excuse for unnecessary and excessive medication in pneumonia. In the regular cases maintenance of the bodily functions in as high a state of efficiency as possible seems to be the best we can do along this line, and in the cases with pronounced pneumococcus septichæmia there seems to be nothing better to do, while there are many worse things. To treat these septichæmic cases with assured success we will probably have to await the development of an effective serum or vaccine, for no drug is likely to serve the purpose. If from the beginning of the disease we keep the patient in as good general condition as possible, we minimize the likelihood of his physiological barriers being overwhelmed by the septichæmic flood.

Supply the purest air to the crippled lungs. This does not mean that every patient with pneumonia is best treated out of doors in the winter, though many patients, the young, the sthenic, and those with high fever, do well so treated. It does mean that the patient should lie in a place where the ventilation is free.

The foregoing procedures indirectly support the heart. In addition to them it is often necessary to give it direct support by stimulation.

The hearts of aged patients, alcoholics, and those with preexisting myocardial disease, usually require stimulation from the beginning. In young adults with healthy hearts stimulation can usually wait on symptoms of cardiac insufficiency, but it should not wait too long. It is better to give it before it is needed than to lose important ground by delay. It is my custom to give no stimulation at all during the first two or three days of the disease, unless indications for it appear, but on the third or fourth day, even if the patient shows no signs of circulatory distress, it is reasonable to suppose that his right heart is beginning to get tired, and I order 1/60 grain of strychnine three or four times a day. This gentle stimulation may be all that is necessary. I increase it according to the requirements of the circulation, following especially the signs afforded by the right heart.

The most important signs of a failing right ventricle are, diminution in intensity of the closure sound of the pulmonary valve and enlargement of the right side of the heart. It is possible that weakness of the pulmonary second sound may be concealed by a near by upper lobe consolidation which magnifies its audibility. Increase to the right of the area of covered dulness is evidence of enlargement of the right ventricle only when we can exclude other reasons for it, such as displacement of the heart to the right by consolidated left lung, fluid in the left pleural cavity, retraction of the heart to the right by pleuropericardial adhesions, or pericardial effusion of considerable amount. The interpretation of extension to the right of the area of cardiac dulness is usually made easy by the contemporaneous character of the pulmonary second sound; if that has weakened along with the extension to the right of the area of dulness, dilatation of the right ventricle is suggested; and after this has taken place the radial pulse softens and increases in rapidity. Also, if there is much dilatation of the right ventricle and failure of the pulmonary circulation, cyanosis and other signs of venous stasis appear. When the heart failure is due to paralysis of the vasomotor centre there may be a grayish pallor instead of cyanosis. Functional murmurs are quite often heard, especially toward the end of the disease; they may be due to dilatation, myocardial weakness, and incoordination, or pressure of consolidated lung on the great vessels at the base of the heart.

In describing procedures with heart stimulants in pneumonia we are unable to lay down a programme of general application because each case has its own peculiarities. There is certainly no acute disease in which heart weakness is a frequent and prominent symptom which calls more strongly for individual treatment. Pneumonia occurs at all ages and in people with all kinds of hearts; in children and young adults whose hearts naturally possess much reserve power, and in old people in whose hearts disease conditions either obvious or latent are already present. The degree and virulence of the toxæmia varies greatly, and cannot be estimated in advance; and it has no relation to the extent of the lesion—with a small lesion a fatal penumococcus septichæmia may develop, and with involvement of several lobes there may be no toxæmic symptoms. The amount of obstruction in the lungs varies within considerably wide limits and cannot be accurately estimated, though we have a partial index to it in the signs and symptoms which tell of lung involvement and respiratory embarrassment.

Unable, then, to lay down any programme of general application for the stimulation of the failing heart in pneumonia, I will tell of the principal agents which I am accustomed to use according to my judgment in each case. There are other agents besides those which I shall mention which are in good use, but the ones mentioned have proved in my experience the most reliable and effective.

If more stimulation seems required than is supplied by the small amount of strychnine previously referred to, larger doses of that drug are given, but not more than 1/30 of a grain every four hours, which I believe is as much strychnine as it is advisable to give in pneumonia. If still further stimulation is needed I add tincture of strophanthus in doses of two or three minims every four hours. Strychnine and strophanthus thus given will prove sufficient in a large proportion of cases. If the right ventricle still continues to fail I add to the strychnine and strophanthus some or all of the following heart stimulants: Caffeine citrate, from two to five grains every four hours; aromatic spirit of ammonia, from half a drachm to a drachm every one or two hours; and digitalin, from 1/100 to 1/50 grain every four hours hypodermically. I usually give whiskey in small or moderate doses to aged patients and those with an alcoholic history; sometimes I give it in severe cases to young or middle aged adults, especially if they show marked toxæmic symptoms or high fever. Of late years I have used alcohol sparingly in both pneumonia and typhoid fever, holding a poor opinion of its value as a heart stimulant, and a high opinion of its ability to disturb the physiological and bacteriological conditions in the gastrointestinal tract. But I cannot shake free from the notion that in some cases of those diseases it does good.

The stimulation of the heart produced by the sum total of the medication I have mentioned is probably as much as can be given with advantage in any case and more than some will bear. The danger of exhausting the heart by overstimulation should always be borne in mind. Only a limited amount of work can be got out of the laboring right ventricle in any particular condition, and the danger of exhausting it by overstimulation is quite as real as that of its becoming exhausted by straining against the obstruction in the lungs, or of its failing on account of acute toxæmic degeneration or vasomotor paralysis. The ancient precept that the heart cannot be stimulated too much at the time of the crisis must not be taken too literally; it can be, and no doubt it often is. Yet the temptation to extreme, to excessive measures of stimulation is great when we find irregularity of the radial pulse before the crisis, or an increase of the pulse rate to 140 or more, and a steadily dilating right heart.

In cases of vasomotor paralysis hot rectal irrigations and hypodermoclysis appear to be rational treatment; and in these cases, if anywhere, adrenalin would seem to be indicated.

In a discussion of the heart stimulants used in pneumonia, morphine should receive mention, and special mention. It is often a lifesaving drug in pneumonia, as it is in many other heart conditions. It can be used early in the disease to allay pain and restlessness and thus conserve cardiac strength, lack of which might discount recovery. Given later in the disease it enhances the good effect of the other heart stimulants by quieting nervous reflexes, and particularly by diminishing the irritation of the oxygen hunger and also the need for oxygen, thereby lessening the work of the heart. In doses of from 1/16 to ⅛ of a grain, *pro re nata*, or every four hours, given hypodermically, it will often tide over a doubtful case. If given in the larger doses atropine may be combined with it, especially if the bronchi are filling up with mucus and serum. Atropine should be given with caution in pneumonia; its sphere of usefulness in this disease is not very great, and it may produce cerebral disturbances.

In connection with the behavior of the heart in lobar pneumonia a brief allusion may be permitted to the circulatory conditions at the beginning of the disease and the therapeutic possibilities which may exist in this stage. In this stage, which is one of congestion, before the air spaces have filled with inflammatory exudate, is it possible to abort or favorably modify the course of the disease? This question has been much debated, but no generally accepted positive conclusion has been reached. The therapeutic suggestions along this line which seem worthiest of attention are based on the theory that the congestion in the lungs may be diminished, and the circulation in the congested area rendered more free, by the use of circulatory sedatives. The analogy of the action of aconite in checking an acute coryza in its first stage presents itself here. If I am able to begin the treatment of a case which I suspect to be pneumonia within twenty-four hours after the initial chill, and the patient's heart is sound, I usually give frequent small doses of aconite, on the possibility that it may do good, being sure that it will do no harm. This treatment is not kept up after the second day.

CONCLUSIONS.

In this short paper topics of great importance have been passed over with scant discussion, but the paper will have served its purpose if it has brought out the following points:

The specific toxine of pneumonia does not seem

to be regularly a serious disturber of the heart in the sense that the toxines of diphtheria and influenza are such.

Sometimes a severe toxæmia, which appears to be a pneumococcus septichæmia, is observed in pneumonia, which seriously or fatally poisons the cardiac apparatus or paralyzes the vasomotor centre.

A constant, and on the whole the most important, cause of heart disturbance in pneumonia seems to be the mechanical obstruction in the lesser circulation caused by the pulmonary consolidation.

The prevention of toxæmic complications is best effected, pending further developments in serum and vaccine therapy, by maintaining the bodily functions in as high a state of efficiency as possible, particularly the function of the kidneys.

From the therapeutic viewpoint a case of pneumonia appears essentially a heart case, in which the problem is to support the heart until the obstruction in the pulmonary circulation has been relieved.

Direct support of the heart by stimulation should not be delayed too long in pneumonia; the amount of stimulation should be regulated not only by the requirements of the circulation, but also by the capacity of the heart to respond; and the dangers from overstimulation should be kept in mind.

1230 Pacific Street.

... OF TOXIC HÆMATOPORPHYRINURIA (SAFFRON) COMPLICATING SEPTIC PERFORATION OF THE UTERUS.*

By Solomon Wiener, M. D.,
New York,

Saffron (*Crocus sativus*), though largely used as a coloring agent, is very rarely ingested in poisonous doses. Consequently our knowledge of its general toxicology is but scant, and we know even less of the urinary changes it induces.

Lewin states that the probable poisonous element is an ethereal oil. According to Kobert, its chief constituents are a dyestuff, crocin, a glucoside, picrococin, and an ethereal oil. No study has been made of their individual actions. Large doses irritate the mouth, stomach, and intestinal mucosa.

Since ancient days saffron has been used as a spice, dyestuff, and drug. Tincture of crocus formerly enjoyed quite a reputation as an emmenagogue and abortifacient. Borellus, in his quaint *Medicophysical Histories and Observations of the Fourth Century*, gives an interesting account of the use of the drug. He says: "After the ingestion ... considerable quantities of saffron . . . one observes severe abdominal pain, weakness, prostration, headache, vertigo, delirium, and uterine bleeding, . . . the repeated ingestion of decoctions of saffron produces abortion in three days."

Kobert states that large doses do actually produce contractions of the gravid womb, but also severe abdominal cramps and loss of consciousness. He quotes Corvey, who reports a fatal case in which the autopsy showed exudation of blood into the stomach and intestines, with slight nephritis.

Another fatal case was published by Ferraris. A nonpregnant girl, after taking saffron in quantity, was seized with colic, vomiting, purging, and convulsions, followed by delirium and coma. The autopsy revealed saffron in the intestines; the urine "*bloody*"; everything else normal.

The history of my case is as follows:

... old, was admitted to the second gynæcological service, Mount Sinai Hospital, July 31, 1910. She had been married five years; two children; last child two years ago. No previous abortions. Menstruation had always been normal and regular. Last menstruation, June 8th.

Present illness: Patient stated she had been three weeks overdue her menstrual period, had taken repeated doses of saffron, and had been using hot mustard baths to induce abortion. Yesterday she took hot vaginal douches, inserting a hard rubber tube about six inches, several times. This was followed immediately by severe abdominal pain. She did not know whether the tube entered her uterus or not. Last night she began to have severe cramping pain all over her abdomen, and passed half a cupful of bright red blood *per vaginam*. Spotting continued. This morning she had fever, chills, and vomited several times. Felt very weak and had constant cramping pains in abdomen. Urination normal.

Physical examination: General condition poor. Facies anxious, pale, lips cyanotic. Eyeballs icteric. Tongue dry. Temperature, 102° F.; pulse, 124, regular, soft, and compressible. White blood cells, 15,500; polynuclears, eighty-seven per cent. Abdomen lax and tympanitic in upper half; lower half rigid, with dulness on percussion. Movable dulness in both flanks; no obliteration of liver dulness. Tenderness all over abdomen, most marked in iliac regions. Slight bleeding from the vagina. Cervix soft, os admitted tip of index finger. Uterus enlarged to size of two months pregnancy, and very soft.

An enema administered shortly after admission brought away a few particles of fæces. On catheterization a small quantity of portwine colored urine was obtained. This gave rise to the suspicion of injury to the bladder, as the red color was thought to be due to blood. However, uranalysis by a member of the house staff showed no red blood cells, no hæmoglobin, a few granular casts, amorphous urates, and a trace of albumin; the reaction was acid. A further specimen, also obtained by catheter, was examined by Dr. E. A. Aronson, assistant physiological chemist to the hospital, who reported the presence of *hæmatoporphyrin*.

Five hours after admission the patient was anæsthetized and placed on the operating table. A sound very gently passed into the uterus went up indefinitely into the abdominal cavity. Immediate laparotomy. About eight ounces of fluid blood in the abdomen. All visible peritonæum injected; on posterior surface of uterus and close together, two small irregular perforations. A rapid panhysterectomy was done, and the pelvis drained with three gauze strips passed down into vagina. Abdomen closed.

Specimen: Uterus very soft; enlarged one hundred per cent. Two ragged perforations on posteriosuperior surface. Tubes and ovaries intensely congested; both ovaries cystic. Corpus luteum of pregnancy in right ovary. Uterine cavity lined with thick, foul smelling, necrotic decidua.

Patient was put in Fowler position and Murphy irriga-

... hypodermic injection. Small quantities of urine obtained by catheter were first brownish red, and finally almost black. The pulse and general condition grew progressively worse; lips and extremities at first deeply cyanotic, then of a remarkable purplish black hue. She rapidly sank into coma, and died eleven hours after operation.

Unfortunately the family would not consent to a post mortem examination, and the coroner's physician did not see fit to order one performed.

A blood culture taken *intra vitam* was negative, and there was no growth in the tube inoculated with peritoneal fluid.

COMMENTS.

With the grave uterine injury and peritonitis present, it is a difficult matter to say to what extent the drug toxæmia contributed to the fatal issue. Yet the profound disturbance of pigment metabolism, the peculiar discoloration of the lips and skin, and the rapid onset of coma, would seem to indicate that the immediate cause of death was saffron poisoning and not peritonitis. The patient withstood the shock of the technically easy operation well, and it would be rather unusual for peritonitis to kill so rapidly.

However, we must attribute the hæmatoporphyrinuria to the ingestion of saffron. It has been found heretofore in sulphonal, trional, tetronal, and lead poisoning, and in various diseases (Monro, Garrod). There is no case on record where it was caused by saffron poisoning. Yet Garrod has shown that intestinal hæmorrhage may give rise to hæmatoporphyrin in the urine. In Corvey's case of saffron poisoning the autopsy showed blood in the stomach and intestines. Finally, in Ferraris's case, the urine was reported as "bloody."

Whether the hæmatoporphyrinuria in our case was due indirectly to an intestinal hæmorrhage, or directly to a disturbance of pigment metabolism, it is not possible to say. Future study must determine this point.

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Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CV.—How do you perform circumcision? (Closed December 15, 1910.)

CVI.—How do you treat obesity? (Answers due not later than January 16, 1911.)

CVII.—How do you treat acute otitis media? (Answers due not later than February 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to question CIV was awarded to Dr. John W. Powers, of Burlington, Wisconsin, whose article appeared on page 1338 of volume xcii.

PRIZE QUESTION CIV.

THE TECHNIQUE FOR PERFORMING VACCINATION.

(*Concluded from page 2051.*)

Dr. W. A. Wallace, of Spartanburg, S. C., remarks:

Vaccination is no less a surgical operation than is appendectomy. The difference being that in the latter our effort is directed toward the elimination of everything which tends to produce an inflammatory process, while in the former our effort is directed toward the reproduction of an inflammatory process, but such process to be brought about by one specific agent and not by a multitude of bacteria of different families. When we consider that we are dealing with a potent virus we should exert every effort to get this virus in a bacteriologically pure form and apply it according to the most stringent rules of aseptic surgical technique. The importance of observing such measures can be seen at a glance when we recall that disastrous results not infrequently follow the use of vaccine virus upon an unclean surface resulting in a mixed injection of vaccine with staphylococcic, or streptococcic, and less often with other bacteria, the ultimate result being an extremely ugly sore at the seat of vaccination, marked constitutional disturbance, and sometimes necessitating the amputation of a limb, while death has resulted from such injections.

On the other hand we have numbers of cases, not only from our own record books, but from men who are recognized authorities on the subject, which show that a bacteriologically pure virus applied according to a surgically clean method is perfectly harmless. The vaccination running a normal course, without any danger whatever to life, or even the loss of a member, and causing only very slight constitutional disturbance.

In the operation of vaccination, however, we are not permitted to use the general routine method of cleansing the skin as for operations in general, because the presence of antiseptics or germicides on the surface of the skin renders vaccine inert. Our aim should be, therefore, to remove all available bacteria, using our antiseptic solutions in such a manner as to insure thorough cleansing of the area for operation and yet leave the skin free from all antiseptics. The method I use is as follows: I use vaccine prepared by a firm whose product cannot be questioned as to purity, and as there are several thoroughly reliable firms who prepare vaccine, the choice of vaccine used is left largely to the practitioner's individual opinion as to the best product.

The age of the patient. In the absence of threatened exposure to epidemics, such as smallpox, I am of the opinion that it is better not to vaccinate a child under two years of age on account of the peculiar susceptibility of infants to toxic influences.

The area selected for the application of the vaccine is usually over the lower third of the deltoid, left arm in right handed individuals, right arm in left handed persons, or the lower third anterolateral inner aspect of the thigh.

The location selected having a diameter of three inches is prepared as follows: The operator, with clean hands, scrubs the area thoroughly with tincture of green soap and water. This is removed with

plain sterile water. The area is then washed with carbolic acid, one part, water, 20 parts. This is followed with fifty per cent. alcohol, which removes all traces of the carbolic solution. The area is then rubbed briskly with ether, and finally washed thoroughly with sterile warm water, and dried and covered with sterile gauze.

The operator then makes sure that his hands are surgically clean by soaking in bichloride solution or other antiseptic equally as potent, followed by scrubbing in sterile water and thoroughly dried. Discard the gauze covering the area, and with the skin held steady with one hand with the other take a needle or scalpel which has been previously boiled, make a few scratches from an eight to a quarter of an inch in length and crossed, just deep enough to allow oozing of serum, but not deep enough to allow a free flow of blood. Then break the tube containing the point in a sterile towel and without touching container with the hands remove point and apply vaccine to the scarified area, rubbing thoroughly for at least one minute. Then cover area vaccinated with a shield made of isinglass, previously sterilized. This is held in place by three narrow adhesive strips, two running around the arm or thigh, the other crossing the shield and running directly across the first two strips. This is allowed to remain for four days, and affords the advantage of exposing the area to view without danger of contamination. At the end of four days if no vesicles appear the shield may be removed entirely. On the other hand, if a vesicle has formed we sterilize a large mica shield and put it in place of the first shield, covering the openings for ventilation with sterile gauze.

Following this plan I have yet to have my first case with an extremely sore arm. I get as many successful vaccinations as with the "scratch and go ahead method." While it is a little more tedious it takes less time than dressing even one arm with a mixed infection, to say nothing of the proof which it bears out that vaccination carefully done is harmless.

Dr. A. H. Powers, of Boston, observes:

A healthy person may be vaccinated at any age, but primary vaccination should occur before the child is four years of age unless there is some special reason to contraindicate it.

The site for the vaccination is at the point of the insertion of the deltoid muscle. Unless the patient is distinctly left handed the left arm should be chosen since it is less used, and so any inflammation which may occur will here cause less pain, and exercise will not tend to increase the inflammation except to a slight degree.

In regard to vaccination on the lower extremities it can be said that vaccination here increases the disagreeable symptoms many times. If by chance the vaccination becomes infected with pus germs the inflammation is of a much more severe character and is especially aggravated by any walking of the patient, and it is especially difficult to prevent children from walking or running. The danger of infection is markedly greater here than on the arm.

The arm should be prepared as follows: The skin is carefully cleansed, using soap and water followed by alcohol. No other antiseptic is to be used. The advantage of the alcohol consists in its readily removing any oily material, and after the cleansing the alcohol evaporates so quickly that by waiting an instant the arm is ready for the scarification. The scarification may be performed by a sterile needle, knife, or the point on which the vaccine is received. By quick, short strokes the epidermis should be removed over an area about a quarter of an inch in diameter down to the minute bloodvessels, which will show as minute blood points, but not deep enough to cause the blood to run, since this tends to wash the vaccine away from the wound where it should be applied. Capillary tubes filled with glycerinated lymph are preferred, since maceration of the vaccine material in glycerin for a considerable time causes the pus germs to diminish in numbers and virulence, and the vaccine approaches sterility. This should be applied to the scarified surface and the arm remain uncovered for a considerable time. It requires a much longer time for glycerinated lymph to be absorbed than a watery solution, since the affinity of the glycerin for water draws the serum from the arm at first, and for a time there is no absorption. If the point is used the vaccine should be dissolved in a drop or two of sterile water and then applied to the arm. Working the virus into the scarified patch has seemed to make it rather more certain to have a successful vaccination.

After the vaccine has been absorbed the arm should be protected, and for this protection there is nothing better than plain sterile gauze held in place by adhesive plaster, or bandage, or both.

After a week the arm should be inspected and then carefully dressed again. The frequency with which subsequent dressings are needed varies, but the arm should be constantly protected till the crust dries and falls, leaving the typical scar. In regard to the use of the so called shields only one word is necessary, and that is, do not use them. Perhaps it is not now necessary to speak against them, since experience has shown their fallacies.

If, by chance, the vaccination wound becomes septic the usual measures for any septic wound should be promptly employed till the wound is healed.

Dr. C. T. C. Nurse of Wilkes-Barre, Pa., states:

Vaccination, although a very simple operation, yet requires a careful technique in order to produce good results both for the patient as well as for the physician: at the same time to prevent as much as possible antivaccinationists from having any grounds of complaint. The site of operation is commonly the external surface of the left arm, a little above the insertion of the deltoid muscle, the site being placed somewhat higher in the female than in the male, so as not to infringe upon the occasional mode of dress, requiring short sleeves, etc., by the former. When patients object to this situation, I select, as an alternative, the outer surface of the left leg, about six inches below the outer tuberosity of the tibia.

The site of election is carefully cleansed with soap and water. I use two per cent. mercuric iodide soap for this purpose, the soap is removed by washing the surface with sterile water, the surface is

78 [illegible] [illegible] [illegible]

ends, is released by breaking both ends of the pipette and gently blown out on the scarified surface by means of a small rubber tubing attached to the glass pipette, care being taken not to blow any saliva from the operator's mouth. The vaccine is then thoroughly rubbed into the denuded area with a sterile toothpick. Ten minutes of drying will usually result in a firm blood crust and the absorption of the vaccine.

Subsequent treatment consists in lining the shirt sleeve with freshly ironed linen or flannel. No shield or bandage should ordinarily be used. Lymphangeitis usually responds to hot applications. Sometimes an infected arm will require prolonged treatment, but no infection ought to occur if cleanliness is observed and the crust is carefully protected against breaking.

Before entering upon the actual technique of vaccination as I perform it, I would like to preface a few remarks: In order to be a successful vaccinator one must consider various relative conditions. Of utmost importance, in my estimation, is first to secure a virus of standard quality, and we may well depend upon the vaccine virus prepared by our Board of Health, being careful to notice that the virus is not over three months old and that it has been kept in a cold place. Secondly, it is essential that the strictest precautions are taken as to sterility of field of vaccination and paraphernalia used; and, thirdly, the cleanliness of vaccinator.

My technique is as follows: I prepare my virus for use in the following manner: With a piece of sterilized gauze or cotton I break off both ends of the glass tube containing the vaccine virus, and then insert one end into a small piece of rubber tubing. I then proceed to sterilize the surface to be vaccinated, usually selecting the left arm, particularly in right handed adults, the actual point of vaccination corresponding to about from one inch to one and a half inches below the insertion of the deltoid muscle. I carefully scrub the arm with tincture of green soap, and follow by absolute alcohol. Having my field perfectly sterilized, I blow out the virus from the glass tube container upon the flat end of a slip of wood (sterilized toothpick), and with a sterilized needle scarify the surface about from one sixteenth to one twelfth inch in diameter, sufficiently to bring a little serum to the surface (it is not necessary to pick a deep hole in the skin), and then rub the virus on the flattened end of the toothpick) over the scarified area very thoroughly; I allow it to dry, and the vaccination is complete. I have the vaccinated surface covered for protection by suspending a piece of sterilized gauze over it—(I do not believe in a regular vaccination mask).

Dr. Charles Haase, of Elmira, N. Y., states:

While the patient is baring his left arm and removing all clothing or bands that may be constricting his arm and causing hyperæmia, I place an applicator, sterile cotton, vaccine tube and bulb, vaccination shield and adhesive plaster, lance, and the following solutions in bottles: Fifty per cent. tincture of iodine, pure carbolic acid, alcohol, and boiled water on a freshly laundried towel. Over the insertion of the deltoid muscle I paint an area, the size of a silver dollar, with fifty per cent. tincture of iodine. When this surface is dry I wipe it with a pledget of cotton moistened with water, then wipe it dry.

A one fourth inch square of skin is carefully scraped from the centre of the painted area, so that only serum oozes. If possible avoid drawing blood, and this can usually be done by avoiding hyperæmia of the arm, by gently painting and wiping the surface to be vaccinated, by gentle scraping, and by not making cuts with the lance. The iodine solution makes it easy to remove the scarf skin, as after being painted with iodine it scrapes off readily in one layer. For scraping I use a small chisel pointed lance, one like that used in performing von Pirquet's tuberculin test. The lance is sterilized in pure carbolic acid, then dipped in alcohol, and then in the boiled water and dried. The individual vaccine tube is passed into the rubber bulb, wiped with alcohol, boiled water, and dry cotton; then both ends broken off, the virus expelled and gently rubbed into the denuded surface, avoiding the flow of blood. Now fasten with good adhesive plaster a large, high crowned celluloid shield over the site of vaccination.

Some girl patients I vaccinate on the inner side of leg, just below the knee.

I have had two patients faint and have had others scream and struggle while being vaccinated. This can usually be avoided by diverting their mind from the operation, by talking to them, asking them about their playmates, etc.

After completing the operation I tell the patient, or if the patient is a child I also tell whoever comes with him, "You are not to touch the sore or to allow your clothing to touch it. If the shield comes off sew a freshly laundried clean piece of white cloth to the inner side of the underclothing right over the vaccination. Change this cloth as often as it becomes soiled and at the same time wash the sore with clean boiled water, using absorbent cotton. Come back a week from to-day, as I wish to examine the arm, but come sooner if the arm becomes swollen or the shield becomes soiled with discharge."

When the patient returns I dress the arm and instruct him how to do it, if it is necessary. If the scraped area is dried up, I ask the patient to call again in six days, when, if necessary, I again inoculate them.

Correspondence.

LETTER FROM LONDON.

A Discussion on Syphilis and Its Treatment, Especially with "606."—Tonsorial Hygiene.—Women in House Staff Positions.

LONDON, *December 21, 1910.*

At a recent meeting of the Harveian Society, Mr. Ernest Lane read a paper on the treatment of syphilis, restricting his remarks to a consideration of the value of the various arylarsonates, atoxyl, arsacetin soamin, or sudan, and the more recently introduced "606." While admitting their value, he recalled the fact that irremediable blindness had followed the use of some of them, which had led him to abandon them. Speaking of "606," he deprecated the ad-

vertisement it had received in the lay press. He referred to the excellent results obtained with it by Professor Wechselmann. There was another side to the picture to be considered. Ehrlich himself had admitted that there were many conditions in which the employment of "606" was inadvisable. Two cases of blindness had been recorded and two others hinted at. Twelve deaths following its use were incontestable. Early recurrences of symptoms were frequent and the drug had not been long enough in use for any one to speak positively on the question of late recurrences. He had submitted some of his own cases to injection by Sir Almroth Wright and Mr. J. E. R. Macdonagh. The results were in the main favorable so far as he could judge in so short a time, but no better than he would have expected from mercurial treatment. One case of syphilitic ulceration improved temporarily, but soon relapsed; another injection was given, followed again by improvement and another relapse, the ulceration spreading to twice its former size. The condition was now improving on intramuscular injections of gray oil. This case had been somewhat prematurely recorded as one of the successes of "606." Another case was malignant syphilis which had resisted mercury, and the patient received no benefit from "606," but died some ten weeks after the injection. Other cases were mentioned in which the improvement was not particularly satisfactory, although the Wassermann test became negative. Of his seventeen cases, five certainly called for no enthusiasm. Syphilis was a mild disease generally, perfectly amenable to mercury. Intolerance of that drug was rare and would be the only justification for looking elsewhere for a remedy. In appropriate cases "606," like the other arylarsonates, was of value. Laboratory research in syphilis, as in other diseases, was of great importance, but should not replace the results of clinical experience.

Dr. W. d'Este Emery then spoke on the modern ideas of the pathology of syphilis. He dealt especially with the Wassermann reaction, allowing for his own modification the advantages of rapidity and accuracy. He urged particularly the importance of testing all cases quantitatively. He believed that when a quantitative method was used and interpreted in the light of the clinical history, the percentage of error was extremely small.

Sir Almroth Wright dealt with the matter from the laboratory standpoint. He considered that "606" undoubtedly caused the disappearance of the spirochætæ and therefore cured syphilis, clinical manifestations to the contrary notwithstanding; these he thought were probably due to a secondary streptococcal or staphylococcal infection.

Mr. Campbell Williams drew attention to three deaths following the injection of "606" additional to the twelve mentioned by Mr. Lane. In view of the risks attached to its use, he suggested a form to be signed by the patient for the surgeon's protection. Many of the cases reported as having been cured by "606" were nervous affections generally regarded as parasyphilitic and on which theoretically it should have no action. If it were ultimately found to have this specific action we should have to alter our views as to their pathology.

Mr. Lane, in reply, argued that, syphilis being a mild disease, a dangerous treatment such as the injection of "606" was not justifiable.

Recently there have been several legal actions taken against hairdressers claiming damages for skin diseases produced by "foul shaves." Probably as a result of this, hairdressers' associations in various parts of the country have appointed medical advisers for the purpose of instructing them in modern aseptic methods of hairdressing. One of the functions of the medical advisers is to give occasional lectures, and a very interesting one was recently delivered to the Salford Hairdressers' Association by Dr. Wolstenholme. The lecturer defined the meaning of "foul shave" and "clean shave." By a clean shave was meant that which not only made a person look clean, but left no disease behind it, and to this end the hands and all the appliances of the barber as well as the face of the customer must be free from germs that cause disease.

He next gave a popular account of the general characters of bacteria and pointed out that most of the diseases of special importance to hairdressers were due to germs which were always to be found on the skin, lips, hands, and mouth of both the hairdresser and the customer, and that to cause local disease there must be some abrasion or some irritation of the skin. The germs might be carried by any of the appliances used by the barber, such as towels, brushes, the fingers used in lathering, the razor, sponges, etc. Referring to prosecutions against hairdressers, he said it was absolutely necessary in every case for the barber to be able to prove that he had taken every possible precaution in sterilizing his implements and using antiseptics to prevent the possible spread of disease.

The recent agitation among medical women in Manchester for permission to enter resident posts at the Royal Infirmary has led the board of management of the infirmary to create one or more posts open to women. The medical department of the Victoria University of Manchester has now for some time permitted women to qualify in medicine, but it was a source of considerable dissatisfaction to them that they were not admitted to resident posts at the infirmary after qualification in the same way as the men. The board of management came to the conclusion at first that it was impracticable to appoint women to resident posts, but after repeated discussions a special subcommittee was appointed to consider the question of how the postgraduate education and training of medical women could be assisted. The committee has now issued its report, and the following are suggested as conditions to be attached to the new posts: Only fully qualified medical women who have been students throughout their whole course at the infirmary shall be eligible, and the posts are to be tenable for six months with an honorarium of £35 for the period. Candidates are to be appointed for merit only, without any prescriptive right. They shall attend at the infirmary daily from 9 a. m. to 6 p. m., except that attendance on Saturday after 1 p. m. and on Sunday shall be optional. Their work shall be for two months in the women's medical wards, two months in the women's surgical wards, and two months in the special departments. They shall work with and

under the immediate supervision of the resident medical or surgical officer, and of the senior house physician or surgeon of the unit, or the house surgeon of the special department, performing the duties allotted to them by the honorary physician or surgeon in charge. While in the special departments they shall assist if required in the out patient department during the attendance of the honorary officer. They shall assist if required at operations while engaged in the surgical wards or the special departments. They shall live as near as possible to the infirmary, providing their own board and lodging. When in the infirmary and not on duty they shall occupy the women students' room and shall conform to the usual regulations and to any additional by laws which may be laid down by the board of management. It will be seen that the special committee still adheres to the view that it is not practicable to appoint women to the resident posts. Lady students and practitioners will probably not be satisfied with these conditions as not giving them the opportunity of taking a responsible post in the hospital similar to that occupied by a house physician or house surgeon.

Therapeutical Notes.

Phenolphthalein Laxative Compound.—In the issue for January 7, 1910, a correspondent of the *Journal of the American Medical Association* communicates a formula for a phenolphthalein laxative compound containing the following ingredients:

℞ Phenolphthalein, ... gr. cxxviii;
Salicylic acid ..... gr. xl;
Baker's chocolate, ... 3ii;
Syrup of acacia, ...q. s. ad 3xvi.

Melt the chocolate by aid of heat, mix with the syrup of acacia, then add the salicylic acid and phenolphthalein and mix thoroughly. Dispense with "shake label." Dose: One to three teaspoonfuls. Each fluid drachm contains about 1/15 grain salicylic acid and one grain phenolphthalein.

[As originally printed the quantity of syrup of acacia directed to be added to this prescription was 3i. This was so obvious an error that we had no hesitation in altering the line to read as printed above.—Abstracter.]

Stock Mixture in Scarlet Fever.—The routine use of salicylates and salol in the home treatment of scarlet fever finds an advocate in F. G. Crookshank, who contributes an article on The Diagnosis and Home Treatment of Scarlet Fever to the December number of the *Practitioner*. The treatment seems to have some reasonable basis, according to him, and he is confident that it prevents rheumatism at least. The mixture he prescribes is as follows:

℞ Potassium salicylate, ... gr. x;
Tincture of nux vomica, ... mviii;
Tincture of capsicum, ... miii;
Syrup of orange peel, ... 3ss;
Water, ... ad 3i.
M.

Such a draught may be given every four hours to a child twelve years of age. If the temperature rises, the dose of salicylate should be increased; as the temperature falls it should be lessened, but not abolished until the fever is quite gone.

The author advises the use of salol suspended in the liquid food in some instances. Salol may be given freely, five grains every three or four hours, for several days at a time, even to children, though a watch, of course, should be kept for saloluria. In septic cases it sometimes does great good; but it must be given till the patient reeks of it.

Expectorant Mixture for Children.—In the treatment of bronchitis and bronchopneumonia in children, Sheffield, in *Merck's Archives* for December, 1910, says the following mixture will induce free expectoration:

℞ Ammonium carbonate, ... 3ss;
Wine of ipecac, ... 3ss;
Compound syrup of squills, ... 3i;
Syrup of senega, ... 3i;
Syrup of tolu, ... 3iv;
Distilled water, ...q. s. ad 3ii.
M. et Sig.: One teaspoonful every [illegible] for a child two years old.

The Treatment of Aortic Aneurysm.—Robin is cited in the *Quinzaine thérapeutique* for December 10, 1910, as favoring the employment of gelatin hypodermically in the treatment of aortic aneurysm. The action of gelatin is difficult to explain, but Robin has observed, in twenty patients so treated, nine who had been greatly benefited by it.

The solution employed by him is as follows:

℞ Gelatin, ... 4.55 grammes;
Sodium chloride, ... 1.40 grammes;
Distilled water, ...200.00 grammes.
Ft. solutio.

In preparing such a solution it is important that the gelatin should first be thoroughly sterilized.

The injection should be made very slowly. Beginning usually with 40 c.c. this is repeated every fifteen minutes until 100 c.c. are injected, though up to 200 c.c. has been given by Lancereaux. The injections are made once a week; they are not painful as a rule; but any pain that may be felt can be relieved by the application of warm compresses.

After the eighth or tenth injection the throbbing of the arteries decreases, but it may take thirty or forty injections to bring about a marked improvement.

Treatment by potassium iodide should be modified according to whether or not the patient is a syphilitic subject. It is know that about 60 per cent. of the cases of aortic aneurysm are of syphilitic origin, and in these cases the potassium iodide should be combined with mercury, as in the following formula:

℞ Red mercuric iodide, ...gr. iij;
Potassium iodide, ...3v;
Distilled water, ...3iv;
Syrup of viola tricoloris, ...3viss;
Simple syrup, ...3ss.
M. et Sig.: One tablespoonful twice daily before meals.

For nonsyphilitic subjects, the following is prescribed:

℞ Potassium iodide, ...3iiss;
Chloral hydrate, ...3i;
Lactated pepsin, ...
Distilled water, ...3viss.
M. et Sig.: One tablespoonful twice daily.

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NEW YORK, SATURDAY, JANUARY [illegible]

THE NEW YORK HOSPITAL.

One hundred and forty-seven years have passed since the foundations were laid at Broadway and Duane streets for the first building of the New York Hospital. Announcement is now made that a site has been purchased for a new building on the North River at Fifty-fourth street which will cost, when complete, something like three million dollars. Between the unpretentious building which, in its incomplete state, served as barracks for the British troops and the handsome, costly, and modern structure which, in a few years, will look out on the broad waters of the Hudson there will be a world of difference. But the physical differences between the buildings will not be so great as that which will exist between the equipment and methods pursued in them.

Then we knew nothing of antisepsis or of anæsthesia, the two agents which have made modern surgery possible. The healing of a wound by first intention was merely a happy and an unusual chance. Laparotomy was almost equivalent to manslaughter, and the primeval curse, "in sorrow thou shalt bring forth children," was visited without possibility of mitigating its pain upon all suffering mothers.

Through all the years since the granting of its charter by King George the New York Hospital has ministered to the sick and the suffering freely and regardless of creed, color, or condition. Its halls have seen the passing of a noble army of grave and learned men bent on the alleviation of human ills and striving to uplift the profession of medicine.

Its field of usefulness has spread until now it [illegible] an [illegible] hospital on Hudson street, the Bloomingdale Asylum for the Insane and the Pavilions for Convalescents at White Plains. Truly this century and a half of the life of the institution has been well spent and its friends, who are many, will be glad to learn that it is about to enter on a still broader sphere of usefulness and activities.

THE STRUCTURE AND IMPORTANCE OF THE HUMAN HEART IN THE LITERATURE OF CLASSICAL ANTIQUITY.

Professor L. Aschoff publishes in *Janus* for December, 1910, a dissertation written by Mühsam, a German medical student of the University of Freiburg, who died during his state examination before acquiring the degree of doctor of medicine. The essay shows such immense labor and such great acquaintance with the writings of classical antiquity that we think our readers will be interested in a short review:

The teachings of the structure and importance of the human heart have had a progressive development, although we read in the oldest medical work which we possess, the *Papyrus Ebers*, written about 1500 B. C., that the Egyptians well knew the importance of the heart: "Man has twelve heart vessels which go to all the members of the body," and "the heart is the centre of all vessels." But this knowledge was lost during the following years, and it took many centuries before the real importance of the heart was again brought forward.

During this time three periods are described by the author, who bases his dissertation upon the writings found in the *Corpus hippocraticum*, and quotes from the French translation by E. Littré, *Œuvres d'Hippocrate*, volume ix, Paris, 1861, and the German translation by R. Fuchs, *Hippokrates sämmtliche Werke*, Munich, 1895-1900: In the first period the centre of the bloodvessels was placed in the head, i. e., the brain, the heart not being mentioned at all. The first writer of this period was Alcmæon of Croton. He and the following authors (Syennesis of Cyprus, Polybos, etc.) speak of eight vessels which go from the brain to the upper and lower extremities, communicating with each other. These authors described a left and right vessel which connected in the abdomen with the liver, respectively, the spleen. The second period, represented by Diogenes of Apolonia, transferred the centre of the vessels to the abdomen, where the hepatic and splenic arteries were described, and the heart was spoken of as a "clearing house" for all vessels. Later on we find, leading over to the third period, writers (Athenæus) who described the heart as the origin of the arteries and the liver as the source of the veins, which statement is also

made by Galen. The father of the third period is said to have been Empedocles of Acragas (about 495 to 435 B. C.). The best description of the heart of this period Mühsam found in the chapter *περὶ καρδίης*, Littré, ix, p. 80. *et seq.*; Fuchs, i, p. 146, *et seq.* The description of the authors of this period came very near to our present knowledge.

These three periods cannot be exactly separated, and the time when the authors whose writings appear in the *Corpus hippocratium* lived is in dispute.

But the essay contains many more interesting items. Mühsam takes up a defence of Aristotle, whose appearance designates a great turning point in medicine (Pagel), against the accusation that he knew very little of the anatomy of the human heart, although he was well acquainted with the hearts of animals. Our author reviews the great Greek philosopher's knowledge of anatomy as it is found in his works, and states that without question Aristotle was well acquainted with the anatomy of the human heart. Mühsam then speaks of Herophilus, Erasistratus, the Empirics, the Methodics, and the Pneumatics, and finally of Galen, and gives a very good description of their knowledge of the human heart.

With Galen anatomy—we may well say medicine—came to a standstill. Byzantines and Arabs collected, translated, and expounded the writings of antiquity. The Middle Ages studied anatomy on the pig, because Galen had stated that the pig was very similar to man in its anatomy, until Mondino da Luzzi (1250-1325?) took up the dissection of man, Vesalius (1514-1564) reformed anatomy, and William Harvey (1578-1657) first described the circulation of the blood.

THE PUBLIC HEALTH SERVICE.

In the mass of reports, suggestions, and recommendations which have been submitted to Congress by the various government officials there appears a plea for the support of the Public Health and Marine Hospital Service which assuredly deserves the favorable action of Congress. The Secretary of the Treasury, in his annual report to the Speaker of the House of Representatives, refers to the service in the following words:

> Whatever action may be taken by Congress now or hereafter with regard to the proposal of associating other bureaus of the government with the Public Health and Marine Hospital Service, it is quite clear that the usefulness of this service along the lines of sanitation and public health should be continuously developed. This service has been greatly developed under the encouragement of Congress and this development should not be interrupted. The service is in a condition to rapidly increase its usefulness and its value to the nation both on its research side and on the side of its administration. It should be placed by Congress where it can compete for its personnel with the other institutions of the country which create such an active competition for the strong men in the professional lines it includes. It is of great consequence to the nation that this service should continue to be manned as ably as possible. These are considerations entirely detached from the question of the organization of a department of health or the bringing together of various bureaus of the government. The continuous important development of the present service would still be as necessary under a new association of bureaus as it is now, and development now would not in any way concern these other questions of organization.

The members of Congress, to whom this recommendation was addressed, should not fail to act on it favorably and give to the service the liberal support which it so richly deserves. There is probably no department or bureau of the government service which has so well earned the gratitude of the public as the Public Health and Marine Hospital Service. In the prevention and control of epidemics alone it has demonstrated its great public value, and this is but one of its manifold activities, which include the inspection of immigrants and various other lines of work in connection with the conservation of the public health.

The legislators, in considering the claims of the service, must bear in mind that, with the improvement in the equipment of medical men, there has come a great increase in the cost of education, both in time and in money. Consequently the physician of a type suited for the work of the service is entitled to and should receive a higher rate of compensation than has been paid in the past. The bureau must compete for the services of these men with institutions able and willing to pay the higher rate of salary deserved by the men's superior equipment and demanded by the increased cost of living. If the service does not offer opportunities at least on a par with those offered elsewhere, it cannot hope to bring into its ranks the best of the younger men, the men of the type which will build up and broaden the usefulness and value of the bureau.

VEGETARIANISM AND MENTAL AND PHYSICAL EFFICIENCY.

In a book which has recently come to our notice, *A Fleshless Diet*, the author, Dr. J. L. Buttner, of New York, makes out a good case for exclusive vegetarianism on the part of convalescents, patients preparing for surgical operation, and the victims of gout, rheumatism, and skin diseases. But we find it difficult to agree with him in deeming the appetite for meat to be an acquired one; for we know that one of the great joys a European peasant emigrant promises himself is to eat meat three times a

day shortly after landing in this country, and his previous indulgence therein can hardly be said to suffice to create any artificial appetite. Furthermore, there seems to be no doubt that the Japanese army was obliged to have recourse to a meat ration before it had been long in the field against the Russians. At the same time, we are not disposed to say that a vegetable diet is prejudicial to physical efficiency, as the experiments made on athletes prove to the contrary. While Dr. Buttner's volume may be accepted as exhibiting mental acumen and logical power on the part of at least one abstainer from meat, the case of Tennyson should not be overlooked. He tried to subsist on an exclusively vegetable diet for a short time, but was compelled to desist, as he found his vigor, both mental and physical, was deserting him. As regards meat, there can be no doubt of its bacteria carrying properties, or of the strain it throws upon the organs of digestion and elimination, particularly of individuals who do little physical work out of doors.

DIMINISHING INFECTIOUS DISEASES.

Cholera asiatica, typhus, variola, once common diseases, have become so rare that many middle-aged physicians have never seen a case. Yellow fever and typhoid have become rare in localities which they ravaged only a few years ago; malaria has become practically extinct in some places, apparently mainly on account of drainage.

Antidysenteric and antityphoid inoculations have reduced the incidence of these diseases by half or more in a large series of trials, as contrasted with the nonimmunized bulk of the population and have, furthermore, reduced the mortality among the inoculated who later contracted the disease. General Leonard Wood has recently ordered the adoption of antityphoid inoculation for our own army. Various circumstances, however, render such prophylactic measures available only in the face of a threatened epidemic, or according to individual choice, and the protection is neither so nearly absolute, so permanent, nor so free from intrinsic danger as antivariolar vaccination. Moreover, without disputing the value and accuracy of the statistics concerning these diseases, it should be remembered that the small portion of the civil or military population which seeks prophylactic inoculation, possesses a far higher intelligence and sense of caution than the rest of the population and would, independently of specific immunization, have a lower incidence and mortality for practically every disease.

We believe that an unbiased consideration of actual accomplishments justifies the belief that, exclusive of smallpox, immunization methods have, thus far, produced far less benefit than physical and antiseptic procedures. It is difficult to judge between the last two, especially as sanitary engineering includes antiseptic measures or, in many instances, chooses between physical and germicidal methods, according to convenience and economy.

The fact remains that while the profession has for several years, rather contemned the use of antiseptics, either for surgical, alimentary, or systemic purposes, their use is still in vogue; these agents have been critically tested and, on the whole, have justified their existence. Passing without comment the uses of mercury, quinine, and salicylates, according to modern methods; including the use of antiseptic solutions and sterilized salt solution in tiled operating rooms, it is only just to say that we owe much to chemical bactericides.

Colloidal silver, though falling far short of the exaggerated statements made by its promoters, has turned the balance in many cases of diffuse sepsis, not amenable to radical operation. Mercurial inunctions have been experimentally demonstrated to abort syphilis by killing the spirochætæ in the initial sore. Proteid combinations of silver have aborted gonorrhœa in many cases, and gonorrhœal ophthalmia may be considered almost absolutely preventable and even curable, when treated in the early stage, by the old fashioned nitrate salt of silver. Injections of silver compounds into boils and carbuncles, and the application of high frequency currents to slightly deeper seated septic lesions are of demonstrated value.

The profession has passed through an attack of hysteria induced by the possible availability of lactic acid bacilli to combat putrefactive germs in the alimentary canal and, incidentally, do away with old age. Meanwhile, the more conservative element which has taken pains to ascertain in advance whether the condition was properly one of putrefaction, or one due to overproduction of lactic acid bacilli, still regards lactic acid cultures as of use in therapeutics, but it has continued to empty the alimentary canal, to regulate the diet, and to use various despised antiseptics. It is not with any idea of producing absolute sterility that they do this, but with the reasonable expectation of reducing virulence and with the clinical satisfaction of witnessing the gradual disappearance of gaseous distention, of indol from the fæces, and of indican from the urine.

"Typhoid carriers," concerning which the sanitarian was in blissful ignorance until a recent period, have aroused fear and speculation as to their medicolegal status. Much interesting bacteriological and pathological data have accumulated as to the persistence of typhoid bacilli in the urine, and in the biliary passages, where they may lead to the formation of calculi. The conception of typhoid

as a chronic, personally harmless, infection of years' duration should also be taken into account. Much research is required to establish the actual value of drugs used in the treatment of infectious diseases, but if they are effective in only a small minority of cases and require prolonged administration, there is reason for optimism with regard to future modifications of their composition and properties.

News Items.

Personal.—Dr. David W. Edsal, of Philadelphia, has resigned his post as professor of medicine in the School of Medicine of the University of Pennsylvania, his resignation to take effect at the close of the academic year, and has accepted the chair of preventive medicine in Washington University, St. Louis.

A Postgraduate Course at the Phipps' Institute.—It is been arranged that a postgraduate course for the study of tuberculosis will be provided at the Phipps' Institute, Philadelphia, under the direction of the University of Pennsylvania. The institute has also decided to appoint an interne, who will take up his residence there on July 1st and will receive a salary.

Two Years at College as a Preliminary to Medical Study.—At the recent convention of the Ohio State Medical Teachers, held in Columbus, resolutions were adopted urging the passage of a law to require two years of work in a college as a preliminary to entrance to the study of medicine. Dr. Kennon Dunham, of Cincinnati, was elected president of the association.

The Twenty-fifth Anniversary of the Society of Alumni of Bellevue Hospital will be celebrated on February 28th. There will be a reunion in the afternoon and a reception in the evening, followed by a banquet. Dr. John Winters Brannan, a member of the society, will act as host in the new buildings, and the present staff of the hospital will receive their predecessors in their old rooms.

Governor Dix Recommends Single Headed Lunacy Commission.—It is reported that the new Governor of the State of New York advocates the reduction in size of various boards and commissions, such as the Aqueduct Commission, the Lunacy Commission, etc., and that he will recommend that the work of the State Lunacy Commission be entrusted to one man instead of to a board as at present.

Merger of the University of Colorado and the Gross Medical School.—The merger of the Gross Medical School and the University of Colorado Medical School has been completed, the Archer residence, at Thirteenth and Welton Streets, having been refitted to suit the purposes of the institution. For the present the junior and senior classes only will meet in Denver, the other two classes re- [illegible] as heretofore.

A "Symposium" on "606" at the New York College of Pharmacy.—On the evening of Tuesday, January 17th, Mr. Hermann Metz, former Comptroller of the city of New York, will read a paper on The Role of the Dye Stuff in Medicine, Dr. Robert A. Hatcher will speak on the New Chemotherapy, and Dr. John A. Fordyce on The Clinical Results from the Administration of "606." This programme will be preceded by the regular meeting of the college, and the papers will probably not be reached until about a quarter past nine. Doctors and druggists generally [illegible]

The Bellevue Hospital Alumni Society Awards Prizes. The two annual prizes, amounting to $100 each, which are offered by the Society of Alumni of Bellevue Hospital to the members of the house staff for the two best papers based on observation and clinical studies, have been awarded this year to Dr. Alexander Hunter Schmitt, for an essay entitled The Relation of the Cervical Smear to the Diagnosis and Treatment of Diseases of the Falloppian Tubes, and to Dr. Frederick Lane Brown, for an essay entitled The Report of a Case of Infectious Endocarditis Associated with an Unidentified Liquefying Bacillus.

The Medical Society of the Borough of the Bronx.—At a stated meeting of this society, held on Wednesday evening, January 11th, the programme included two papers, as follows: Internal Secretion, with special reference to the Adrenal System, by Dr. William Weinberger; Radiographic Studies of Common Fractures, by Dr. W. H. Stewart. Dr. Stewart's paper was illustrated with lantern slides. The officers of this society for the year 1911 are as follows: President, Dr. Thomas D. Brown; first vice-president, Dr. Edward F. Hurd; second vice-president, Dr. Clarence H. Smith; secretary, Dr. John B. Talmage; treasurer, Dr. Clarence A. Holmes; financial secretary, Dr. Herman T. Radin.

The Medical Association of the Greater City of New York will hold its annual meeting on Monday evening, January 16th, in Du Bois Hall, New York Academy of Medicine. Officers for the year 1911 will be elected and the reports of the council, the corresponding secretary, and the treasurer will be submitted. Papers will be read as follows: Notes on the Surgery of the Prostate Gland, by Dr. Kingman B. Page; What is Rheumatism, by Dr. Herbert C. de V. Cornwell; Arthritis Deformans and Its Relation to Intestinal Putrefaction, by Dr. Edward E. Cornwall; The Surgical Treatment of Arthritis Deformans, by Dr. Fred H. Albee; Tendon Transplantation, by Dr. Reginald H. Sayre. Each paper will be discussed.

Philadelphia Hospitals Ask for One Million One Hundred and Thirty-five Thousand Dollars.—In the estimates which are being submitted to the Pennsylvania Legislature by the Board of Public Charities the sum of $14,500,000 is asked for, of which $1,135,000 is the sum proposed for six of the leading hospitals of Philadelphia, as follows: Hahnemann, $130,000 for maintenance; Jefferson, $200,000 for maintenance and $100,000 for new buildings; Medico-Chirurgical, $150,000 for maintenance and $50,000 for new buildings; Polyclinic, $75,000 for maintenance and $40,000 for new buildings; St. Joseph's, $70,000 for maintenance and $20,000 for new buildings; University, $150,000 for maintenance and $150,000 for new buildings.

Criminality.—At a stated meeting of the New York Academy of Medicine, to be held in Hosack Hall on Thursday evening, January 19th, under the auspices of the Section in Neurology and Psychiatry, the subject of criminality will be discussed from the sociological, medical, and legal points of view. The following papers will be read: Some Social Causes of Criminality, by O. F. Lewis, general secretary of the Prison Association; The Criminal from a Medical Point of View, by Robert B. Lamb, M. D., superintendent of the Matteawan State Hospital for the Criminal Insane; Legal Aspects and Problems of Preventive Measures, by the Hon. Julius M. Mayer; The Mentally Defective Child and the Law, by Ernest K. Coulter, M. D.

The Eastern Medical Society of the City of New York.—At a stated meeting of this society held on Friday, January 13th, the programme consisted of the presentation of patients and the report of cases, among those presenting reports being: Dr. Howard Lilienthal, Dr. Morris Manges, Dr. John A. Bodine, Dr. Wolff Freudenthal, Dr. I. Strauss, Dr. A. I. Rongy, Dr. Maurice Packard, Dr. M. M. Stark, Dr. M. Neustadter, Dr. Henry Levien, and Dr. Charles Goodman. The officers of this society for 1911 are as follows: President, Dr. Emil Altman; first vice-president, Dr. Joseph Barsky; second vice-president, Dr. Joseph Bieber; recording secretary, Dr. Samuel A. Tannenbaum; corresponding secretary, Dr. Harry E. Isaacs; treasurer, Dr. Morris Cisin.

The Philadelphia College of Physicians.—At the annual meeting of the college, held on January 6th, Dr. G. E. de Schweinitz delivered the presidential address. Addresses also were made by Dr. Judson Daland, Dr. Jay F. Schamberg, Dr. Nate Ginsburg, and Dr. S. Solin-Cohen. Dr. de Schweinitz was reelected president and other officers were elected as follows: Vice-president, Dr. James C. Wilson; censors, Dr. Richard A. Cleeman, Dr. S. Weir Mitchell, Dr. Louis Starr, Dr. Arthur Meigs and Dr. James Tyson; secretary, Dr. Thomas R. Neilson; treasurer, Dr. Richard H. Harte; honorary librarian, Dr. Frederick P. Henry; library committee, Dr. William J. Taylor, Dr. S. Weir Mitchell, Dr. Francis R. Packard, Dr. George W. Norris, and Dr. Astley P. C. Ashhurst; committee on Mütter Museum, Dr. George McClellan, Dr. Henry Morris, and Dr. George P. Muller.

The Iroquois Memorial Hospital, of Chicago, which was erected as a permanent memorial to the six hundred victims of the Iroquois Theater fire, was formally turned over to the city on December 20th, on the occasion of the seventh anniversary of the disaster. The hospital was built with funds raised by the Iroquois Memorial Association and the equipment and furnishings were paid for by the city. It is situated in the heart of the business section and will be operated as an emergency hospital.

The Ontario Medical Association.—The thirtieth annual meeting of this association will be held in Niagara Falls, Canada, on May 30 and 31st, and June 1st, at the Clifton House. Preparations are being made to make this meeting a great success, and a provisional programme will be issued shortly. The officers of the association are: President, Dr. H. R. Casgrain, of Windsor; general secretary, Dr. F. Arnold Clarkson, of Toronto; local secretary, Dr. Norman Walker, of Niagara Falls; treasurer, Dr. J. H. Mullin, of Hamilton; chairman of the Committee on Papers and Business, Dr. E. E. King, of Toronto; chairman of the Committee on Arrangements, Dr. F. W. E. Wilson, of Niagara Falls.

The Health of Philadelphia.—During the week ending December 24, 1910, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Typhoid fever, 21 cases, 7 deaths; scarlet fever, 46 cases, 3 deaths; smallpox, 1 case, 0 deaths; chickenpox, 54 cases, 0 deaths; diphtheria, 81 cases, 21 deaths; measles, 223 cases, 6 deaths; whooping cough, 36 cases, 1 death; pulmonary tuberculosis, 82 cases, 48 deaths; pneumonia, 48 cases, 79 deaths; puerperal fever, 0 cases, 3 deaths; erysipelas, 6 cases, 1 death; mumps, 7 cases, 0 deaths; tetanus, 0 cases, 1 death. There were 7 deaths from tuberculosis other than that of the lungs, and 18 from diarrhœal diseases under two years of age. There were 28 stillbirths: 21 males, and 7 females. The deaths from all causes numbered 517, in an estimated population of 1,598,400, corresponding to an annual death rate of 16.82 in a thousand of population.

The Boston University Medical School.—The foundation was recently laid for the new building which is to be erected on East Concord Street on land which has been donated to the Boston University School of Medicine by the trustees of the university. The building is a gift of the widow of the late Robert Dawson Evans, of Beverly. The sum of $100,000 has been given for the cost of contruction and equipment and a like sum has also been given as an endowment fund to defray expenses in original research work which will be conducted under the auspices of the faculty of the Medical School and the surgeons of the Homœopathic Hospital. The first two stories of the building will be set apart for ward rooms and laboratories and the third story will be made into a large auditorium wherein public lectures will be given to explain what progress is made in the research work of preventive medicine. Dr. J. Herbert Moore, for several years professor of children's diseases, has been elected professor of materia medica. Dr. Nelson M. Wood, formerly instructor in sanitary science and hygiene has been elected assistant professor of children's diseases. Dr. J. Walter Schirmer becomes instructor in sanitary science and hygiene in place of Dr. Nelson M. Wood.

Vital Statistics of New Jersey.—The number of deaths reported to the State Board of Health by the Bureau of Vital Statistics for the month ending December 10, 1910, was 2,977. By age periods there were 455 deaths among infants under one year, 221 deaths of children over one year and under five years, and 1,009 deaths of persons aged sixty years and over. Pneumonia and diseases of the respiratory system show the highest death rate, the number of deaths from pneumonia for the month being 247, an increase of 104 over the previous month. The total number of deaths in the State was 2,977, which is 259 less than the average for the previous twelve months. The deaths from important causes were as follows: Typhoid fever, 38; measles, 11; scarlet fever, 8; whooping cough, 26; diphtheria, 81; malarial fever, 2; tuberculosis of lungs, 292; tuberculosis of other organs, 41; cancer, 150; diseases of nervous system, 374; diseases of circulatory system, 397; diseases of respiratory system (pneumonia and tuberculosis excepted), 229; pneumonia, 247; infantile diarrhœa, 83; diseases of digestive system (infantile diarrhœa excepted), 173; Bright's disease, 234; suicide, 34; all other diseases or causes of death, 557.

A Busy Year for the University of Pennsylvania Hospital.—According to a report of the year's work of this institution which has just been made public, 3,317 operations were performed at the University Hospital for the year 1909-10, of which 316 were for appendicitis. Two hundred and twenty-five babies were born in the hospital and 13,985 patients were treated in the dispensary. The following donations were received during the year: $50,000 from the estate of Caroline Emily Richmond, to establish the Caroline Emily Richmond Fund. $8,016 from the estate of Alfred Kay, for the purpose of endowing free beds. $5,000 from Miss Julia Biddle, to endow a free bed. $5,000 from Mrs. John Harrison, to endow a free bed in memory of John Harrison. $6,650 from the estate of Julia G. Dayton, to endow a free bed in memory of William C. Dayton. $2,000 from Miss Marguerite P. Wood, to endow a free bed for children in memory of Mary Hollingsworth Morris Wood.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending January 7, 1911.

	December 31st.		January 7th.	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis	510	150	543	105
Diphtheria	41	25	259	25
Measles	226	7	294	5
Scarlet fever	344	11	430	7
Smallpox	[illegible]	[illegible]	[illegible]	[illegible]
Varicella	[illegible]	[illegible]	134	
Typhoid fever	42	10	47	
Whooping cough	21	5	50	7
Cerebrospinal meningitis	4	5	10	
	583	42	1,583	149

The Health of Chicago.—During the week ending December 31, 1910, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 29 cases, 4 deaths; measles, 79 cases, 3 deaths; whooping cough, 7 cases, 2 deaths; scarlet fever, 163 cases, 12 deaths; diphtheria, 209 cases, 15 deaths; chickenpox, 36 cases, 0 deaths; tuberculosis, 111 cases, 66 deaths; pneumonia, 140 cases, 161 deaths. There were 3 cases of smallpox, 3 of influenza, and 38 of contagious diseases of minor importance reported. The deaths under two years of age from diarrhœal diseases numbered 24, and there were 39 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 168, of whom 115 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 669, corresponding to an annual death rate of 16.0 in a thousand of population, as compared with a rate of 14.5 for the preceding week, and of 16.0 for the corresponding period last year.

Society Meetings for the Coming Week:

MONDAY, *January 16th.*—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York (annual); Hartford, Conn., Medical Society.

TUESDAY, *January 17th.*—New York Academy of Medicine (Section in Medicine); Medical Society of the County of Westchester, N. Y.; Buffalo Academy of Medicine; Triprofessional Medical Society of New York; Medical Society of the County of Kings, N. Y.; Binghamton, N. Y., Academy of Medicine; Clinical Society of the Elizabeth, N. J., General Hospital; Syracuse, N. Y., Academy of Medicine; Ogdensburgh, N. Y., Medical Association.

WEDNESDAY, *January 18th.*—New York Academy of Medicine (Section in Genitourinary Diseases); Woman's Medical Association of New York City (New York Academy of Medicine); Medicolegal Society, New York; New York Society of Internal Medicine; Northwestern Medical and Surgical Society of New York; New Haven, Conn., Medical Association; Buffalo Medical Club; New Jersey Academy of Medicine.

THURSDAY, *January 19th.*—New York Academy of Medicine; German Medical Society, Brooklyn; Newark, N. J., Medical and Surgical Society; Æsculapian Club of Buffalo, N. Y.

FRIDAY, *January 20th.*—New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Postgraduate Medical School and Hospital; New York Microscopical Society; Brooklyn Medical Society.

The Associated Physicians of Long Island.—The annual meeting of the Associated Physicians of Long Island will be held in the Library Building of the Medical Society of the County of Kings, Brooklyn, on Saturday, January 28th. The meeting will be called to order at three o'clock, when reports from all standing committees will be presented. In the Scientific Session, Dr. John B. Deaver, of Philadelphia, will read a paper entitled The Value of Surgical Diagnosis in Upper Abdominal Disease, and Dr. Charles Eastmond, of Brooklyn, will contribute a paper on Abnormalities of the Colon as Demonstrated by the X Ray. After the Scientific Session the officers for the coming year will be elected and installed. The dinner will be given in the Hamilton Club at 6:30 p. m. The Surgeon General of the Navy, Dr. Charles F. Stokes, will be the guest of honor and will speak after dinner on The Navy and the Important Relations to the Naval Establishment Borne by the Medical Corps. Speeches will also be made by Dr. D. Bryson Delavan, of Manhattan, and Dr. John J. MacEvitt, the retiring president of the Medical Society of the County of Kings.

A New Site for the New York Hospital.—Announcement is made that the New York Hospital has purchased a site on the North River front, between Fifty-fourth and Fifty-fifth Streets, on which new buildings will be erected as soon as practicable. It will probably be about a year before it will be possible to begin work on the new buildings, and during that time the necessary funds will be collected. It is planned to make the new institution the finest of its kind in the world, the cost being estimated at $2,500,000. The buildings in Fifteenth Street now occupied by the hospital will be used as a House of Relief for the temporary treatment of patients, as the Hudson Street Hospital is now used. The principal reason for changing the location of the hospital is to obtain better light and air, as the present buildings having been shut in by modern office buildings. The New York Hospital is the oldest institution of its kind in the United States, its charter having been granted by George III. The foundations of the first buildings were laid at Broadway, Church, and Duane Streets in 1773, and the incomplete building was used as barracks by the British troops during their occupancy of New York. The present buildings in Fifteenth Street were completed in 1877. Between sixty and seventy thousand patients are treated in this hospital annually. The institution also owns Bloomingdale Asylum, at White Plains, the House of Relief in Hudson Street, and the Convalescent Cottages at White Plains.

Gifts and Bequests to Charity.—By the terms of the will of Mrs. Mary Elizabeth Burns, who died in Baltimore, on December 11th, the Hospital for Consumptives, at Cudowood, Md., will become a residuary legatee. The bequest is to take the name of The William T. Burns Fund, in memory of the testator's husband.

By the will of Mary Boyle, who died recently in Philadelphia, St. Joseph's Hospital, St. Mary's Hospital, and St. Agnes' Hospital will each receive $300.

By the will of Artemus Ward Lamson, who died in Dedham, Mass., recently, the North End Dispensary and Hospital, the South End Dispensary and Hospital, and the Suffolk Dispensary and Hospital each will receive $500.

The National Homœopathic Association, of Washington, D. C., and the Episcopal Home for Children, formerly the Bell Home, will receive the bulk of the estate of Jane L. [illegible] who died in Washington on December 13th.

By the will of Mrs. Charles W. Rockwell, who died in Scranton, Pa., last June, $33,500 is to be distributed among charitable institutions, chiefly in Scranton. These bequests include the following: $10,000 to the West Side Hospital, $10,000 to the West Mountain Consumptive Sanitarium, $5,000 to the Hahnemann Hospital, $3,000 to the Taylor Hospital, $3,000 to the Carbondale Hospital, and $2,500 to the Lebanon Hospital, in New York.

The will of the late Mrs. William O. Moseley, of Newburyport, Mass., bequeaths $200,000 to the Anna Jacques' Hospital, of Newburyport, and $60,000 to Harvard University.

A gift of $100,000 was made recently to the Children's Hospital School, Baltimore, by Mrs. William Painter, through the Board of Directors of the school, to be used [illegible] administration building. The new [illegible] to be known as the William Painter Memorial, and work upon it will begin in the spring.

The Late Dr. Samuel Alexander.—The minutes of a meeting of the Medical Board of Bellevue Hospital, held on January 1, 1911, included the following:

[illegible] continuously connected with Bellevue Hospital from the day of his graduation in medicine until the day of his death.

Dr. Alexander's cheerful personality, his kind hearted counsel, and his ever gracious championship of the best of things in our affairs were an inspiration and a guide, to which we gladly yielded our differences and gave hearty approval.

From our profession is taken a pioneer in surgery and an able exponent of substantial advance; from our hospital gatherings an enduring and tender personality, whose virtues we each can well afford to emulate, and from the poor and the unfortunate to whose afflictions Dr. Alexander administered abundantly and successfully, an earnest, sympathetic and noble nature is taken away.

Industrial Hygiene.—On Wednesday evening, January 18th, the question of industrial hygiene will be discussed at the New York Academy of Medicine, these lectures forming a part of the series on questions relating to the prevention of disease which is being given under the joint auspices of the Public Health Education Committee, the Medical Society of the County of New York, and the Hygiene Committee of the New York City Confederation of Women's Clubs, at the New York Academy of Medicine, on alternate Thursday afternoons and Wednesday evenings, from January 12th to March 29th. The speakers will be Dr. Louis Livingston Seaman, who will speak on the Conservation of Human Life, Dr. Isabel Thompson Smart, whose subject will be the Relation of Woman in Industry to Child Welfare, and Dr. J. Madison Taylor, of Philadelphia, who will deliver an address on the Economics of Development. The subject to be discussed on the following Thursday afternoon will be Cause and Prevention of Some Common Diseases.

The Edward N. Gibbs Memorial Prize.—The New York Academy of Medicine announces the following new conditions on which will be based the awarding of the Edward N. Gibbs Memorial Prize for Research upon Diseases of the Kidney: The Council of the New York Academy of Medicine is to appoint a permanent Committee of Award consisting of five of its members, to be known as the Edward N. Gibbs Prize Fund Committee. This committee is to have the selection of the candidates and the awarding of the prize. The method of award is as follows:

(1.) The committee shall advertise the prospective award at intervals of not less than two years in appropriate medical journals and otherwise. (2.) Candidates must be physicians of not less than three years' experience since graduation, in clinical and laboratory work; must be residents of the United States; and shall furnish the committee with evidence of research already performed and of ability to prosecute the special researches for which the prize is founded. (3.) Such researches may be conducted in any hospital or medical laboratory approved by the committee, wherever it may be situated (4.) The researches shall comprise original work only in any or all of the following subjects: The causation, pathology, and new methods of treatment of diseases of the kidney. (5.) From the applicants the committee shall select the one offering the best credentials as to ability to conduct original investigation, and to him shall be awarded from time to time during the research the income of the prize fund for such time as may have been occupied by the research, providing, however, that the total time shall not exceed three years, and provided that the committee shall at all times retain the power to reject unsatisfactory work from the award. It is understood, moreover, that the expenses of advertising, and of publication of the researches be met from the income of the prize fund, and that when no research is forthcoming, the income for the current year be not awarded, but added to the principal of the prize fund. (6.) The completed research shall be presented in the form of a thesis and published under the auspices of the New York Academy of Medicine.

It shall be understood for all time that it is the fundamental purpose of the donors to promote the study of the diseases of the kidney with the object of relieving human suffering, but as it is impossible to forecast the direction of special scientific research, it should be left within the discretion of the permanent committee of the academy to modify the details of method of award of the prize in regard to mode of selection of the candidates should occasion demand in future years.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

January 5, 1911.

1. The Prevention of Typhoid Fever with Antityphoid Vaccine, By F. F. RUSSELL.
2. Antityphoid Inoculation as Introduced into Certain Training Schools for Nurses in Massachusetts, By MARK WYMAN RICHARDSON and LESLEY H. SPOONER.
3. The Fresh Air School, By JAY PERKINS.
4. The Care and Management of the Tabetic Bladder, III. Prognosis and Treatment, By J. DELLINGER BARNEY.

1, 2. Antityphoid Vaccine.—Russell observes that typhoid has invariably appeared in armies in the past and may be expected in the future. The usual prophylactic measures are only partially available in camps. Vaccination is simple and harmless and wherever used has reduced the incidence and mortality of typhoid. The immunization of every individual in the army is perfectly feasible, and it offers the greatest hope of freedom from this plague in the future. Antityphoid vaccination has long since passed the experimental stage. Since 1904, 60,000 men have been vaccinated in India, over 7,000 in South West Africa, and over 14,000 in the United States, and in no case has any harm followed its administration. The time has come when its use should be extended, not merely in the military services, but also among the civil population.——Richardson and Spooner report 1,588 inoculations practised upon 405 individuals. As yet there have been no untoward results, and they believe that the inoculated individuals have acquired an increased resistance to typhoid infection which will last them for several years at least. They expect in the coming year to extend the influence of these inoculations, especially among nurses and others attendant upon the sick. Furthermore, they have strong faith that the procedure will, within a short time, find increasing favor with the general public, which, exposed as it is to many sources of infection, is in great need of specific protection.

4. The Tabetic Bladder—Barney found that infection of the urinary tract occurred in over fifty per cent. of patients with tabes dorsalis. The mortality from such an infection was nearly sixty per cent. Catheterization and irrigation of the bladder, at regular and frequent intervals, combined with the constant use of an efficient urinary antiseptic (a) delay, prevent, or reduce the activity of urinary infection; (b) postpone the appearance of residual urine, or diminish its amount if present; (c) relieve symptoms. Reeducation of the muscles of micturition, combined with local treatment, would cure or relieve most of the symptoms which harass the life of the tabetic. It was, therefore, of the utmost importance. The combined treatment of the nervous system and of the urinary tract was essential for the welfare of the patient.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

January 7, 1911.

1. Indication for and Technique of Vaginal Cæsarean Section in Eclampsia, By REUBEN PETERSON.
2. Treatment of Eclampsia Including a Comparison of the Dangers of Chloroform and Ether in This Condition, By EDWIN H. CRAGIN and EDWARD F. HULL.
3. Ætiology of Eclampsia, By EDWARD P. DAVIS and COLLIN FOULKROD.
4. Surgical Treatment of Eclampsia, By JOSEPH B. DE LEE.
5. Vaginal Cæsarean Section, By HENRY D. FRY.
6. The Prevention of Infant Mortality, By GOTTFRIED KOEHLER and C. ST. CLAIR DRAKE.
7. Cactus Grandiflorus, By ROBERT A. HATCHER and HAROLD C. BAILEY.
8. Artificial Stimulation and Inhibition of the Growth of Normal and Sarcomatous Tissues, By ALEXIS CARREL and MONTROSE T. BURROWS.
9. Growth in Vitro of the Transplantable Sarcomata of Rats and Mice, By R. A. LAMBERT and FREDERICK M. HANES.
10. A Case of Gangrene of Appendix and Omentum, By R. ROLLER RICHARDSON.
11. Umbilical Hernia—An Unusual Case, By DAVENPORT WHITE.
12. Transfusion of Blood by New Method Allowing Accurate Measurement of the Amount Transfused. Preliminary Report, By ARTHUR H. CURTIS and V. C. DAVID.
13. Diphtheria in Relation to Public Health, By J. P. SIMOND.
14. Pyelitis of Pregnancy, By ARCHIBALD E. CHASE.

2, 3, 4. Eclampsia.—Cragin and Hull advocate the use of ether as an anæsthetic in eclampsia. From their observation on patients and experiments on dogs they are convinced that chloroform should be entirely abandoned and ether substituted. In twenty cases of eclampsia, treated at the Sloane Maternity Hospital, no attempt has been made to control the convulsions by means of the anæsthetic. This end has been sought through lowering the blood pressure and quieting the nervous system by the use of veratrum, chloral, and nitroglycerin. Ether has been used whenever an anæsthetic has been required during the delivery. Former experiences with attempts to control the convulsions by chloroform proved that it was practically impossible. Recent experiences without attempts to control the convulsions by an anæsthetic have given results which compare favorably with those of former methods. Of these twenty patients only one died, and she was practically moribund when brought to the hospital, with jaundice, vomiting, scanty and bloody urine, and with the liver necrotic. This gives a mortality of five per cent. In the last twenty cases of eclampsia in which chloroform was used there were five deaths, a mortality of twenty-five per cent. In a series of 20,000 deliveries previous to this last year there were 251 cases of eclampsia, with a mortality of seventy-one, i. e., twenty-eight per cent.—— Davis and Foulkrod state that eclampsia is a distinct disease with varied manifestations and a definite pathological picture. There is some relation between the fact that an altered nitrogen ratio is found in the excretions and the fact that the liver is the organ most seriously involved. A study of this progressive nitrogen disturbance may prove a guide as to the point beyond which the liver involvement cannot go and allow regeneration and recovery. While no placental theory has yet been proved, the most plausible theory is that some ferment from the placenta may prove responsible as a primary cause for the condition because of deficient or deranged action. Any preexisting permanent pathological condition may prove an exciting cause and still perhaps act by disturbing placental function. Eclampsia should be a rare condition in the hands of a skilful, thorough investigator.——De Lee remarks that early in his practice he learned two facts, one, that morphine given to eclamptics killed many of

the babies and prolonged the post partum coma, and the other, that chloroform is a very dangerous drug in eclampsia. It causes acute yellow atrophy of the liver and cardiac paralysis, acute and chronic. Whereas, he formerly advised anæsthesia for every vaginal examination or manipulation to prevent a convulsion resulting from the local irritation, he now restricts anæsthetics and narcotics to an irreducible minimum. For the operative delivery, he uses ether, but for Cæsarean section he employs nitrous acid and oxygen, because the child is delivered so rapidly that the preliminary asphyxia is of no moment.

7. **Cactus Grandiflorus.**—Hatcher and Bailey report that they have been unable to obtain any evidence that the true Mexican *Cactus grandiflorus* possesses any pharmacological action whatever, but on the contrary, it appears to be a singularly inert substance when administered either by the mouth or by the vein. When colossal doses of *Cactus grandiflorus* are given by the vein they sometimes—but not always—appear to exert an extremely feeble action on the heart; but this action is so slight that its nature could not be determined. Even the most colossal doses of *Cactus grandiflorus* administered by the mouth to cats, dogs, and frogs exert no perceptible effect. They conclude that if they are correct in maintaining that *Cactus grandiflorus* is inert it hardly requires further proof that any substance extracted from the drug must be inert also.

MEDICAL RECORD

January 7, 1911.

1. The Increasing Frequency of Inherited Syphilis and the Grave Importance of Its Early Recognition in Infants and Young Children from the Standpoint of the Ophthalmologist. By Charles Stedman Bull.
2. Hints for the General Practitioner on the Nature, Ætiology, and Early Diagnosis of Insanity. By Carlos F. MacDonald.
3. Pellagra; a Brief Review of the Theories of Its Causation, with the Report of a Case Occurring in New York City, By Joseph Collins and Luther Sheldon.
4. Ventilation of Kitchens and Bakeries. By W. A. Evans.
5. Surgical Anatomy of the Abdominal Wall with Reference to Appendectomy, By Walter E. Tobie.
6. A Theory as to the Untoward Effects of Diphtheria Antitoxine; Prophylaxis in Suspicious Cases. By Raymond Wallace.
7. The American Game of Football: Is It a Factor for Good or for Evil? By Morris Joseph Clurman.

2. **Diagnosis of Insanity.**—McDonald remarks that in the diagnosis of insanity it is important to take into account certain negative symptoms, as reticence, obstinacy, sullenness, or stupidity, any of which may be significant with reference to diagnosis, especially if such condition is not natural to the individual. Note should be taken also of the facial expression: the contrast in facial expression in mania and melancholia is in itself a lesson in diagnosis, the expression of the eyes and their pupillary reactions to light and accommodation, the speech, writings, motor functions, reflexes, etc., any of which may in themselves be indicative of certain forms of mental disease. The pulse and temperature should also be observed, as persons laboring under the delirium of fever, meningitis, etc., have occasionally been committed to institutions for the insane through inattention to these points. Other conditions which have been mistaken for insanity are prolonged intoxication, delirium tremens, the delirium of cerebral meningitis, and of the various continued fevers, sunstroke, hysteria, and the delirium which sometimes precedes death in certain diseases and in old age. Most frequent among the prodromes of mental disease are insomnia and constipation. In fact, so common are these symptoms in the onset of acute insanity that the experienced observer comes to anticipate their presence, and to expect an affirmative answer to his interrogations respecting them in substantially every case that comes before him. The significant diagnostic factor to be sought for in the early stage of mental disease is evidence of a change in the mental characteristics of the individual. In fact, any prolonged change in the mental or moral tone of an individual should at once excite suspicion of approaching insanity, especially if he is descended from insane or neurotic stock. Prominent among the premonitory symptoms of insanity are disturbances of the bodily functions, morbid emotional manifestations, and alterations in the mental characteristics of the individual. Somatic functional disturbances express themselves in various ways, such as pavor nocturnus, insomnia, headache, tinnitus, vertigo, fibrillary tremors, clammy extremities, and other vasomotor disturbances; anorexia, indigestion, constipation, etc. It should be said in passing that while these phenomena, especially insomnia and constipation, are frequently observed in the prodromal stage, they may, one or all, occur in persons who never become insane; hence, they are not to be regarded as pathognomonic, nor singly, perhaps, as even diagnostic signs of mental disease. If the tendency is to mental exaltation, or mania, the emotional changes usually take the form of unnatural buoyancy, loquacity, undue levity, and morbidly quickened mental operations, the patient frequently appearing to be unnaturally bright. If the tendency is to mental depression, or melancholia, there are gloomy forebodings, morbid introspection, hyperconscientiousness, senseless self-condemnation, a morbid aversion to friends, morbid suspiciousness, irritability, and frequently a vague sense of impending evil of some kind. Marked alterations of character are seldom wanting in this stage of the disease. It should also be borne in mind that the patient's statements regarding himself are often unreliable and misleading, owing to delusional ideas or misinterpretation of what actually took place, even though in other respects he may be perfectly truthful. Again, the truth or falsity of certain statements made by the insane can only be determined by evidence from other sources.

6. **Untoward Effects of Diphtheria Antitoxine.**—Wallace states that recognized authorities up to the present year have failed to emphasize the occasional danger of sudden death in sensitized individuals or those subject to bronchial asthma or to respiratory distress in other forms. Individuals peculiarly susceptible to the odor of horses or stables and those subject to asthmatic attacks, hay fever, and bronchitis should have horse serum administered only upon most urgent cause, and then with due prophylaxis. Insufficiency or inadequacy of the suprarenal glands may account in the asthmatic

type for the peculiar reaction. The administration hypodermically of aqueous extracts of the suprarenal glands previous to the use of serum in this class of cases is desirable in order to rehabilitate and control the vasomotor system, and may prove of great prophylactic value, as well as useful in the heroic treatment of the acute attacks of serum disease. The desquamation following serum disease should not be confounded with scarlet fever.

BRITISH MEDICAL JOURNAL.

December 31, 1910.

1. Hyperchlorhydria and Its Complications, By William Russell.
2. The Distribution of Appendicitis, with Some Observations on Its Relation to Diet, By Owen T. Williams.
3. A Contribution to the Clinical Study of Chronic Movable Kidney, By Philip Hicks.
4. The Use of Old Tuberculin Ointment in the Diagnosis and Treatment of Lupus Vulgaris, By A. Verge.
5. Cancer of the Breast: Amputation and After Treatment by Secondary X Rays of Known Quality: A Suggestion, By William Mitchell.
6. A Note on Cleft Palate Operations, By Thomas Sinclair Kirk.
7. A Case of Dwarfism, By A. A. Jubb.

2. Distribution of Appendicitis.—Williams makes a report on the distribution of appendicular inflammation, giving statistics from Abyssinia, Belgium, China, Denmark, Egypt, Greece, Ireland, India, Italy, Netherlands, Norway, Persia, Roumania, Spain, and Sweden. He concludes that appendicitis has a markedly different incidence in various countries and that this different incidence may be very largely a question of diet. Many theses have been advanced to explain this relationship to diet. His statistics show that where there is a large meat eating population there appendicitis is a common disease, whereas in those countries where little meat is eaten appendicitis is rare if not almost unknown. There is no doubt, according to most people, that apart from improved diagnosis appendicitis has greatly increased in the British Isles in the last few decades. Very little evidence has so far been advanced to any explanation of this. The greatest change in the diet of the people has undoubtedly been the marked increase in meat eating. With the amount of foreign meat and canned food the poorer classes even are now able to supply themselves in fair quantity with meat of varying kinds, more particularly mutton. The fat of meat, more particularly of mutton and beef, is characterized by the small amount of unsaturated fatty acid they contain. That the fat in the food determines the nature of the fat in the tissues is well known. It would seem that this factor determines the nature of the soaps to be found in the wall of the intestinal tract (probably as a manifestation of their excretion), and where these soaps are the calcium soaps of saturated fatty acids there is usually some evidence of disease, either a mucous colitis or an intestinal lithiasis. In appendicitis, with which these two conditions are clinically associated, there is the same occurrence of these calcium soaps in the wall or in the lumen. In his opinion there is some evidence to connect the nature of the fat in the food with the incidence of the disease.

LANCET

December 31, 1910.

1. Obesity and Certain Changes of Metabolism, By Dr. O. Rozenraad.
2. A Simple Serum Diagnosis for Tubercle; also a Method of Obtaining an Immunity Index, By V. B. Nesfield.
3. The Clinical Aspects of "Juvenile General Paralysis," with an Account of a Case Treated with "606," and Observations on Prophylaxis, By J. Johnston Abraham.

1. Obesity.—Rozenraad says that the effect of taking the waters at spas like Homburg or Marienbad would be an ephemeral one unless the patients were taught how to diet themselves afterward. In Homburg great attention is given to dieting; every hotel keeper and proprietor of a lodging house is supplied with the necessary forms of diets, and special cooking is arranged. Some devote themselves exclusively to this dietetic task, and diabetes or gout is treated in the same dietetic line. Should a dietetic cure not lead to satisfactory results treatment with thyreoid is indicated, but in many cases thyreoid is advised when the diet alone would have helped the patient, if carried on for a certain length of time. For there are cases in which the retarded metabolism of obesity does not seem to yield to a dietetic treatment, and patients, though undergoing a course of diet for a length of time, say that they are fed with only 900 calories, do not lose weight. These cases are due to a constitutional tendency, and they are cases to be treated with thyreoid. The reduction of weight soon takes place and they remain less obese. During this treatment we have to watch the action of the heart and the pressure of blood; should the pulse increase, it would be advisable to discontinue this treatment. The amount of thyreoid to be given, as a rule, is three grains, three times a day during the meals for a couple of weeks. No thyreoid ought to be given in the climacteric age.

3. "606" in the Treatment of Juvenile General Paralysis.—Abraham reports a case of juvenile general paralysis, treated with an injection of 0.3 gramme of salvarsan, without improvement. At the outset Ehrlich cautioned against the use of "606" in degenerative changes. In syphilitic and parasyphilitic affections of the nervous system, hopes of success may be entertained in cerebral syphilis, and amelioration of symptoms in some tabetics and remissions in general paralytics may follow the use of the drug. To anyone, however, acquainted with the frequent remissions, and even sometimes complete cessation of ataxic and mental symptoms, for a time in tabetics and general paralytics without treatment, the evidence that such improvement is due to the use of "606" is not convincing, and the necessity of early and systematic treatment to prevent these late manifestations becomes increasingly urgent. In Wassermann's reaction we apparently have a means of discovering latent congenital syphilis in the children of known syphilitics, and these are the cases that seem particularly liable to develop juvenile general paralysis. Considering, then, the apparent hopelessness of checking the malady by even the latest form of treatment, and the known fact that mercury has been proved time and again to be equally useless, it is imperative that such children

ould be given the very best possible chance at the rliest possible opportunity; and the mere fact that atment has a very dubious effect on the chara- ter of the Wassermann reaction, instead of sug- sting to us the impossibility of curing congenital philis, should stimulate us, on the contrary, to ntinue treatment, possibly for years, instead of, is so frequently the case, stopping treatment as on as the early manifestations during the first ar of life subside.

MUNCHENER MEDIZINISCHE WOCHENSCHRIFT.

December 13, 1910.

Studies Concerning the Causes of the Accession of Labor, By SAUERBRUCH and HEYDE.
The Effect of Dioxydiamidoarsenobenzol upon Experimental Vaccine Infection in Rabbits, By MARKS.
Experimental Studies Concerning the Lethal Dose of the Acid Solution of Ehrlich-Hata's "606," By HERING.
Treatment of Syphilis with Arsenobenzol, By WEILER.
Possibility of Thrombosis after Intravenous Infusions of Arsenobenzol, By HAUSMANN
The Nature and Importance of Anaphylaxia, By FRIEDBERGER.
The Clinical Significance of the So Called Paget's Cancer of the Breast, By HIRSCHEL.
Practical Experiences with Mandelbaum's Serodiagnostic Typhoid Reaction, By AST.
Treatment of Chronic Obstipation with Paraffin Suppositories, By [illegible]
A New Method of Irradiation with the X Rays, By SCHWENTER.
Inhalation Treatment, By CHRISTEN.
Rare Stenoses of the Larynx, By GRAFF.
Zykloform, a New Wound Anæsthetic, By STRAUSS.
Facial Paralysis in Food Poisoning, By ERBEN.
Albrecht Kossel, By COHNHEIM.

2. **Effect of "606" upon Experimental Vaccination of Rabbits.**—Marks found that if the maximum dose, 0.1 per kilogramme, was injected into the veins immediately after the vaccination the reaction of the latter was wholly prevented; 0.08 could prevent the reaction if introduced at the same time as the lymph, while 0.05 was too small a dose to produce any effect. Intravenous injection of the maximum dose twenty-four hours after the vaccination was inefficient and did not prevent the reaction.

3. **Lethal Dose of "606."**—Hering found the lethal doses of a one half per cent. solution of "606" in rabbits and in dogs per kilogramme. From these he tries to calculate the possible lethal dose for man, but this is uncertain because we do not know whether man is more or less resistant to the remedy than rabbits or than dogs, which differ markedly in this respect.

4. **"606."**—Weiler gives an analysis of his cases with full clinical histories of a large number. On the whole his results correspond with the many that have already been published, but he contributes a few additional symptoms produced by the injection. Thus he says that several patients complained shortly after the injection of difficulty in urination, and that this condition persisted in one patient for several days. Obstipation was also noticed a number of times. Many complained of a great feeling of thirst, and the appetite was often poor for a few days. He did not notice any notable effect on psoriasis vulgaris, lichen planus, warts, or pointed condylomata. Of the 206 patients treated only forty could be kept under observation, and among these were fourteen recurrences. These cases are described in full. Two patients with tabes were improved in their general condition.

5. **Thrombosis after Intravenous Infusion.**—Hausmann reports a case of thrombosis following intravenous infusion of "606." One month after the infusion a thrombosed piece of vein, 3.5 cm. long, was resected and found to contain *Streptococcus albus*.

6. **Anaphylaxia.**—Friedberger defines anaphylaxia as the excessive sensitiveness of the animal organism to the addition of foreign albumin not through the intestinal tract. This addition of foreign albumin forms antibodies in the organism which with the aid of the complement, on a second injection of the same albumin, form from it intense and rapidly acting poisons. The serum of an animal previously treated in this manner may carry this condition of oversensitiveness passively to a normal animal, or it may act poisoningly. The product formed in all forms of anaphylaxia may be obtained in the test tube and is known as anaphylatoxine.

7. **Paget's Cancer of the Breast.**—Hirschel is of the opinion that every chronic eczema of the nipple should be treated and observed with the greatest possible care and that when the diagnosis is uncertain a portion should be excised for examination, because there may exist in the mamma a small carcinoma which has secondarily produced the eczema, a permanent cure of which may be expected from early extirpation. He prefers the term cancerous eczema of the breast as better than that of Paget's breast cancer, and calls attention to the fact that Paget's idea that carcinoma originated from the eczema is the exact opposite of the truth, that the carcinoma is primary in these cases.

WIENER KLINISCHE WOCHENSCHRIFT

December 8, 1910.

1. Inaugural Address, By F. DIMMER.
2. Disturbances of Sensation in Vitiligo, By [illegible]
3. The Counting of Eosinophile Cells by Dunger's Method, By [illegible]
4. A Cured Shot Wound of the Liver, By HANS FINSTERER.
5. The Diagnostic Application of the Monochrome and Mercury Light in Medicine, By LEOPOLD FREUND.
6. Giant Cells in the Sediment of the Urine in Urogenital Tuberculosis, By HANS STEINDL.
7. Angelo Mosso, By DURIG.

2. **Disturbances of Sensation in Vitiligo.**—Königstein finds the sensation reduced in the depigmented areas of the skin in vitiligo, and as these areas are scattered irregularly over the body he considers that the nervous lesion must lie in the terminal filaments met with in the vitiliginous skin.

3. **Counting of Eosinophile Cells by Dunger's Method.**—Galambos considers this method to be not only quick, but also positive and accurate while the differences are as sharply marked at least as in the staining methods of Jenner or Giemsa.

6. **Giant Cells in the Sediment of the Urine.**—Steindl states that the presence of giant cells in the sediment of the urine forms a positive diagnostic symptom of tuberculosis in the urogenital tract, even when the presence of specific bacilli cannot be demonstrated.

EDINBURGH MEDICAL JOURNAL.

December, 1910.

1. Le Rhumatisme Tuberculeux, By Alexis Thomson.
2. Cell Life and the Cell Life in Animal Physiology, By John Strachan.
3. The Value of Physical Examination in Mental Disease, By Lewis Bruce.
4. Bacillus Coli Infection of the Urinary Tract, By M. Douglas.
5. Notes on Gastric and Duodenal Surgery. By J. Crawford Renton.

1. Le Rhumatisme Tuberculeux.—Thomson takes up Poncet's views on tuberculous rheumatism, whose main contention is that in addition to the lesions called tuberculous, in which we find specific histological structures and specific bacilli, there is a more numerous group of lesions in which these two distinguishing features are absent. When face to face with a lesion which is suspected to be rheumatic, an endeavor should be made to discover the cause. The urethra should be examined to exclude gonorrhœa; inquiry should be made into the surroundings and conditions in which the patient lives, his family history, his personal ailments, remembering how prone a person is to forget these. The attitude toward rheumatism should be very much like that toward syphilis in the presence of an affection of the nervous system. One should watch for the external signs of tubercle in the skin and accessible organs, and make use of laboratory methods. Poncet thinks most of Arloing's seroreaction. He has had no experience of von Pirquet's test, and has stopped the Calmette eye reaction since he saw it do harm. The inoculation of the guineapig is not always convincing and takes a long time. The general treatment is the same as for tuberculosis in general. As regards climate, the local lesions are often greatly improved by a prolonged stay in a hot country.

4. Bacillus Coli Infection of Urinary Tract.—Douglas remarks that the *Bacillus coli* is the most frequent organism in genitourinary infections. It produces a hæmolysin and an endotoxine, on the latter of which its pathogenic action probably depends. Its vaccine is moderately toxic, causing severe local irritation and general febrile reaction if the initial dose be large. It resembles *Bacillus typhosus* closely. The chief distinction, pathologically, is that with *Bacillus coli* the diseases are local inflammations, while with *Bacillus typhosus* they are septichæmic. The opsonic and phagocytic index and the agglutination reaction are too unreliable to be of any use in diagnosis. The mode of infection has raised the most controversy. There are three routes of infection, which have been advocated by different writers, the ascending infection by the ureter, the lymphatics, the bloodvessels; the descending infection; and the transparietal infection. It is almost certain that infection may take place by all the routes mentioned, but it is very difficult to say by which most commonly. The importance of *Bacillus coli* infection of the urinary tract in obstetric practice is now well recognized. For the surgeon it is important to remember it as a disease, which closely simulates many other acute abdominal lesions, but for the general practitioner the condition of bacilluria is of great importance. It is one which is much more frequent than is at present recognized, and a little experience will impress one greatly by the knowledge to be gained by more careful examination of the urine. There is no doubt that the *Bacillus coli* can be found in a clear urine. Its presence in the urine is an indication of an autointoxication, which demands the careful attention of the medical man. It has not, so far been the general custom to submit the urine of neurasthenics and others suffering from obscure diseases to a careful bacteriological examination.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

January, 1911.

1. Paroxysmal Pulmonary Œdema and Its Treatment, By Alfred Stengel.
2. The Control and Treatment of Hypertension and Arteriosclerosis, By Henry L. Elsner.
3. The Tonic Use of Digitalis, By Emile Schmoll.
4. The Treatment of Typhoid Fever, By Frank Sherman Mear.
5. Cholera from a Modern Standpoint, By Alvah H. Doty.
6. The Relation of Disease of the Gallbladder and Biliary Ducts to the Gastric Functions, By John A. Lichty.
7. The Dyspepsia of Old Age, By George M. Nile.
8. The Diagnosis of Tuberculosis of the Bronchial Gland By Henry Farnum Sm.
9. Pellagra, with a Report of Two Cases with Necropsy By Paul V. Anderson and William G. Spille.
10. The Influence of the Trendelenburg Position on the Quantity of Urine Excreted during Anæsthesia, By J. Wesley Bovée.
11. Multiple Abscesses of the Nasal Submucosa in a Case of Leuchæmia, By Joseph P. Tuni.

3. Tonic Use of Digitalis.—Schmoll remarks that digitalis acts as a specific on the tonicity of the heart muscle, and is indicated whenever symptoms point to a failure of that function. Its tonic effects are best secured with a dose equal to the amount excreted—about 0.1 gramme a day—though doses of 0.15 and 0.2 gramme a day sometimes can be taken for weeks without the appearance of cumulative effects. Loss of tonicity is shown first by general symptoms—râles over the bases of the lungs, enlargement of the liver, and slight œdema of the ankles. Digitalis is indicated therefore, whenever these symptoms appear, and especially in cases in which the patient, after recovering from a severe break in compensation shows a tendency to fail on the slightest exertion.

5. Cholera.—Doty remarks that our defence against cholera is very strong. There is an extremely optimistic side to this subject and one which has practical and scientific support. The belief has long existed that the ravages that cholera and other infectious diseases have caused in the East is indicative of what would occur if these diseases were to enter any community. This has been the keynote of statements frequently made by alarmists. This belief is without any reasonable or logical foundation whatever, and it may be safely stated that where modern sanitary regulations are in force such conditions will never occur. On the contrary in the absence of a general infection, cholera does not extend rapidly, and where proper sanitary regulations are in force, should soon disappear. A general infection either on shipboard or on land is a serious and justifiable reflection on whoever may be in charge of the health of those either on the vessel or in the community where the infection occurs. As cholera carriers, mild and irregular cases may enter a community practically unannounced, i

s necessary that departments of health should pre- are to deal with such an emergency, particularly .t times when there is known to be danger of the ntroduction of cholera. A rigid investigation hould be made of the death certificates which give .s the cause of death gastroenteritis or intestinal rouble of any kind. This should always include . bacteriological examination. Practising physi- ians should aid in carrying out this means of pro- ection. The effect of this is to secure the early letection of cholera, either in a typical or irregular orm, and when this is done, and in the absence .f general infection, it is reasonably certain that no erious result will follow, so far as the extension .f the disease is concerned. It would seem reason- ble that in the future we must recognize that iso- ated cases of cholera may appear anywhere which as known or unknown intercourse with the cholera nfected places, and the possibility of this must be ecognized; but it must also be understood that while this is so, if general infection is guarded gainst and proper precautions are taken in indi- idual cases, even the same that are properly car- ied out in the presence of typhoid fever, we may iismiss the idea of serious results to a community o far as the extension of the disease is concerned. Bacteriological examination should always be in- luded in determining the presence of cholera. This efers to the examination of alvine discharges or he material taken from the rectum by swabs. At he New York Quarantine Laboratory it has been ound that nearly half of the general examinations f this kind, even where there was no clinical evi- ence or special reason to suspect cholera, showed urved bacilli of various sizes and shapes. In many nstances these organisms resembled the cholera ibrios. Where the latter forms are numerous in his examination, the case should be regarded as uspicious until the cultural characters prove it to e otherwise. The presence of a few actively mo- ile organisms in the hanging drop adds consider- bly to the suspicion. In cholera carriers and mild ases of this disease the cultures may show the ibrios even though the smear shows very few sus- icious organisms. It is usually only in the active ases that the smear and hanging drop, made di- ectly from the discharges or rectal swab, will af- ord such unmistakable evidence as is required to ronounce the case true cholera from the point of iew of the bacteriologist. In all other cases it is ecessary to isolate pure cultures and prove them holera vibrios or otherwise by suitable bacterio- ogical tests.

8. Tuberculosis of the Bronchial Glands.—Stoll states that tuberculosis of the bronchial glands often exists as a distinct clinical entity, capable of diagnosis. While the diagnosis is more readily made in children, it can frequently be made in adults. The presence of dilated veins over the anterior aspect of the chest, spinalgia, interscapular or vertebral dulness, and vertebral bronchophony speak strongly for enlarged bronchial glands, the tuberculous nature of which is practically assured when in addition to those signs the individual is under weight and has a paroxysmal cough and the symptoms of the tuberculous toxæmia. The recognition of the disease, while it is still limited to the bronchial glands, is of the utmost importance, as we know the most salutary results of tuberculin therapy are obtained in glandular tuberculosis.

10. The Influence of the Trendelenburg Position on the Quantity of Urine Excreted during Anæsthesia.—Bovée states that while the patient is in the Trendelenburg position the percentage of decrease in the excretion of urine is fifty-eight per cent. in ether anæsthesia and eighty-two per cent. in anæsthesia by chloroform. That this great decrease is not, even in moderate degree, due to urine being retained in the renal pelvis is clear, for the rate of flow subsequent to changing the patient to the horizontal position is not suddenly greatly increased, being but slightly increased in the ether series, a little more in the chloroform series, and not for an hour and a quarter reaching a rate in excess of that of the period preceding the use of Trendelenburg position. Nor can it be said that the bladder was not satisfactorily drained by the catheter, inasmuch as the fluctuations were always gradual and never sudden, except when changing to or from the Trendelenburg position. If it can be concluded that the renal function is greatly lessened while the patient is in the Trendelenburg position, then the danger of that position is at once appreciated. In renal inefficiency, and cardiac and arterial lesions, it seems that the use of the Trendelenburg position introduces a special element of danger, and this less markedly when ether is used than when chloroform is employed as the anæsthetic.

ANNALS OF SURGERY.

January, 1911.

1. Testing the Efficiency of the Collateral Circulation as a Preliminary to the Occlusion of the Great Surgical Arteries, By Rudolph Matas.
2. Anatomical and Surgical Desiderata in the Exposure and Removal of the Pituitary Gland, By A. Emil Schmitt.
3. The Treatment of X Ray Ulcer, By Raymond C. Turck.
4. Posterior Gastroenterostomy Three Years after Anterior Gastroenterostomy. By M. V. Ivanitzky.
5. Nonprostatic Urinary Retention of the Senile Bladder, By Martin W. Ware.
6. Bone Abscess Treated with Mosetig's Bone Wax, By Channing C. Simmons.
7. Laceration of the Axillary Portion of the Capsule of the Shoulder Joint as a Factor in the Ætiology of Traumatic Combined Paralysis of the Upper Extremity. By J. Torrey Thomas.
8. Disinfection of the Skin by Tincture of Iodine, By Charles L. Gibson.
9. Dry Iodine Catgut, By Alexis V. Moschowitz.

1. Testing Collateral Circulation.—Matas has made experiments to test collateral circulation. He states that it is possible to compress a vessel to the point of obliterating the pulse and maintain this pressure for a period of from three to four days, before adhesive or obliterative changes in the intima occur. All the vessels clamped by him in this manner stood compression seventy-two hours without apparent microscopic change in the intima; some few began to show marked changes in ninety-six hours. There is apparently no reason why, in occluding the great vessels at the root of the neck, chest, and lower abdomen in continuity, these removable bands should not be substituted for the circular ligature, which permanently damages the artery, even when carefully applied. Furthermore,

the ligature does not permit of the release of the constriction after a few hours or days of observation without certainty of thrombus formation at the seat of the ligation. It would, therefore, be logical to utilize the simple method of occlusion as a preliminary test of the efficiency of the collateral circulation in all regions in which the hyperæmia test is not applicable.

6. **Wax in Bone Abscess.**—Simmons has used the iodoform bone wax advocated by von Mosetig-Moorhof in five cases, in which the wax was treated by the body as a foreign substance and discharged. He finds that it is of value as a filling, in selected cases of circumscribed abscess cavities in bone. Its use shortens the convalescence and makes the dressings easy and painless. The success of the operation depends on painstaking care and attention to detail.

7. **Traumatic Paralysis of Arm.**—Thomas finds that extensive laceration of the axillary portion of the capsule of the shoulder always occurs in anterior dislocations of this joint, which represent practically half of all the dislocations of the body. Probably, while the arm is in forced abduction, many others occur, which are spontaneously reduced as the arm falls by gravity to the side of the body immediately after the accident, and the fact of their occurrence is never recognized. Just as the milder lesion, the sprain, is more common at the ankle and wrist than the fracture, which results from a similar but more severe force, so, in all probability, are the sprains at the shoulder more common than the dislocations. We can thus account for a large number of cases in which the same capsule tear occurs. The extravasation of blood, lymph, and synovial fluid, resulting from such a lesion, falls by gravity into the loose tissues of the axilla, where they surround and infiltrate some or all of the branches of the brachial plexus, giving rise to a noninfectious inflammation, which adds to the already existing compression of the nerves and induces a perineuritis and neuritis. The interference with the function of the nerves caused by these conditions can account for the multiplicity of the nerve symptoms and the fugaciousness of certain symptoms so that one need not assume the existence of a traumatic lesion of the brachial plexus, its roots, or its branches, to account for them. The infantile obstetrical palsies, in which one or both upper extremities are involved, may be the result of a similar axillary condition. This implies that forced abduction of the arm, with or without traction on it and not traction on the head, is the important causal factor. Dislocations at birth give rise to similar palsies, and in these capsule tears undoubtedly occur. The palsies associated with these dislocations are probably completely curable by the recognition and reduction of the dislocations soon after birth. In traumatic brachial paralyses in adults, in infantile obstetrical, and in craft palsies, the shoulder joint should be examined for a traumatic lesion, and if evidence of it is discovered, such as a scapulohumeral limitation of movement the first therapeutic efforts should be directed toward obtaining a return of normal motion in the joint. Operations on the brachial plexus, its roots, or its branches should be deferred until a paralysis from inclusion of the nerves in cicatricial tissue has been eliminated.

Proceedings of Societies

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting of November 21, 1900.

The President, Dr. Reynold Webb Wilcox, in the Chair

Tumors of the Female Breast.—This paper was by Dr. George H. Balleray, of Paterson, N. J. The importance of an early and correct diagnosis and of prompt and efficient surgical intervention, he said, could not be overestimated. In his early experience it had not been uncommon to have referred to him patients suffering from cancer of the breast in so advanced a stage that an operation was out of the question. Now, however, all this had been changed, and unnecessary and unjustifiable mutilating operations were performed for simple benign growths, which an intelligent surgeon would remove without inflicting any serious injury upon the breast itself. The ætiology of mammary neoplasms was obscure, and it was wiser for us to acknowledge our ignorance of the cause than to attribute them to influences which probably had nothing to do with their origin. He doubted whether traumatisms of the breast predisposed to cancer, for this relation certainly did not hold good in a large proportion of cases. He did believe, however, that heredity played an important part. Citing cases where several members of the family had suffered from malignant disease, he said it was hardly probable that these were mere coincidences.

Tumors of the female breast being of two classes, innocent and malignant, the ability to distinguish one class from the other furnished the key to their intelligent and successful treatment. In a general way it might be said that all tumors of the breast appearing before the age of thirty-five were benign, while those appearing later in life were almost always malignant. To this rule there were few exceptions. He had seen cancer of the uterus in a patient of twenty-eight, but he did not recall a single instance in which carcinoma of the breast appeared before the thirty-fifth year. Sarcoma was the form of malignant disease most frequently seen in the young. The benign growths met with were lipoma, enchondroma, osteoma, angioma, fibrobroma, adenoma, cyst, cystoadenoma, and cystofibroma. In addition, there was a variety of tumor, occurring principally in single women or sterile wives, which generally enlarged at each menstrual period and was then sensitive to the touch. It disappeared spontaneously if the patient did not consult some meddlesome practitioner. The frequency and nature of this class of tumors were not sufficiently appreciated by the profession; hence errors in diagnosis and blunders in treatment were common. They should not be confounded with the "phantom tumor" and "hysterical breast" of some authors. In his opinion they were due to duct obstruction, with localized inflammation, and when this subsided the

mor disappeared. They might remain for months even years.

In the diagnosis of mammary tumors the tactus uditus was of great importance. Cysts with ick, dense walls felt like solid growths, and, as ey often appeared at about the age of forty, they ight easily be mistaken for cancer. When they ere gently pressed against the chest wall by the nd laid flat upon the breast, a feeling of resili- cy might be noted, and deep pressure with the refinger over the centre of the tumor sometimes cited a sense of fluctuation. As a rule the nipple as not retracted, and pain in the breast was rare. ese cysts were often multiple, and such multi- icity aided the diagnosis, malignant growths be- g almost invariably single. Chronic abscess had peatedly been mistaken for cancer, and without exploratory section a positive diagnosis was metimes impossible. Lipoma, angioma, osteoma, d enchondroma were all very rare. In the ex- ination of the breast a careful exploration of the illa should never be omitted. While nearly all mors appearing after the age of thirty-five were alignant, he had met with simple cysts in patients er forty. He had once seen the breast removed a case of this kind. Previously an exploratory cision, extending into the tumor to the depth of inch, had been made, and the appearance of the sues was indicative of malignancy. After the eration, however, a free incision into the tumor vealed a simple cyst with very thick and dense alls, so that if the exploratory incision had ex- ded a little deeper the true character of the owth would have been manifest. Microscopical amination of a frozen section of the cyst wall ien the incision was made would probably have tablished the diagnosis, but, unfortunately, a well ined microscopist was not always at the sur- on's elbow to help him in his perplexities. On o occasions he personally had amputated the east for supposed carcinoma where it was dis- vered later that the tumor was a chronic abscess; t these cases occurred before he began to make ploratory incision, a preliminary step in almost all erations for tumor of the breast.

In all benign tumors the prognosis was good if patient was treated intelligently, while in malig- nt growths many circumstances tended to modify prognosis. In carcinoma, the older the patient the time of its first appearance, and the slower progress of the disease before operation, the tter the chance of nonrecurrence for a long period. rly diagnosis and radical operation might result very long immunity from recurrence. In dis- ssing the question Is cancer of the breast ever d by operation? Dr. Balleray stated that to-day had patients alive and well twenty-five, twenty, n teen years after an operation. Most surgeons d say that these patients were really cured, but s not willing to go that far. Very late recur- s in some instances tended to shake one's con- in what were spoken of as "cures." When rgeon pronounced a patient cured simply be- use she had had no recurrence within three years was, in his opinion, a little premature. Twenty ars ago he could have presented an imposing ray of such cases, but, for aught he knew to the contrary, many of these patients might have suc- cumbed to recurrence subsequently. Every one of large experience knew how difficult it was to trace postoperative cases for any great length of time.

There was but one kind of treatment applicable to tumors of the breast, namely, surgical. Benign tumors should be extirpated without materially injuring the breast, but to this rule there were excep- tions, and he had several times removed the breast as an elective operation for multiple cysts with thickened walls. Simple cysts might be cured by incision and drainage with iodoform gauze, though it was sometimes better to dissect out the cyst or to curette its cavity before inserting the gauze drain. A mistake often made was the attempt to enucleate solid growths, such as fibromata and adenomata, through an incision not extending deep enough. This involved bruising and tearing of the surround- ing tissues, and might do a good deal of harm. In these cases the secret of success lay, he considered, in draining the deep cavity apt to be left after removal when the growth was of considerable size. Single cysts with thickened walls and with shaggy villosities, resembling papillomata, projecting into their interior, demanded amputation of the breast, and the same was true of multiple cysts with thick- ened, hardened walls. All malignant growths called for a radical operation. In the few cases of sarcoma of the breast in which he had operated the dis- ease returned in about a year and resulted fatally in a few months. On the other hand, in carcinoma Dr. Belleray's results had been so good that he believed his method of operating entitled to serious consid- eration.

This consisted in removing the breast with as much skin as could be taken away consistently with leaving all that was necessary to bring the edges of the wound into apposition. When there was the slightest doubt about the diagnosis he always began the operation as an exploratory incision, radiating from the nipple and extending deep into the sub- stance of the tumor. The breast was removed by an elliptical incision, beginning at the anterior bor- der of the axilla and extending to or near the sternum, the lower part of the incision always being made first. The layer of fat having been reached, the knife was held in a slanting position and the fat cut through in a way to slightly undermine the edge of the skin incision, so that a larger area of fat than of skin was removed from the breast. The incision was then extended through the pectoral fascia, which was dissected away, and skin, breast, fat, and pectoral fascia were removed in one piece. The flaps above and below were dissected back to the extent of an inch or more, care being taken not to come so near the skin as to impair its vitality and thus lead to subsequent sloughing. The axilla was next opened by a liberal incision, and all the fat and glands removed by careful dissection. This "clear- ing of the axilla" should be practised in every case of cancer of the breast, whether diseased glands could be felt or not, unless the condition of the pa- tient rendered the continuation of the anæsthesia and the operation too hazardous. The removal of the flaps enabled one to bring the edges of the wound into apposition or nearly so. The wound was closed with silkworm gut sutures and two rub-

ber drainage tubes were generally employed, one in the axilla and the other about the centre of the wound made for the removal of the breast. These were brought out through a stab wound, and not through the original incision. Iodoform gauze was placed over the wound, and the dressing completed with sterile gauze, absorbent cotton, and a rubber bandage. The immediate and ultimate results of this method had convinced Dr. Belleray that it had many advantages over Halsted's operation in cases in which the pectoral muscles and subjacent glands were not affected and the skin was not very extensively involved. The Halsted procedure should be reserved for cases of the latter character, for with surgeons less skilful than Halsted, and in old and feeble patients, the mortality from this operation outweighed its prospective benefits.

Dr. Samuel Lloyd said that, as to Dr. Belleray's statement regarding the occurrence of benign tumors in young subjects, he agreed to some extent. It was now recognized, however, that carcinoma might appear at any age. Over twenty-five years ago, at his clinic at the New York Hospital, the late Dr. Bull had corroborated with great emphasis before the class an opinion which he, Dr. Lloyd, had expressed after examination of one of the patients, a young woman of twenty-six, who had a mammary tumor presenting all the characteristics of malignant disease. This was the youngest patient of the kind that he had seen. The opinion expressed was that all tumors of the female breast should be removed. A benign tumor in this location was a constant source of irritation, and if the patient had any tendency to the development of cancer, such a growth would almost surely become malignant if allowed to remain. For a positive diagnosis, for or against cancer, it was important that a section should be made through the centre of the growth, as a superficial clipping was very apt to be misleading. In advocating removal he did not mean to say that the patient in most cases should be subjected to a complete operation, such as the Halsted, but it was essential that the entire growth should be removed. Traumatism, in his opinion, was a factor in the causation of cancer only to a limited extent. He could not agree with the reader of the paper as to the matter of heredity. Heredity was no more a cause in this affection than in the case of tuberculosis or any other infective disease. The soil was there, and the system was ready for the infection if it came that way.

Dr. J. Herman Branth said that one of the surprises of the last century befell Dr. Rudis-Jicinsky, of Iowa, when, because he knew of nothing else to do, he treated a case of mammary cancer with the x ray and found that a cure resulted. Immediately the whole medical profession jumped to the conclusion that we now had a remedy for cancer. Many were the enthusiasts, and numbers of physicians acquired an x ray apparatus as a necessary addition to their armamentarium. This method of treatment was resorted to for almost every imaginable ailment, but as experience accumulated it was found the x ray has its limitations. In January, 1904, he had read a paper before this association in which he stated that he did not observe good results from the use of the x ray in mammary and other deep seated cancers. From it there might, and often did, result an arrest in the progress of the disease; but he had never seen the entire disappearance of such a tumor, which could at any subsequent time break out again with more or less violence. The opinion then expressed now stood confirmed, and he could still say that he had never seen a cancer of the breast entirely cured under x ray treatment. Dr. J. A. Revière, of Paris, and Dr. Keating Hart, with whom he had a dispute as to priority in the use of this means, both spoke in the highest terms of the efficiency of high frequency currents, maintaining that they had caused many recoveries and that the knife was no longer required. Dr. Branth said that, although he was one of the oldest workers with x rays in this country, and could well profess to be an expert, he had entirely failed to achieve such results with either the x ray or high frequency currents in mammary or any deep seated cancer. Superficial cancers, on the other hand, were quite amenable to x ray treatment. The application of the high frequency spark to the open wound, after operative removal of the tumor, as first practised at Heidelberg, was well spoken of. This treatment was very painful, however, and could be given only under narcosis. Dr. Branth then went on to say that it was his belief, based on personal experience, that nothing better than the knife had yet been found for cancer of the breast. The great trouble was that many physicians hesitated to use it early, and most patients were only too glad of any delay and would accept any substitute. Hence when the operation was finally done it was likely to be too late to be of any service. When any kind of a tumor appeared in the breast, it ought to be promptly removed with the knife, the excision extending beyond the borders of the growth, for, if not originally malignant, it would almost certainly become so in time. Such an operation was not a serious one, and excellent hope of the nonrecurrence of the growth could be entertained. The fact of nonrecurrence would seem to show that in the beginning cancer was a local disease. Three to ten drops of fusel oil was an admirable local application for destroying the odor of cancerous growths. In conclusion, he stated that he believed the use of the x ray and high frequency currents to be a helpful measure after excision.

Dr. Carl Beck also expressed the opinion that the x rays should never be employed instead of the knife, and agreed with Dr Brauth that their use was only of service as a postoperative treatment.

Dr. Belleray said that Dr. Lloyd was right in emphasizing the importance of thorough exploratory incision, as he also had endeavored to bring out in the paper. Malignant growths required a more or less elaborate operation, but for simple adenomata enucleation was sufficient. There was never any return in the case of these benign tumors. In his experience carcinoma was exceedingly rare in young women, while sarcoma was more common.

The Operative Treatment of Fractures.—In this paper, by Dr. John B. Walker, the following conclusions were given: The operative method was indicated for the immediate accurate reduction of displaced fragments of long bones whenever it was

and impossible to correct the deformity without eration; also for the removal of soft parts be- een the fragments, which was the most frequent use of nonunion. When properly performed with itable instruments, it did not cause extensive eration of tissue or increase the risk of suppura- n. It was necessary that asepsis be observed hich was far superior to that requisite for other erations, for the reason that a considerable quan- y of metal was left in the wound. It diminished e unfavorable results of conservative treatment. simplified the usual treatment, for extension was dom required and tight splinting was unneces- y. Physiological rest, so essential to rapid and eventful healing, was frustrated by circular com- ession. The operative method permitted earlier ssage and passive motion, which were of so much portance in connection with joints in the earlier toration of function. It was necessary in fresh ses in which the fragments were irreducible, or uld not be moulded into place or kept in place er a fair trial, and in those in which there was olvement of the joints with loose or unmanage- le fragments; also in older cases of vicious union th malposition of various kinds, which interfered th perfect function.

According to the most recent records, sixty-five r cent. of surgical suits for malpractice and dam- es, which constituted seventy-five per cent. of all ch suits brought against the profession, were on count of defects following fractures. The old thod of treatment by splints, he said, had not, in past twenty years, progressed to anything like extent which other and more recent branches of rgery had—such, for instance, as the surgical atment of abdominal lesions. Corner carefully alyzed a series of 695 histories of fracture of the mur accurately recorded at St. Thomas's Hospi- , and found that over twelve per cent. were most satisfactory through angulation, deformity, and tensive overriding. In nearly all adults who had ictured the femur there was considerable shorten- g with lameness and stiffness at the knee joint, ac- mpanied by pain on changes in the weather. Lane, ter an examination of the extensive statistics of rious London hospitals, found that a very large mber of patients who had suffered from fractures the lower extremities had their earning capacity eatly lessened on account of faulty union. Dent, ter many years' observation among the police rce of London, wrote that fractures of the leg in- lving the knee or ankle joint, or fractures of the mur, uniformly led to permanent unfitness for the ork devolving on these men. These and numer- s other records indicated that the results of con- rvative treatment in thigh fractures had not as a le conformed to the high ideals which governed ery modern surgical undertaking.

In the larger hospitals of New York it was cus- mary to transfer fracture cases to Bellevue Hos- tal, in order to keep the beds free for patients who ight require laparotomies. Consequently a large mber of fractures failed to receive appropriate eatment within the first forty-eight or seventy- o hours. During the past twenty months there ere admitted to a surgical division of Bellevue ospital, suffering from fracture of the femur, a large number of patients from other hospitals, where a temporary splint had been applied. On admission, the limbs were usually dressed with a long side splint. Within forty-eight hours this was generally removed and a Buck extension apparatus applied. After traction had been employed for from two to three weeks, or until it was found impossible to overcome any further shortening, a plaster of Paris spica was applied and continued for a number of weeks, when the patient was allowed to get up and go about on crutches. Having given the statistics of these cases as to shortening, Dr. Walker said it seemed quite clear and very important that there should be developed some adequate improvement in the method of treatment for these cases of fractured femur.

More than fifteen years ago Mr. Arbuthnot Lane, of London, after analyzing his extensive investigation of the final results of fractures, came to the conclusion that in order to secure complete restoration of function it would be necessary to accomplish accurate apposition and alignment, and that this could best be obtained by operation. Accordingly, he began to operate upon recent fractures, and his brilliant results had encouraged many other surgeons to undertake similar methods. Each succeeding year there had been reported an increasing number of successful operations, and the renewed prominence thus given to this important branch of surgery warranted an extended examination of the present situation from all points of view, in consideration of the widely divergent opinions held by many eminent surgeons.

The speaker gave the details of a number of his cases and in connection with the paper presented six of the patients upon whom he had operated. The first of these was a boy, eight years old, who had had a fracture of the femur which could not be reduced by means of extension. He was operated upon in June last, and a Lane plate inserted, and there had been a perfectly satisfactory result, without any shortening. The second patient was a male child, sixteen months old, who at birth had a fracture of the upper third of the femur, and here also a perfect recovery had resulted. The third was a woman, forty-five years old, who had had a fracture of the upper third of the femur. She now walked without difficulty, and there was practically no shortening. The fourth case was one of special interest. The patient was a woman of twenty-eight who had had a fracture of the neck of the femur, the result of a fall on the icy sidewalk in January, 1904. A long splint was applied at the nearest hospital and on the following day she was transferred to Bellevue Hospital. A few days later she was sent to the City Hospital, Blackwell's Island, where she remained in bed for ten weeks with a long side splint without extension. She then left the hospital in the same crippled condition as when she entered. During the following eighteen months she went about on crutches, and on February 8, 1906, was readmitted to Bellevue. There was 2½ inches shortening and a radiograph showed the great trochanter displaced far upward, though the plate was so poor that it did not reveal the details of the fractured neck. At the end of six weeks of continuous traction by means of Buck's extension with increas-

ing weights (up to forty pounds) the shortening had been diminished to about three quarters of an inch. On March 21, 1906, she was operated upon, and when the seat of fracture was exposed it was found that the femoral neck projected about half an inch above the upper rim of the acetabulum and that the fracture was roughly transverse through the femoral neck, the proximal fragment consisting of the upper third of the femoral head. This fragment practically filled the acetabular cavity. Considerable callus surrounding the fragments was removed, the surfaces were freshened, and it was also necessary to remove a portion of the acetabular rim in order to bring the fragments into apposition. By traction and abduction the freshened fragments were brought together, and a steel drill was passed through the great trochanter (the neck) and the head and into the wall of the acetabulum; thus spiking the fragments together. The wound was closed with a small rubber tissue drain projecting, and a plaster bandage applied from the lower border of the ribs to the toes. The patient was confined to bed for eight weeks. Four weeks later a Thomas hip splint was applied, and she was permitted to go about on crutches. Five months after the operation the drill, which was loose, was easily removed with a small forceps. The hip splint was discontinued at the end of a year. She now walked without a cane and was free from pain. There was about three quarters of an inch shortening, which was compensated for by her shoe. The fifth patient was a woman, thirty years old, who had had fracture of the tibia and fibula at the lower third. At the end of six weeks' treatment with plaster of Paris it was found that there was no union. A plaster bandage was again applied, but after two weeks more there was still no union. She was then operated upon, and it was now found that it was the presence of portions of periosteum between the fragments of both bones which had prevented their uniting. A steel plate was applied and complete recovery resulted without shortening. The sixth patient was a boy who had had a fracture of the lower third of the humerus.

In fractures, the speaker went on to say, the rapidity and completeness of the cure were proportional to the accuracy of reduction and the retention of the fragments, delayed union being largely due to faulty adjustment. It was therefore most important that the reduction of the displaced fragments should be made complete and perfect at once. Nailing or suturing the fragments brought them into early intimate contact, and when the fractured surfaces were in proper contact primary healing resulted. It was most important to secure correct alignment, as this prevented a harmful deflection of the body weight. Normally the pressure of the weight was distributed equally over the surface of a joint, and if the sum of all these forces was taken, the result was a single force acting through the centre of the joint. After repair of a fracture with angular, longitudinal, or rotary displacement the line of force was moved to one or other side of the joint. As a consequence, new bone was produced around the site of increased pressure, while absorption occurred in the neighborhood from which the pressure had been removed. In other words, the result was the pressure arthritis so ably demonstrated by Lane, who urged that it should never be lost sight of that such unfortunate results could usually be avoided by a timely and skilful operation. A radiograph was important within two weeks after the reduction. It told us how successfully we had dealt with the fracture and, best of all, it told us at this time, when we could still remedy the defect, whether they were due to wrong diagnosis or to faulty treatment. It was necessary to interfere later far more often for bad results of treatment than for errors in diagnosis. Anæsthesia should be employed for the immediate and accurate reduction of displaced fragments much more frequently, and always in the treatment of fractures involving joints. Operation should be resorted to as soon after the injury as it had been determined that reposition was not possible by any other method. The longer the delay the more the tissues contracted, and the chief difficulty in the reduction of fractures was the shortening of the tissues which so displaced the fragments. Considering a fracture as a wound, the sooner and more accurately the wound surfaces were brought together and retained in apposition the less would be the swelling and the more perfect the healing.

In operating, the skin, rendered perfectly clean, was excluded from the wound and covered with gauze. Strong compression forceps obliterated the vessels and made ligatures unnecessary. All implements employed for approximating and fitting the fragments should be long and powerful, but great care should be taken not to lacerate the soft parts. Wire was unsatisfactory for the reason that it formed a curve and could not effect a firm and accurate apposition when a force tending to displace the fragments upon one another continued to be exerted. Wood screws, from three eighths to five eighths of an inch long, were the most satisfactory. The surgeon should remember that the result of his treatment, whether operative or not, would probably be submitted to the test of radiography, and one who did not insist on the taking of an efficient radiograph at the earliest possible moment in any suspicious case of injury rendered himself liable to much criticism, as well as financial loss, in the future.

(To be concluded.)

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

"Salvarsan" . . . Chemistry, Pharmacy, and Therapeutics. By W. H. Harrison Martindale, Ph. D. (Marburg), F. C. S., and W. Wynn Westcott, M. D. (London), D. P. H. London: H. K. Lewis, 1911. New York: Paul Hoeber, 1911. Pp. 77. (Price, $1.50.)

This book is remarkable for its errors of nomenclature. From the title page on through the whole book "606" is designated as an amino compound the authors must know better. A large proportion of their statements seem to be based on a book by Johannes Bresler, the two editions of which have been reviewed in this journal, a book, by the way

which is most inaccurate. Another specimen of the authors' chemistry is *oxyphenylarsonic* acid, also to be found through the entire volume. These two samples of inaccuracy characterize the whole pamphlet. The English is—to say the least—very peculiar; the authors prefer capitals in such words as methylene blue, mercury, atoxyl, iodide, antitoxines, etc. There are three illustrations, two in the text which are very crude, and a third pictures the Martindale outfits for various methods of injecting "606"—one of the authors is a Dr. Martindale. The bibliography is, in accordance with the whole book, very poor, although it must be admitted that the review given of the essays cited is good. The impression we receive is that the book is hurriedly written, poorly got up, and of little scientific value.

[illegible] Practitioner in Rhinology and Laryngology. By Dr. Josef Fein, Privatdocent at the University of Vienna. Translated by J. Bowring Morgan, M. B., B. Ch., Late House Surgeon at the Hospital for Diseases of the Throat, Golden Square, London W. With Forty Figures in the Text and Two Photographic Plates. New York: Rebman Company, 1910. Pp. xvi-228. Price, $1.50.

Fein's collection of practical suggestions on routine procedures in examination and treatment of the nose and throat were favorably considered in these columns on their appearance in the German original. Morgan's translation of this instructive little work is a good one, and will undoubtedly increase its sphere of influence.

[illegible] By Archibald Stanley Percival, M. A., M. B., B. C. Cantab., Senior Surgeon to Northumberland and Durham Eye Infirmary, etc. Illustrated with diagrams. New York: William Wood & Co., 1910. Pp. 159. (Price, $2.)

This small volume contains a pretty complete account of the methods of testing refraction, the underlying optical principles, the practical effect of tilting and decentering lenses, notation and ordering of prisms, and many other details with which all who prescribe glasses should be, and some really are, familiar. A valuable book for reference and occasional study.

[illegible] *matöser Keratitis und Verletzung?* Von A. Vossius in Giessen. Halle a. S.: Carl Marhold, 1910. Pp. 20.

In this short pamphlet Vossius discusses the possible traumatic factor in the causation of interstitial keratitis, a question which may at times be of practical importance from a medicolegal aspect. He concludes that such an ætiological connection has been proved and that even slight injury to the eye may bring on an attack in patients with hereditary syphilitic taint.

[illegible] Professor der Chirurgie in Wien. Zweite, umgearbeitete [illegible] Wien und Leipzig: Alfred Holder, 1910. Pp. v-305.

Readers who are familiar with von Frisch and Zuckerkandl's monumental work in three volumes, *Handbuch der Urologie*, will need no introduction to the present work of von Frisch. It is a monograph on the prostate and its diseases, which in its second edition has been brought completely up to date. The anatomy, physiology, and methods of examining the prostate form the subjects of the introductory chapters. The diseases of this gland are then taken up in order, reserving most of the space naturally to the great prostatic disease—hypertrophy. Prostatic enlargement, indeed, occupies about one half of the three hundred pages of this monograph. Proper place, however, is given to the discussion of tuberculosis, stone, cancer, etc., of the prostate, and special chapters deal with prostatic atrophy and prostatic neuroses. Like the *Handbuch der Urologie*, the present work is a critical compilation of our present knowledge of the prostate, complete and replete with bibliographical references, rather than a narrative of the special experience of the author. It is this universality of information, this modest screening of personality behind the mass of accumulated knowledge which is so characteristic of many of the great German contributions to medical literature. The temptation to interrupt the thread of discourse by the citation of cases, the application of which to the text can be excused only on the ground that the cases were personally observed by the author—that ever present temptation—is, we are sorry to say, not always resisted, even by writers whose fame should take them above the need of showing "what they are doing." Such monographs as this one of von Frisch's are a delight, because they give one all that one wishes, not in a colorless, cataloguelike compilation, but with the guiding hand of a master, invisible, yet felt, holding the balance and excluding the worthless and the superfluous.

The Sexual Disabilities of Man and their Treatment. By Arthur Cooper, Consulting Surgeon to the Westminster General Dispensary, etc. Second Edition, Revised and Enlarged. New York: Paul B. Hoeber, 1910. Pp. 204. (Price, $2.)

This is a compact little volume which contains an account of the two conditions which are summed up in the title as "sexual disabilities"—sterility and impotence. These subjects are handled in a simple, concise, easily understood manner, with a minimum of theory and information which is of mere technical interest. For this reason the manual should appeal particularly to practitioners who have no time to plunge deep into the subject, but who desire a working knowledge of sterility and impotence. The chapters on treatment might perhaps be more elaborate, and a greater wealth of detail as to the manner of applying the various methods might have been dwelt upon more insistently. The use of gonococcus vaccine should have been mentioned in the section dealing with the prevention and treatment of gonorrhœal epididymoorchitis.

Hernia. Its Cause and Treatment. By R. W. Murray, F. R. C. S., Surgeon, David Lewis Northern Hospital, Liverpool, Late Surgeon to the Liverpool Infirmary for Children. With Sixty-two Illustrations. Second Edition. Philadelphia: P. Blakiston's Son & Co., 1910. Pp. vi-184. (Price, $1.75.)

The author has adopted the theory of the ætiology of hernia urged by Hamilton Russel, of Melbourne, who calls it the saccular theory, that the chief factor in the production of hernia is a preformed sac rather than faulty development of the muscular and aponeurotic structures of the abdominal wall.

His method of operating for the cure of hernia, virtually the complete removal of the sac as advocated by the late Sir William Banks about 1844, and

the subsequent treatment of the patient, are based upon the view that the presence of the sac is the essential cause of the hernia. There are some good illustrations and there is a table of excellent results following the operation. The book would be bettered if it had an index.

Jahresbericht über die Leistungen und Fortschritte auf dem Gebiete der Erkrankungen des Urogenitalapparates. Begründet von weil. Prof. Dr. M. Nitze und Dr. S. Jacoby, Berlin. Herausgegeben von Prof. Dr. R. du Bois-Reymond, Berlin, Dr. C. P. C. Bosch, Haag, Prof. Dr. C. Bruni, Neapel, et al. Und unter Mitwirkung von J. Albarran, Paris, A. Bier, Berlin, H. Fenwick, London, A. von Frisch, Wien, H. Kümmel, Hamburg, und H. Young, Baltimore. Redigiert von Prof. Dr. A. Kollmann, Leipzig, und Dr. S. Jacoby, Berlin. V. Jahrgang, bericht über das Jahr, 1909. Berlin: S. Karger, 1910. Pp. iv-463.

This, the fifth annual review of the progress of urology throughout the world, does not differ materially from its predecessors, which have been reviewed in this column each year. The appearance of each of these closely printed volumes is ever greeted with acclamation by the urologist who takes enough interest in his specialty to enjoy a complete annual retrospect. No matter how extensive his reading may have been in any special field, he will find in this volume a panoramalike survey of it. The editors, to whom the special sections have been intrusted, are with slight changes the same as those who have taken charge of the previous volumes. America is represented on the editorial board by Hugh Young, of Baltimore, and M. Krotoszyner, of Leipzig, while Dr. N. Meyer, of Wildungen, appears to have done the abstracting of the larger number of the American articles which have been given place in the text. While naturally Teutonic literature prevails still in the make up of the review, the present volume shows more internationalism than its predecessors, and the authors' index contains names representative of every civilized tongue. That the Jahresbericht with the long name is becoming more and more useful and more and more indispensable each year is scarcely to be disputed by those who have followed the progress of this publication for half a decade.

Symptomatic and Rational Therapeutics. By George Howard Hoxie, A. M., M. D., Professor of Internal Medicine and Dean of the Clinical Department in the School of Medicine of the University of Kansas, etc. With Fifty-eight Illustrations in Text. New York and London: D. Appleton & Co., 1910. Pp. xviii-499.

The author states that this volume contains the material collected for the course in general therapeutics recommended by the Committee on Curriculum of the American Medical Association; and the course forms a transition from the laboratory to the clinic, more attention being given to the discussion of the principles that underly the various methods of treatment than to an elaboration of the relative merits of the various drugs.

The first chapter is devoted to a consideration of symptoms and their relief, and of the relation of the symptoms to pathological processes. The second chapter considers the treatment of localized inflammations; the third, diseases of the respiratory tract; the fourth, diseases of the digestive tract; the fifth, diseases of the circulatory system; the sixth, disorders of the genitourinary tract; the seventh, disorders of the nervous system; the eighth, disorders of the glands; the ninth, disorders of metabolism; and the tenth, infectious diseases. There are two chapters of notes on remedies.

The book is conveniently arranged, and practical, and, as the chief function of the physician is to cure disease, the work is likely to be helpful to the practioner and the patient.

Urgent Surgery. By Félix Lejars, professeur agrégé à la Faculté de médecine de Paris; chirurgien de l'Hôpital Saint-Antoine, membre de la Société de chirurgie. Translated from the Sixth French Edition by William S. Dickie, F. R. C. S., Surgeon to the North Riding Infirmary, Middlesbrough, etc. With Twenty Full Page Plates and 994 Illustrations, of Which 602 are Drawn by Dr. E. Daleine and A. Leuba, and 217 are From Original Photographs. Volume II. The Genitourinary Organs, the Rectum and Anus, the Strangulated Hernias, the Extremities. New York: William Wood & Co., 1910. Pp. 580. (Price, $7.)

This volume discusses the surgery of the genitourinary organs, of the rectum and anus, of strangulated hernia, and of the extremities, over half the contents being devoted to the latter. In general the treatment of each subject is that followed in usual surgical procedure; in the section on fracture of the condyles of the humerus it might have been well to advise operation generally, as is done in the consideration of fractures of the olecranon and of the patella.

The volume is admirably printed and well illustrated, though in the plates the hands are shown ungloved—a method that the photographic reproductions elsewhere show the author does not follow.

Cystoscopy as Adjuvant in Surgery. With an Atlas of Cystoscopic Views and Concomitant Text for Physicians and Students. By Staff Surgeon Dr. O. Rumpel, Lecturer in Surgery at the University of Berlin. Only Authorized English Translation by P. W. Shedd, M. D., New York. With Eighty-five Illustrations in Color on Thirty-six Plates, and Twenty-two Textual Figures. New York: Rebman Company, 1910. Pp. vi-131. (Price, $8.50.)

This work consists of two parts of very unequal merit, a "concomitant text" and an atlas of thirty-six plates containing eighty-five colored cystoscopic pictures. The atlas is practically a duplicate of the German original atlas, inasmuch as the illustrations were printed from the original plates and pasted on the corresponding pages of the American edition. The figures are handsomely executed and offer a complete gallery of the more common and some of the rarer cystoscopic pictures. Unfortunately the pasting of the circles of colored paper upon the glossy calendered pages cannot be called a success. The pages wrinkle, they have a tendency to adhere to one another—small matters, but significant in a work of the importance and distinction to which Rumpel's atlas should aspire. Furthermore—what is of great importance to the beginner in cystoscopy—the circular reprints of Rumpel's pictures have not been pasted in with due care regarding the true position of the structures as seen by the examiner through the cystoscopic ocular. Some mark could have been easily provided upon the circles showing where the "top" should be, or still better, some method should have been adopted to indicate the position of the cystoscope in the bladder when the picture was seen. Thus, in Plate XVII the upper picture shows a horizontal ureteral fold, while the

wer (from the same bladder) shows this fold running almost vertically. In Plate XXVII the "fibroyxoma at the neck of the bladder" is shown at ie side of each of the two figures, instead of in the edian line, as the author would wish it to appear. The character of the translation may be gleaned om the title of the book and from the following ntence: "However, variations of position along e urinary tract are so manifold that cystoscopic monstration alone of departures from the norm in etral (sic!) location, gives no valid conclusion as the species of abnormality present" (p. 2). The ork is of great intrinsic merit in spite of all the ults of its American dress.

An Anatomical and Surgical Study of Fractures of the Lower End of the Humerus. By ASTLEY PASTON COOPER ASHHURST, A. B., M. D., Prosector of Applied Anatomy in the University of Pennsylvania, Surgeon to the Out Patient Departments of the Episcopal and Children's Hospitals of Philadelphia, etc. The Samuel D. Gross Prize Essay of the Philadelphia Academy of Surgery, 1910. Philadelphia and New York: Lea & Febiger, 1910. Pp. 163.

The author reviews the applied anatomy of the ow region, discusses the development of the lower iphysis of the humerus, considers the causes, mptoms, and treatment of the typical fractures countered, and gives personal statistics of the relts obtained. These latter are remarkable, as in rty-seven patients whose final history could be obined, eighty-one percent. had perfect motion, eight r cent. limited motion, eight per cent. varus, and o per cent. valgus deformity.

By means of the skiagraph and proper surgical eatment, the author believes that the prognosis of y and all fractures that involve the lower end of e humerus is good, and that in the vast majority cases the ultimate results will be perfectly satisctory. The work is well illustrated and is an imrtant contribution to the literature of fractures.

MEDICOLITERARY NOTES.

The Confessions of a Second Wife is a clever rial of *post bellum* days in the South, running in e *Saturday Evening Post;* the author, Corra arris, shows curious insight into the psychology the newly married. Perhaps the use of the word volute" is an ingenious attempt to show the lack education on the part of the heroine, the story ing told in the first person. One character is Dr. arks, whose favorite prescription is as follows: x ounces of charcoal, fourteen drachms of sulur, eight scruples of Epsom salts; to be taken ree times a day (!) His invariable advice is said have been "Get up, stay up, drink plenty of water, ork with your hands every day till you sweat coously, and keep the Ten Commandments. This sures proper secretions of the body and a clean nscience, without which there is no such thing as od health."

* * *

Mrs. MacIlroy in The Hills of Mourne, in the nuary *Red Book,* a story by Seumas MacManus, ffers early in the morning from a severe mental hock. A policeman, of Connaught origin, prescribes and advises as follows: "Give her a nice dhrop of warm water with a little ground ginger in it, and a lump o' sugar, and a thimble of whiskey. Ye shouldn't travel on the empty stomach in the mornin'—for the wind always gets round the heart of the old people when there is no breakfust there for to fill the spaces."

* * *

Vegetable colors are said to be superior to aniline dyes in the making of Oriental rugs, as the aniline preparations eventually destroy the fabric. This is pretty good evidence that the aniline dyes are unfit to color foods and relishes. An ingenious argument against the use of aniline dyes in foods has been advanced to the effect that the gastric cells are probably selective of the various colors. The consumption of dyed foods would produce a picturesque appearance where none is required, and the cells occupied in their new and unphysiological function would probably neglect their digestive duties.

* * *

It is said that a prisoner recently arrested for financial irregularities took eleven grains and a half of hyoscyamine with suicidal intent, but was saved by prompt use of the stomach pump. The patient's survival seems to point to previous use of this extraordinarily powerful sedative, one hundredth of a grain of which will reduce to innocuous calm the most violent of lunatics. Quite without prejudice we may note that hyoscyamine addiction would explain the vagaries of this particular individual. The drug abolishes the higher faculties, including caution, and causes complete oblivion of actions twenty-four hours old, without, however, affording any clue save to an experienced eye that the user is heavily narcotized. Like other narcotics, it stimulates the speech centre, but brings about lethargy of movement; it is a mydriatic.

* * *

Current Literature for January gives a factitious importance to the violent attack of Dr. Norman Barnesby on the medical profession by devoting three pages to his book. Marguerite Mark's article on Paul Ehrlich is reprinted from the December *McClure's.* There is a long and entertaining extract from Sherlock Holmes, the clever and successful play by William Gillette and Sir Arthur Conan Doyle. Any one interested in literary composition will study this extract attentively; it gives in full the significant stage "business," which is much more striking to the average student in print than when witnessed in the production.

* * *

We do not know any man brave enough to say the things about woman suffrage that women say in the *Ladies' Home Journal* for January 1st; such a man would be deservedly hatpinned. Dr. William G. Anderson, physical director of Yale University, tells How a Woman Renewed Her Youth. This woman was forty-two years of age and suffered from: Too large a bust; a projecting and pendulous abdomen; unsightly and enormous hips; furrows across the forehead; bags under the eyes; wrinkles from nose to corners of mouth; flabby and blotchy skin; hair, either gray or "unpretty brown"; *arcus senilis;* redness of gums and yellowness of

teeth; loss of memory; lack of enterprise; disinclination for exertion; cold extremities. Relief from this unpleasant symptom complex came, not from three bottles of anybody's female blessing, but from a series of carefully devised physical exercises, which this Joan of Arc kept up for a whole year. *Il faut souffrir,* etc.

* * *

Brillat-Savarin, in his *Physiologie du gout,* shows how certain aliments are misjudged to be indigestible. On one occasion, he relates, he served truffles to a Mr. S. as a garnish to a "virgin turkey" superbly (*advantageusement*) stuffed. Mr. S. ate with energy and some hours later suffered from violent colic, nausea,, a convulsive cough, and general malaise. Universal outcry against truffles as indigestible. Finally Mr. S. has a violent eructation which projects a single morsel of truffle clear across the room; immediate cessation of all symptoms, Mr. S. falls peacefully asleep and awakes on the morrow *sans rancune.* Soon the cause of the trouble becomes known. Mr. S. has been eating for a number of years; his teeth have been unable to support the labor imposed upon them; many of these precious ossicula have "emigrated," and the remainder lack the coincidence desirable. Under the circumstances a whole truffle escaped mastication and was precipitated into the abyss, there to act as a foreign body. M. Brillat-Savarin was unable to draw the powerful moral that is obvious to us with our knowledge of modern dentistry.

* * *

Brillat-Savarin was forced to flee his native land during the Revolution, and during part of his exile he played a fiddle in a New York orchestra. His native town, Belley, is about to erect a monument to him. They do this monument business better in France. He became a counsellor of the Supreme Court, for he possessed in a high degree the judicial habit of mind, as is proved by his refusing to decide on the question of the superiority of Burgundy to Claret.

* * *

The Institute of France, it appears, has decided that a woman cannot become a member of the Academy of Sciences, but this verdict may be reversed by the Academy itself. Probably most of the members of this august body would be glad to welcome Madame Curie as they did her late husband, but precedent is strong in France, and there is undoubtedly a fear that in future votes on women applicants influences might be brought to bear to secure the election of candidates whose scientific attainments were limited to the improvement and advancement of their personal attractions.

* * *

The recommendation of the committee on credits at Columbia University that members of the debating societies and writers on the college papers should receive academic credits for their special work might well be adopted. No course of study can surpass writing and debate as mental exercises to secure accuracy of thought and exactness of expression, two most desirable accomplishments in a man of education. As to giving credits to members of athletic teams, that is altogether another matter. College athletics at present are not designed to train the body symmetrically, as among the ancient Greeks, but to overtrain a few specialists, mainly for advertising purposes.

* * *

A new rifle to be carried by one man has been invented; it fires four hundred shots a minute. It would be magnificent if the talent wasted on inventions of this kind could be devoted to appliances that would cause an equivalent mortality among microorganisms. War must some day follow the duel. Four hundred years ago no gentleman could go into the street without being canned from head to foot in armor, with a serviceable battleaxe over one shoulder and a chip on the other: obviously looking for trouble, he was sure to find it. Will it be much longer before nations are as sensible and as courteous as individuals are now? Every new gun or battleship is an irritating affront to other nations. There are so many enemies of the race, poverty, ignorance, dirt, disease! Our patients are anxious enough as individuals to be "cured," but they are shy when it comes to a question of prophylaxis, at some initial expense, for the good of the community. We wish we could appropriate some of the war money for their education. A series of stereopticon lectures, showing the very obvious actuality of the bacteria and how they injure the viscera by their mere crowding alone, ought to be valuable to a large population, now firmly convinced that ill health is imaginary.

* * *

Many of the loose thinkers regarding disease must be fond of flowers and find pleasure and profit in growing them. They could be easily taught, it seems to us, that the parasites of disease, animal and vegetable, are precisely comparable to the insects and weeds that devour and choke up their cherished plants. What mystics strive to ignore are the fever and pain which accompany disease; they should learn that these phenomena are signs of Nature's efforts to drive away the foreign invader, the shouting and the tumult of battle only. Physician and nurse are trying to do what the amateur of flowers does, uproot the weeds and poison the devouring parasites. Any young student of botany can understand bacteriology in its general principles. But, in the present stage of public ignorance, the word "bugs" is not the joke to the layman that it is to us: he thinks that all microorganisms, if he believes in their existence at all, belong to the insect and reptile genera.

* * *

The attacks of amygdalitis and cervical adenitis to which children are so subject may well be due to neglect of the regular toilet of the teeth and mouth. A normal child will not cleanse the oral cavity thoroughly unless watched, although a child's mouth is more in need of constant attention than an adult's. Children eat quantities of cheap candy and other rubbish between meals, furnishing excellent culture media to all kinds of microorganisms.

Miscellany.

Death Rate of Physicians during 1910.—The *Journal of the American Medical Association* reports the death of 2,324 physicians during 1910 in the United States and Canada. The *Journal* remarks: "Reckoning on a conservative estimate of 37,000 physicians, this is equivalent to an annual death rate of 16.96 per 1,000. The age at death varied from 22 to 97, with an average of 59 years, 11 months and 4 days. The general average since 1902 59 years, 5 months, and 28 days. The number of years of practice varied from 1 to 72, the average being 32 years, 8 months, and 9 days. The general average for the past six years is 31 years, 5 months, and 29 days. The chief death causes in the order named were 'heart disease,' cerebral hæmorrhage, pneumonia, violence, and nephritis."

The Report of the Surgeon General of the Navy.—Among the recommendations contained in the first annual report of Surgeon General C. F. Stokes, of the United States Navy, are the following: The establishment of a Navy Medical Reserve Corps; the establishment of the grade of chief pharmacist; ranking dentists as commissioned officers of the lower grades; assigning medical officers for duty under the Aid for Inspections; enforcement of venereal prophylaxis as practised in Asiatic and Atlantic fleets throughout the entire service ashore and afloat; substitution of a readily washable texture and color for all service uniforms of officers and men; extension of vaccination against typhoid to the entire personnel under fifty years of age; adoption of the bubbling spring device for drinking fountains throughout the entire service ashore and afloat to minimize contagion in drinking; more suitable air intakes for ventilation for forward compartments; assignment by regulation of a definite percentage of stretcher bearers, as required for each type of fighting ship; designation of division officers by regulation to give first aid instruction to the crew.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox have been reported to the surgeon general of the United States Public Health and Ma-

Place.	Date.	Cases.	Deaths.
[illegible]	Nov.	[illegible]	[illegible]
[illegible]	Dec.	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Dec.	[illegible]	[illegible]
Palermo, insane asylum	Dec. 4-10	[illegible]	1
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	No[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Ponto do Sol	Nov. 16-Dec. 8	54	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Porto Santo Island	Nov. 16-Dec. 8	7	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

Place.	Date.	Cases.	Deaths.
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the United States Public Health and Marine Hospital Service for the seven days ending January 4, 1911:

Brown, F. L., Pharmacist. Granted seven days' leave of absence from January 2, 1911.

Foster, A. D., Passed Assistant Surgeon. Granted six days' leave of absence from December 28, 1910, under paragraph 191, Service Regulations.

Fricks, L. D., Passed Assistant Surgeon. Leave of absence for two days, December 9-10, 1910, amended to read two days, December 20-21, 1910.

Grimm, R. M., Assistant Surgeon. Granted four days' leave of absence from December 28, 1910, under paragraph 191, Service Regulations.

Guiteras, G. M., Surgeon. Granted six days' leave of absence from December 20, 1910, on account of sickness.

Hart, G. G., Acting Assistant Surgeon. Granted four days' leave of absence from January 1, 1911.

McMullen, John, Passed Assistant Surgeon. Granted fourteen days' leave of absence from December 30, 1910.

Maurice, I. Kaplan, Acting Assistant Surgeon. Granted five days' leave of absence from December 23, 1910, under paragraph 210, Service Regulations.

Spratt, R. D., Passed Assistant Surgeon. Granted four days' leave of absence from December 23, 1910, on account of sickness.

Board Convened.

Board of Medical officers convened to meet at the Marine Hospital, Stapleton, N. Y., as soon as practicable, to make medical survey of an officer of the Revenue Cutter Service. Detail for the board: Surgeon H. W. Austin, chairman; Passed Assistant Surgeon W. A. Korn, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending January 7, 1911:

Allen, John H., Major, Medical Corps. January 3d, leave of absence for ten days extended ten days.

Banister, John M., Colonel, Medical Corps. December 31st, is retired from active duty.

Barney, Charles N., Major, Medical Corps. December 31st, is retired from active service.

Davidson, Wilson T., Captain, Medical Corps. December 31st, granted leave of absence for three months.

Ebert, Rudolph G., Lieutenant Colenel, Medical Corps. January 5th, relieved from duty as chief surgeon, Department of the Columbia, and ordered to San Francisco, Cal., for duty as chief surgeon, Department of California, relieving Lieutenant Colonel Charles M. Gandy, Medical Corps, and in addition to that duty Lieutenant Colonel Ebert will assume the duties of medical superintendent, Army Transport Service, San Francisco, Cal. Lieutenant Colonel Gandy, after being relieved, will proceed on transport to sail from San Francisco, Cal., about March 5, 1911, to Manila, P. I., for assignment to duty in Philippines Division.

Harris, Herbert I., Lieutenant, Medical Reserve Corps. January 3d, orders relieving him from duty at Fort Snelling, Minn., and directing him to proceed to the Philippines Division for duty, are revoked.

Krebs, Lloyd Le R., Captain, Medical Corps. December 31st, ordered to report to Lieutenant Colonel James D. Glennan, Medical Corps, President of the Examining Board, San Francisco, Cal., for further examination to determine his fitness for promotion.

Smith, Herbert M., Captain, Medical Corps. January 5, 1911, honorably discharged from the service of the United States.

Woodall, William P., Captain, Medical Corps. December 20, 1910, left Fort D. A. Russell, Wyo., on thirty days' leave of absence.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending January 7, 1911:

Brown, E. W., Assistant Surgeon. Detached from the *Dolphin* and ordered to the naval proving ground, Indian Head, Md.

Foster, T. G., Passed Assistant Surgeon. Detached from the Naval Hospital, Canacao, P. I., and ordered to the *New Orleans*.

Hathaway, G. S., Passed Assistant Surgeon. Detached from the *New Orleans* and ordered to the naval station, Olongapo, P. I.

Higgins, M. E., Passed Assistant Surgeon. Detached from the naval proving ground, Indian Head, Md. and ordered to temporary duty at the Naval Medical School, Washington, D. C.

Phelps, J. R., Assistant Surgeon. Detached from the *Solace* and ordered to the *Vermont*.

Smith, H. L., Passed Assistant Surgeon. Ordered to the *Hancock*.

Births, Marriages, and Deaths.

Married.

Shelby—Carter.—In Canton, China, on Wednesday, December 28th, Dr. Will Dana Shelby, and Miss Elizabeth Carter.

Stevens—Arnold.—In Sharon, Wisconsin, on Tuesday, December 27th, Dr. Carl Stevens, and Miss Hazel Arnold.

Wasson—Hoon.—In Butler, Pennsylvania, on Thursday, December 22d, Dr. E. L. Wasson, and Miss Henrietta Hoon.

Died.

Colvin.—In Clyde, New York, on Sunday, January 8th, Dr. Darwin Colvin, aged eighty-eight years.

Conn.—In McGaheysville, Virginia, on Tuesday, January 3d, Dr. William A. Conn, aged sixty-six years.

Curran.—In North Adams, Massachusetts, on Friday, December 30th, Dr. C. J. Curran, aged fifty years.

Davis.—In Philadelphia, Pennsylvania, on Saturday, December 31st, Dr. William F. Davis, aged sixty-four years.

Demers.—In Levis, Quebec, on Monday, December 26th, Dr. J. F. Demers, aged thirty-eight years.

Ervey.—In Wheeler, Michigan, on Monday, December 26th, Dr. A. J. Ervey, aged sixty-five years.

Fienup.—In St. Louis, Missouri, on Sunday, January 1st, Dr. T. F. Fienup, aged thirty-eight years.

Gilbert.—In Lyons, New York, on Saturday, January 7th, Dr. John Perrine Gilbert, aged eighty-one years.

Grissom.—In Bliss, Kentucky, on Sunday, January 1st, Dr. W. T. Grissom.

Haggerty.—In Scranton, Pennsylvania, on Thursday, December 29th, Dr. William Haggerty, aged sixty-nine years.

Hale.—In Cairo, Illinois, on Friday, December 30th, Dr. J. L. Hale, aged seventy-five years.

Herrington.—In Rawson, Ohio, on Thursday, December 29th, Dr. L. W. Herrington, aged seventy-six years.

Hertz.—In Lexington, Pennsylvania, on Wednesday, December 28th, Dr. John K. Hertz, aged seventy-eight years.

Krause.—In New York, on Saturday, January 7th, Dr. William H. Krause, aged sixty-nine years.

Kuhn.—In Brooklyn, New York, on Wednesday, January 4th, Dr. Karl Kuhn, aged seventy-six years.

Lanier.—In Baltimore, Maryland, on Sunday, January 1st, Dr. B. B. Lanier, aged forty-one years.

McCamy.—In Kensington, Pennsylvania, on Friday, January 6th, Dr. Robert H. McCamy, aged fifty-five years.

Menger.—In Paterson, New Jersey, on Sunday, January 8th, Dr. William A. Menger, aged thirty-six years.

Moellering.—Near Goshen, Indiana, on Thursday, December 29th, Dr. W. H. Moellering, aged about thirty years.

Oberle.—In Newark, New Jersey, on Thursday, January 5th, Dr. William A. Oberle, aged twenty-eight years.

Pitts.—In Berlin, Maryland, on Tuesday, December 27th, Dr. John W. Pitts, aged sixty-nine years.

Roberts.—In Pittsfield, Massachusetts, on Wednesday, January 4th, Dr. Oscar S. Roberts, aged seventy-three years.

Smith.—In Bismarck, Pennsylvania, on Sunday, December 25th, Dr. Amos S. Smith, aged seventy-nine years.

Williford.—In Richmond, Virginia, on Monday, January 2d, Dr. J. S. Williford, aged eighty-five years.

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Original Communications.

METASTASIS TO THE NERVOUS SYSTEM FROM CANCER OF THE STOMACH AND INTESTINES.*

BY HENRY L. ELSNER, M. D.,
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In spite of the rarity of metastasis to the nervous system from malignant growths of the stomach and intestines, it seems to the writer that the clinical features of such incidents might be studied with profit. Metastasis to the nervous system, following, or associated with breast cancer, is much more frequent than has been supposed, and it is this fact, emphasized by a growing material, which led me to a thorough consideration of the symptoms referable to the central and peripheral nervous system, connected with distant growths, including metastasis from stomach and intestinal cancer. It is not uncommon, because of a sufficient remnant of gastric follicles and functionating mucosa, to find the characteristic features of cancer of the stomach absent during comparatively long periods. This condition does not preclude the possibility of metastasis to distant organs. There may, still further, be palpable tumors connected with the stomach or intestines without marked symptoms, a fact which is more particularly true of intestinal cancer, as it involves the sigmoid or splenic flexure, in which there may be early metastasis to the spine or change in peripheral nerves, occasionally to the brain. The nervous manifestations may, in such cases, continue in the ascendency during comparatively long periods. In these rare cases the few gastric or intestinal disturbances receive scant or no attention, may not even be mentioned by the patient.

There is a class of cases in which there is metastasis to the nervous system with stomach or intestinal cancers in which the former remain unrecognized during life because they fail to cause sensory symptoms, while the motor disturbances are interpreted during the terminal period as an expression of general enfeeblement due to the primary growth.

A further fact to be considered is the possibility of periods of latency connected more particularly with stomach cancer, during which there remains a certain amount of functional inactivity, but occasionally so slight as to lead the unsuspecting diagnostician to doubt the correct and original diagnosis. The possibility of long periods of improvement in the visceral carcinomata under consideration and these periods of latency which positively exist have not been generally recognized by the profession, and it is during these periods that metastasis to distant parts may follow. A small cancer nodule in the stomach or intestines may exist without local symptoms, and may remain unrecognized; painful metastasis to the spine or to the membranes of the cord may give the first evidence of malignant disease. Cases of stomach cancer without symptoms in which metastases to the nervous system are present may exist, in which, as in dogs after gastrectomy, the intestinal tract soon learns to compensate for the loss of the stomach function.

But a slight acquaintance with the facts of clinical medicine are sufficient to prove that metastasis to liver, lung, and to other organs, including the nervous system, may occur, although the most painstaking examination fails to give any knowledge of the site or even the existence of a primary malignant process. In these cases the secondary growths are often conspicuous.

Symptoms of disease of any part of the nervous system in the presence of visceral disturbances should be regarded with suspicion. It is a grave mistake to dismiss with a diagnosis of "hysteria," "neuralgia," or "functional disturbance" the obstinate, agonizing, and recurring pains, radiating along the spinal nerves, because of their freedom from association with objective signs of organic disease. The symptoms in these cases may be "distant, irregular, remote in time and situation, and wanting in precision."

With visceral cancer, whether arising in stomach, intestine, liver, or breast, these symptoms include pain. In the majority of cases the spinal bones are invaded, more particularly the bones of the vertebræ. We should make a tentative diagnosis of secondary deposit in the spine or brain or periphery, when in the course of visceral carcinomata any part of the nervous system has suddenly or gradually given evidence of invasion. It is always wise in diagnosis to insist upon the unity of the underlying pathological process, however various the symptoms may be. In the presence of a palpable tumor this is particularly true.

Spiller and Weisenburg[1] say: "Metastasis in the central nervous system secondary to carcinoma elsewhere in the body may assume many forms. It may occur as a multiple carcinomatosis, which may or may not be a part of a general carcinomatous process elsewhere. There may be only a few cancer nodules within the central nervous system, or

[1] Carcinoma of the Nervous System with Report of Eleven Cases, *Journal of Nervous and Mental Disease*, XXXIII, p. 500, 1906.

E. B. Elliott Publishing Company.

the process may involve the brain or cord and the meninges extensively, or the meninges alone. The meningeal infiltration may be either diffuse, as a carcinomatous meningitis, like the sarcomatous meningitis, or may be in the form of multiple small tumors." . . . "Metastasis may occur anywhere within the brain. It is probable that cancer nodules occasionally are overlooked, either because of their resemblance to the surrounding brain tissue, or because of their minute size." . . . "Metastasis to the substance of the spinal cord is exceedingly rare and is nearly always from the periphery of the cord. Metastasis to the vertebræ is most common."

1. PERIPHERAL INVASION.

Experience proves the possibility of involvement of the peripheral nerves either with or without metastases to the brain and cord. There may be changes in the peripheral nerves and muscles, either severe or insignificant. Included in the material which served to supply the data upon which this paper is based there were three cases, one rectal, two stomach, with positive symptoms of multiple neuritis, and two cases in which the symptoms of multiple neuritis were considered to be of toxic origin with cancer of the stomach. In the one rectal case with multiple neuritis the patient had left sciatic neuritis which refused to yield; there were no early rectal symptoms; double sciatic pain developed; this followed the recognition of cancer of the rectum and sigmoid flexure. There was ultimately ascending invasion, multiple deposits in the central nervous system, with focal symptoms referable to the motor area. In the two cases of peripheral neuritis secondary to stomach cancer there was a period of general motor weakness, severe lancinating pains radiating to all extremities, gradually reduced reflexes, no sphincter symptoms, and finally a characteristic quadraplegia.

Klippel has reported (*Thèse,* Paris, 1889) five cases of cancer of the stomach with accompanying multiple neuritis of which three were examined post mortem. Twice he found degeneration of the peripheral nerves with marked changes in the musculature; in one case the muscles were alone invaded. Auche had ten cases of stomach cancer which *intra vitam* gave positive symptoms of peripheral neuritis. The larger nerve trunks were intact, the smaller peripheral branches were markedly changed. Miura reports a typical case of peripheral neuritis complicating cancer of the stomach. In the patient, a woman, aged thirty-two, in the course of cancer of the stomach at first increasing symptoms of multiple neuritis gradually developed, then there was rapid development. Before death there were brain and spinal symptoms, none focal. The clinical diagnosis of multiple neuritis was confirmed by post mortem examination, which showed multiple degenerative neuritis. The central nervous system was intact.

Gastrologists will occasionally meet cases in which there are associated with stomach cancer vague symptoms referable to the peripheral nerves without the positive and usual manifestations of a true neuritis. In some of these cases there are associated general symptoms which lead to a strong suspicion of the toxic origin of these symptoms. This condition is not likely to be associated with the severe pains of spinal invasion; the symptoms resemble, but are not identical with, those originally described by Lichtheim, and are present in pernicious anæmia. Spiller and Weisenburg believe those to be of toxic origin in which "there are no gross pathological changes, though the nerve cells of the brain and cord sometimes show changes from congestion of the bloodvessels and degenerative changes in some of the cranial nerves." These authors include as toxic conditions associated with metastasis "hemiplegia with or without aphasia, aphasia alone, monoplegia, convulsions, either general or Jacksonian in type, cranial nerve paralysis, and bulbar phenomena." To this list it is probably correct to add psychoses which occasionally complicate visceral carcinomata, though it is held by some that these are an expression of intracranial metastasis.

Miura and others have assumed that with carcinoma a deleterious poison is developed, which in those predisposed develops degenerative neuritis. I conclude that this disposition is not frequent, because of the rarity of the complication. I have, however, felt justified in considering two of my cases of cancer of the stomach with symptoms suggestive of multiple neuritis of toxic origin, but I have no post mortem observations to prove this conclusion. The cases in which I have favored the toxic rather than metastatic origin of the secondary neuritis, showed symptoms of general poisoning; the sensorium was involved, while the pains were less severe. The cases of peripheral metastatic neuritis behave much as do the ordinary types of the disease.

Raymond has reported a case in which there were symptoms of multiple neuritis without "cancerous invasion of nerve trunks." In these cases the *muscles* were infiltrated with cancerous masses and intramuscular nerve ramifications were discovered. This condition was characterized as an "acute miliary carcinomatosis especially of the muscles."

II. SPINAL INVASION.

The bulk of evidence is against the primary occurrence of cancer of the spine; it is either a secondary growth or it develops from contiguous structures. Spinal metastasis frequently follows breast and œsophageal cancer. *The study of the relative frequency of metastasis to the spine from breast and stomach cancer proves the former to be twice as frequent as the latter.*

Schlesinger's (*Beiträge zur Klinik des Rückenmarks- und Wirbeltumoren*, Jena, 1898) statistics are conclusive on this point. Thus, in fifty-four cases with metastasis to the vertebræ and spinal membranes there were cancers of the breast, in ten cases; œsophagus, in nine cases; thyreoid, in nine cases; uterus, in six cases; bronchus, in five cases; stomach, in four cases; prostate, in three cases; gallbladder, in two cases; ovary, in one case; sigmoid flexure, in one case; rectum, in one case; kidney, in one case; adrenal, in one case; pancreas, in one case; not specified, in one case.

Allow me to present in abstract the history of a case which, because of the sequence of symptoms, is interesting and characteristic of spinal invasion,

general carcinomatosis, including cancer of the stomach.

Case. In May, 1907, I saw in Cortland, N. Y., a woman, aged sixty, without taint of any kind, the mother of six children, who had been relieved of a breast cancer one year before. The breast cancer had not been associated with gastric symptoms prior to its removal. After the operation she had remained fairly well until November 5, 1906, when she fell while walking on an icy walk; her "feet went out from under her." She had, we found on close questioning, more or less difficulty in "handling" herself shortly after the operation. After the fall she was "stiff," "awkward," and with increasing pains in her back and hips, and slight motor weakness; the sensory symptoms most prominent and annoying, she was forced to give up and remained in bed. In November, 1906, there was no palpable swelling in the painful parts but soon the classic symptoms of cancer of the stomach developed, including vomiting of "coffee ground" fluid, at times a gelatinous fluid, at times mucopurulent. Analysis of stomach contents gave positive reaction, with Boas-Oppler bacilli in profusion. The pains increased in severity as the disease advanced. When I saw her she presented the symptoms of compression myelitis invading the dorsolumbar cord. She was slightly jaundiced, tongue was red, glazed, and dry. She was rapidly losing in weight; her heart sounds were weak and distant, almost fœtal; blood examination showed secondary anæmia. The agonizing pain which shot through her lower extremities was worse at night, requiring enormous doses of anodynes with but little relief and depressing insomnia. Urine was scanty, not abnormal save high urea output—over three per cent.

Physical examination: Mitral insufficiency, accentuation of the second pulmonic sound, no marked enlargement of the heart. There was a palpable mass at the pylorus with moderate gastrectasia, mobile on inflation, easily outlined as belonging to, and movable with the stomach, which was slightly prolapsed. The stomach wall was abnormally resistant and unquestionably infiltrated. Lying on her back I was unable to palpate the liver; standing, its weight pushed it down and it was found studded with hard secondary nodules.

Nervous system: Patient said her legs were not numb, that they did not feel cold save occasionally. She dragged her feet, could not stand unaided. There were no analgesic areas, no hyperæsthesia, no anæsthesia. While she stood, the pains persisted and she spoke of the "torture" which she was forced to endure and begged for relief.

The left patella tendon reflex was faint, the right absent; there was no Babinski, no ankle clonus, no changes in ocular reflexes; no girdle sensation; urinary reflex tardy but not sufficient to annoy or cause retention or cystitis.

The patient died after several months of continued agony, with clear mind, of asthenia without the usual terminal toxic symptoms.

The leading features in this case in their sequence are: 1. Cancer of the breast; operation. 2. The symptoms of invasion of the spine and consequent pressure. 3. The appearance of symptoms of cancer of the stomach with palpable mass and liver invasion months after the appearance of cancer of the breast and almost coincident with the evidences of metastasis to the spine ultimately by pressure involving the cord.

In [illegible] the sequence of symptoms and pathological deposits were not the same, but the final invasion of the spinal bodies and membranes of the cord gave rise to similar subjective complaints. In short, the patient, a woman, aged fifty-seven, had primarily all of the symptoms of cancer of the stomach with positive physical signs and chemical reactions, coincident with scirrhus of the left breast and secondary masses in the liver. The last nine months of this patient's life were made a wretched by metastasis to the spine with an associated toxæmia, which fortunately for two weeks before the end so benumbed the sensorium as to give her an euthanasia.

In a *third case* the spinal symptoms were so markedly in the ascendency as to mask the presence of the primary stomach growth, which, when I saw the patient, also a woman, aged fifty-seven, was palpable and recognizable as the primary focus of disease. It was interesting to note from the history of this case how few gastric symptoms were produced by a growth of considerable size and far reaching infiltration of the organ, and how the symptoms of the spinal metastasis with included torture were in the foreground.

In looking over my clinical material bearing on this subject, I find several cases seen during the past thirty years in which there were unusual sequences of palpable or recognizable lesions. Thus, a case which has interested those who studied it during a period of about five years was a woman, about forty-five years of age, seen with Dr. Breese, near the end of her life, who was originally operated upon by Dr. Jacobson for cancer of the uterus. A complete hysterectomy was done, she made a good recovery, she had no stomach symptoms following; later cancer of the breast developed, she was operated upon for this, and recovered. When I saw her about two years later she had cancer of the stomach, secondary masses in the liver, metastasis to the spine, and I judged from her symptoms, brain invasion also. There was, unfortunately, no post mortem examination.

I have the histories of two cases of positive spinal invasion following rectal cancer (in both the radical operation was done), in which, in the course of a few months, symptoms of cancer of the stomach followed with palpable tumor, gland invasion, and final symptoms referable to the spine and peripheral nerves.

In these cases we must concede that the stomach cancer either antedated the uterine and rectal growths, was of insignificant size, may have been latent, or the growth was secondary. The invasion of the cord was of course metastatic. Secondary cancerous growths of the stomach are exceedingly rare, they do however occur. Orth, in his monumental work, says: "As frequent as are the primary carcinomata of the stomach just so rare are secondary growths in this organ." This is a most interesting study in connection with the metastasis under consideration. Secondary cancers of the stomach have not infrequently grown from direct contact with growths in the immediate neighborhood, as with the pancreas, Orth says, with the liver from carcinomatous lymphatics, and particularly from the œsophagus. There are occasional cases of secondary cancer of the stomach from the tongue, the face, and the œsophagus which do not follow through the usual course, i. e., the blood or lymphatics but from direct implantation of cancer cells to the mucous membrane. Klebs and Beck (the former first) have, as the result of microscopical work, demonstrated the fact that particles of detached cancer masses, particularly from the œsophagus, have fastened themselves, that is, implanted in the gastric follicles and have there proliferated. This is a broad subject which cannot be further discussed at this time. Is the subsequent growth due

solely to the proliferation of the implanted cells or may there not be an infection of local cells which so influences them as to transform them into the characteristic epithelial cancer cells?

Secondary growths of the stomach, as in the cases reported, have been found by others (Orth, Grawitz, etc.) to follow soft cancer of the cæcum and cancer nodules planted upon distant peritonæum. From the study of the literature of the subject the writer concludes that secondary masses of the stomach which owe their growth to the blood stream are exceedingly rare. Grawitz has found that histologically they are identical with the primary growth and are recognized by their circumscript character. For the diagnostician there is no greater surprise in store than to find, as we found in our cases, the tardy appearance of carcinoma ventriculi in cases in which its presence was not suspected months after the removal of the rectal and uterine carcinomata, with the final development of spinal metastasis.

Secondary cancer of the spinal membrane or vertebræ, more frequently the latter, may develop within a short time or years after the supposed successful removal of the rectal, intestinal, or other carcinomata. Spinal metastasis is more likely to involve the lumbar and dorsal region, while secondary deposits, which, as a rule, follow breast, stomach, or intestinal cancers, are localized in the lower cervical or dorsal or middorsal regions. The Germans have found that the bodies of the vertebræ are first involved. In some cases the invasion has been so fashioned as to involve either by pressure or cellular deposit the posterior nerve roots, as is proved by the persistence from the very beginning of the severe pains to which I have already referred. In occasional cases it is surprising to note the rapidity of the invasion, whether limited to the spine, the dura, or to both. There are cases in which a number of the spinal bones are promptly involved. Bruns reports a case in which all of the vertebræ from the cervical to the sacral region were diseased, only their shells remaining. Deformities in spite of these far reaching metastases are rare. The *entassement* of the French I have never seen, either with my cases of breast, stomach, or intestinal cancers.

As a rule the bones invaded have not been particularly sensitive; the spine has been rigid, and in a few cases the carriage of the patient has resembled that of Marie's "stiff spine." The characterization of these spinal cases associated with the agonizing pains as "paraplegia dolorosa" by Cruveilhier seems to me to be happy and explanatory. Charcot later always associated this with cancer of the spine, due, as he held, to metastasis in most cases. A single case of spinal metastasis to visceral disease will prove sufficiently impressive, because of the horrible suffering from the radiating pains, to make the suspicion strong in subsequent cases. This pain is increased as a rule by movement. Anæsthesia was not frequent; hyperæsthesia was occasionally present. In none of my cases was there herpes. Fibrillary twitching was present when nerve roots alone seemed involved; this occasionally preceded paralysis, and, if the patient lived, atrophy followed.

Buckley holds still further that "when pain is absent, palsy and other cord symptoms being present, it is to be inferred that the cord disease has been so rapid as to exclude the transmission of sensory influences, in which instance there will also be anæsthesia; or, that the nerve roots are not at all affected. Secondly, that the palsy may be due either to pure root involvement, or to disease of the substance of the cord—compression myelitis. Thirdly, that vertebral carcinoma may run its course without severe pains, therefore not always producing 'paraplegia dolorosa.'" The writer has never seen such a case. All of the cases seen in private and consultation practice have been of the painful variety. Associated meningitis in the immediate neighborhood of vertebral metastasis is a frequent factor in the production of the severe pain.

The symptoms with invasion of the cord from the spine or meninges or both are, as a rule, those of an advancing compression myelitis, rarely sudden. Buckley makes the statement that sudden symptoms are due to displacement of the vertebræ and are followed by the features of vertebral caries. "The resulting palsy will depend upon the level of the cord affected. In other instances the onset is similar to that of a transverse myelitis, with palsy of the extremities below the lesion, loss of control of the bladder and rectum, loss of sensibility, skin and tendon reflexes, followed by atrophy and trophic ulceration."

It must be remembered that the pain in the majority of these cases persists without marked paralysis, and when paralysis follows it is a late manifestation of the metastasis. It is more likely that the pain is an expression of nerve root involvement. There are cases with persistent pains, no marked tumor formation, but far reaching cellular infiltration. These do not lead to paralysis, may not involve the sphincters, are as a rule associated with far reaching glandular invasion; the patients may live to have serous effusions due to general abdominal and thoracic gland invasions, and may linger during several months under the influence of anodynes, dying ultimately of asthenia with toxic symptoms.

III. CEREBRAL INVASION.

According to Spiller and Weisenberg, in a series of necropsy records of 35,000 cases, carcinoma metastasis to the brain, or cranial bones, occurred eighty-nine times, as follows: Cerebrum, sixteen; cerebellum, eight; medulla oblongata, five; bones of skull, forty-one; dura, seventeen; pia, two.

My cases include none in which metastases from stomach or intestinal cancer were limited to the brain, cranial bones, or meninges alone. The few I have met with brain lesions have been associated with spinal symptoms and deposits. There are, however, a number of authentic observations in medical literature bearing on this subject.

Pinatelle and Cavaillon (*Progrès médical*, April 14, 1906) describe two cases of gastric cancer with secondary deposits in the cranial bones and meninges, and have been unable to find any reported cases of cancer of the stomach associated with secondary deposits in these parts. The first case was that of a man, forty-five years of age, who had suffered from gastric cancer for upward of a year. A short time before he died, a small, hard

...ould develop at the upper border of the right orbit. Post mortem, the pylorus was involved in a growth, the stomach was dilated, and there was extensive glandular enlargement both of glands of the lesser and greater curvature of the stomach and of the retroperitoneal glands. Numerous secondary deposits were present in the liver. At the base of the brain, on a level with the anterior clinoid process, was a lump the size of a walnut, which protruded upward and caused a depression on the under surface of the frontal lobe; on incising the duramater covering it, this lump was found to extend to the orbit on a level with the optic nerve, and was here adherent to the bone. A piece of this tumor examined microscopically exhibited the character of a cylinder celled carcinoma. The second case was that of a man, thirty-five years of age, in whom a tumor in the epigastrium was discovered accidentally. On post mortem examination there was found a tumor of the stomach involving the omentum, together with some enlarged lymphatic glands. On the internal surface of the cranial vault in the posterior part of the left parietal fossa was a soft, violet colored, villous growth, the size of a five franc piece. On the internal surface of the duramater covering this tumor there were found numerous small granulations similar in appearance to the large villous tumor, and in this region the meninges were found to be thickened. The brain was healthy. Microscopically the cranial tumor proved to be a carcinoma. In both these patients shortly before death symptoms developed resembling delirium tremens, and the second also developed bilateral ptosis.

The case reported by Holden (*Archives of Ophthalmology*, xxi, pp. 427 to 432, 1902) is exceedingly interesting. In this case, a negress, aged forty-one, married, no syphilis, alcoholism, or arteriosclerosis; had right breast amputated for cancer early in 1900. In November, 1907, was admitted to hospital with symptoms of cancer of the stomach. Metastasis finally invaded an optic nerve, which was destroyed for some distance by the new growth, with "complete blindness of four months' duration, yet without pallor of the disc; the second nerve showed an affection of the vessels in the pial sheath with a limited sclerosis of the nerve, producing a defect in the field of vision." Holden presents a full report of the autopsy of this case in which a nodule was found at the pylorus. There were lung and liver invasions. The brain, optic nerves, and posterior segments of the eyeballs were most thoroughly examined, and a full report of the macroscopic and microscopic appearances are appended.

The study of the symptoms of metastasis to the bone of the skull or to the brain includes the usual stomach symptoms, anæmia, with the loss of weight, the severe headache of brain tumor, disturbance of vision and locomotion, double optic neuritis, with irregular staggering gait, while there may be focal symptoms as with primary growths, depending upon the location of the deposit.

In those cases of brain invasion seen by me, associated with spinal invasion or peripheral neuritis, or with both, the symptoms of the early metastasis have been augmented by the addition of those of the cerebral complication, and the presence of the latter has been early suspected, and, as a rule, promptly diagnosticated.

Finally it must be mentioned that occasionally the diagnosis of cancer of the stomach with metastasis to the nervous system has been made by the unguarded in cases of pernicious anæmia with atrophy of the gastric follicles and prominent "Lichtheim symptoms," including the usual altered gait, anæsthesias, and paræsthesias. No differentiation in the whole field of medicine is more simple. My entire experience offers no case of pernicious anæmia in which the sensory symptoms have in any way resembled those associated with metastasis due to visceral cancer. *In none have there been agonizing pains.* No case of cancer with metastasis to the nervous system has been seen in which the fat bolster has been retained and in which cachexia has been absent, none in which the blood picture failed to clear the horizon. "In carcinoma of the stomach the reduction of the red blood corpuscles does not keep pace with the cachexia; in pernicious anæmia the cachexia does not keep pace with the reduction of the red blood corpuscles" (Henry). This is true whether symptoms referable to the nervous system are present or absent.

THE PSYCHOLOGIC BASIS OF NEURASTHENIA*

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In medicine there has always been what might be called a scrap heap, and what Dr. George M. Parker in an article in the *New York Medical Journal*, for October 22, 1910, calls the "discard heap." Into this class goes every case in which the symptoms are poorly developed or not clear of interpretation. This scrap heap has sometimes been called malaria and sometimes rheumatism, and according to the paper by Dr. Parker, previously referred to, it seems likely that neurasthenia will be added to these two, if it does not take the place of them.

It is not necessary before this audience to enumerate the symptoms which collectively constitute the disorder known as neurasthenia. They are very familiar to us all. The cases are numerous and they are troublesome. Our object in presenting this paper is to point out that many of these cases are not cases of a purely functional neurosis, but that the neurasthenic symptoms are dependent upon organic disease in some part of the body. The patients are insistent that the reasons for their symptoms shall be explained to them. This is difficult to do satisfactorily, particularly when the organic disturbances are not clearly and fully developed.

In order to explain the reason for the symptoms which are customarily spoken of as neurasthenic, we have adopted the following scheme. We assume

that in the cerebrum there is a coördinating center which is concerned in the sifting out of sensory impressions that come to the sensorium; passing important ones up to higher centres and inhibiting those that are unimportant. In the neurasthenic we assume that, as a result of the pathological conditions that have been operative for varying periods of time, this centre has lost its power and that, as a further result, all sensations that come to the sensorium are given the same amount of importance. Consequently the patient is continually bothered with matters to which in a state of perfect health he would pay no attention. This disturbance of equilibrium in the sensory or psychosensory portion of the cerebum produces the painful sensations of which the neurasthenic complains, and produces the marked amount of indecision that he shows. It appears to us that this loss of coördinating power may be due to numerous conditions. If the circulation in the brain is impaired, as it is in arteriosclerosis, this result may be obtained and the patient be written down as a neurasthenic when his neurasthenic manifestations are distinctly dependent upon an important organic disease. The depression of this hypothetical coördinating centre may be produced by any organic disease, by severe mental strain or shock, by overwork, and by toxic influences.

Since May 1, 1910, we have had at The Glen Springs fifty-one patients who manifested neurasthenic symptoms in a greater or less degree. We have reviewed the clinical records of these cases and, as a result, we offer the following data:

Nineteen of these patients upon physical examination presented evidences of disease of the cardiovascular system. In four of these the condition was characterized by an increased area of cardiac dulness, deficient muscular quality of the systolic sound, urine usually large in quantity, low in specific gravity, and without casts, and a normal or low blood pressure, 130 mm., 146mm., 116mm., and 122 mm. These cases we believe to be due to myocarditis which has so acted upon the patient as to alter the circulation in the cerebrum and to produce the neurasthenic symptoms.

In one case there was a markedly deficient muscular quality of the systolic sound of the heart and some evidence of arteriosclerosis.

In ten cases the patients showed evidences, upon physical examination, of beginning or well advanced arteriosclerosis, as indicated by high blood pressure, 174 mm., 170 mm., 160 mm., 170 mm., 230 mm., 200 mm., 185 mm., 165 mm. and 160 mm., accompanied by a deficient muscular quality of the systolic sound in six and by no apparent change in the muscular quality of the systolic sound in four. These patients usually present a rapid pulse. They usually pass a large amount of urine of low specific gravity, usually without albumin and without casts.

In four cases a diagnosis of beginning interstitial nephritis was made on account of the high blood pressure, some alteration in the muscular character of the systolic sound of the heart, and the passage of a large quantity of urine of low specific gravity with the irregular occurrence of albumin or casts. In these patients the peripheral vessels were usually thickened. It seems to us that the disturbances of circulation in the cerebrum due to the advancement of arteriosclerotic changes, may very readily account for the neurasthenic symptoms complained of.

The following is a typical instance of neurasthenia dependent upon arteriosclerosis:

Case I. The patient was a male, aged fifty-nine years, whose chief complaint was insomnia, with a fear that he would lose his mind or become a confirmed invalid. There was nothing of importance in the family history. The previous history revealed nothing of consequence until a short time before he came under observation. The patient's habits were fairly good. He had eaten too much and in too large quantities, but had not been addicted to the intemperate use of alcohol or tobacco, or to sexual excesses. The neurasthenia was of two years' duration and began with sensations of discomfort in his stomach in the morning. He had lost some flesh and, after having had a stomach tube passed and his gastric contents examined, he was told that he had an ulcer of the stomach. This frightened him and he began to worry and had continued to worry about his condition. About two months after that the patient had an attack of retention of urine so that he required catheterization three times a day for nearly three months. At the end of that period, September, 1908, the patient had a portion of his prostate gland removed by the late Dr. Tilden Brown, of New York. In March, 1909, he had a suprapubic operation for the removal of the remainder of the prostate gland, since which, physically, he had been fairly well.

The physical examination showed the following important points: Arcus senilis in both eyes, more marked in the upper half of the sclerocorneal junction. Puffiness below the lower eyelids. Coated tongue. Slight amount of pulmonary emphysema, indicated by superresonant percussion note all over the chest. Myocardial change, indicated by a deficient muscular quality of the systolic sound of the heart and accentuated diastolic sounds, without murmurs. Pulse, 90, regular, fair strength and volume, and an artery that was distinctly palpable. There was a fine tremor in both hands. Blood pressure, recumbent, systolic, 170; diastolic, 128; mean, 140. The urine showed a total quantity of 2650 c.c.; specific gravity, 1.010; no albumin, no glucose, a few hyaline casts, bladder epithelium and calcium oxalate crystals. Casts were found in this urine but once, on the first examination.

When this patient was first seen it was thought that he might be suffering from a concealed carcinoma. A report received from Dr. Alfred T. Osgood, of New York, enclosing a copy of the histological examination made upon the prostatic tissue removed at the operation in 1909, in the Presbyterian Hospital in New York city, showed that the prostatic condition was inflammatory with some hypertrophy of the gland. An examination of the rectum failed to show any indication of a growth and no evidence of growth could be determined in any other of the patient's organs.

We interpret this case as one in which the arteriosclerotic processes had advanced to such a point that when the information was given him that he had an ulcer of the stomach, he magnified the importance of the information from inability to judge correctly.

In three of our cases the underlying organic condition appears to be due to some respiratory disturbance. In one case, that of a youth, a distinct consolidation of the right apex was determinable. In the second case the patient had a chronic diffuse bronchitis and a chronic pharyngitis. In the third case a consolidation of the apex of the right lung was made out, without tubercle bacilli in the sputum. In this case tubercle bacilli subsequently appeared and the patient was treated at Saranac Lake for frank pulmonary tuberculosis. A short résumé of the history of this patient may be submitted as an example of this class of cases.

Case II. The patient was a woman, aged thirty-one years. She complained of weakness and a nonproductive cough. There was nothing significant in the family his-

tory or in the previous history of the patient, except that in 1902, on making a trip from San Francisco to New York by way of the Isthmus of Panama, while in the tropics, the patient was very sick. She said that she did not have malaria, however. The patient was very much attached to her father who died rather suddenly in 1909. She was not prepared for his death, and following it was extremely nervous and the cough which she had complained of from time to time in the past reappeared and became very annoying. The patient lost weight, and her nervousness increased. There were none of the other symptoms of pulmonary tuberculosis. On physical examination the chest was found to be rather long and narrow. At the right apex, both anteriorly and posteriorly, prolonged expiration, increased vocal resonance, and slightly higher pitched percussion note than normal were determined, but no râles were heard. The examination of the very small amount of glairy expectoration failed to show tubercle bacilli. No pathological signs were found on examining the heart. The pulse was slightly increased in frequency, 86 per minute, and she weighed 108½ pounds.

We interpret this as a case in which an incipient tuberculosis had so interfered with cerebral nutrition that the shock of the death of the patient's father was impossible of proper compensation. The patient was really a tuberculous case, not a neurasthenic.

Nine of the cases were dependent upon some disease in the gastrointestinal tract. Of these three appear to be due to cholecystitis, as indicated by yellowing of the conjunctivæ, enlargement of the area of liver dulness, tenderness on pressure in the region of the gallbladder, attacks of constipation, sometimes alternating with diarrhœa, and frequently accompanied by large quantities of mucus in the stools.

Case III. A typical case of this sort was presented by a woman, aged forty-nine years, who had been under the care of many physicians for several years for various neuroses. At one time a diagnosis of erythromelalgia and angeioneurotic œdema was made. The chief complaint that this patient made was of pain in the back, in the back of the head, in the right arm, and in the right hypochondriac region. The family history was unimportant. The previous history showed that the patient had had an attack of typhoid fever thirty years before she was seen. There was nothing else that had any apparent bearing upon the present condition in her previous medical history. In February, 1909, she noticed that her hands began to swell and were painful, and that the pain would extend up the right arm to the shoulder. The patient was profoundly neurasthenic in her actions. Examination led us to believe that the pains of which she complained were functional, because on making pressure over a painful area the patient would wince violently when the hand was first applied to the skin, but upon holding the hand on the skin, making pressure in another part with the other hand until the patient winced again, and then making harder pressure with the first hand applied, no evidence of pain was elicited. A physical examination showed that the conjunctivæ were markedly injected, that the heart was slightly hypertrophied, was without murmurs, presented markedly accentuated diastolic sounds, and a fair muscular quality of the systolic sound. The blood pressure was high, 158 mm. There was an area of tenderness in the appendix region, and the liver, the dulness of which extended from the fifth rib to the seventh interspace, was distinctly palpable and quite tender. At the conclusion of the first examination the following note was made: "It feels as though there might be an enlarged gallbladder." Various kinds of treatment supposed to be accompanied by benefit in cases of neurasthenia were tried with very little result.

After over three months of treatment of this kind with fairly frequent physical examinations, which always gave the same result, an examination made on October 13th showed practically the same conditions as already described except that the cardiac condition was improved. P. M. I. was found in the fifth interspace inside the midclavicular line. The dulness extended from the third rib to the fifth interspace, and from the midsternal line to just inside the midclavicular line. There were no murmurs. Both diastolic sounds were accentuated and the muscular quality of the systolic sound was good. The liver dulness extended from the sixth rib to the eighth rib and the edge of the organ was distinctly palpable and tender. There was some tenderness in the appendix region. In addition, a distinct sensation of tumor was outlined in the midline, low down. This sensation was not definite enough to be positive about, and was not extensive enough to give a dull note on percussion. The opinion was given, however, that in all probability a uterine fibroid was present. At this time the patient's systolic blood pressure was 155 mm., her pulse was 84, regular but very small and weak; the artery was not palpable. In consultation with her family physician, the patient was advised to consult Dr. George R. Crile, at the Lakeside Hospital in Cleveland. Dr. Crile operated upon her and found a very much distended gallbladder, which was filled with a large number of very small stones in the midst of which three larger stones were imbedded. He removed the gallbladder, and he also removed a distended appendix, which was filled with concretions, and the body of the uterus, which presented one large and several smaller fibroid tumors. It is too soon to give an opinion as to the result of this operation which was done on October 31st, but already the patient's blood pressure has come down from 155 mm. to 130 mm., the cutaneous hyperæsthesia has disappeared. The patient, who was formerly chronically constipated, now has bowel movements without the use of a cathartic, and her neurasthenic symptoms are very much better than they ever have been before.

We interpret this case as one in which toxic absorption from an infected gallbladder, perhaps also from an appendix without proper drainage, so affected the cerebral functions as to place this patient in the neurasthenic class.

In one of the gastrointestinal cases, appendicitis appeared to be the ætiological factor. The patient, however, had not been operated upon and the opinion of the existence of appendicitis was made merely from the symptoms.

In four of the gastrointestinal cases, the symptoms appeared to depend upon very marked constipation. In one case the constipation followed an unusually difficult labor.

In one case Rigg's disease was discovered upon making the physical examination.

Four cases appeared to follow operations. One patient, a single woman, had had a total hysterectomy, and upon recovery from the operation she had symptoms of mucous colitis. In another case the patient had had an Alexander's operation in 1904, a cholelithotomy in 1908, and a celiotomy for the removal of the left ovary and tube, and the appendix in 1910. This patient had very marked abdominal pain and a weak myocardium. In another case the neurasthenia appeared to follow appendectomy, and in still another the symptoms followed operation for empyema of the maxillary sinus.

In one case a lateral curvature of the spine was discovered, and in another case the existence of syphilitic infection appeared to be the cause of the neurasthenic symptoms.

Four cases were dependent upon overwork, in one of which there was the added disturbance caused by the death of a child.

Three cases were dependent upon nervous shock. One of these patients had been through an earthquake, a fire which destroyed her home from which she had to rescue her children, and a street car accident.

In seven of the cases of neurasthenia no organic

disease could be determined. One of the patients showed a very faint trace of albumin but had none of the constitutional symptoms of disease of the kidney. Another patient had a slight amount of chloroanæmia and passed a large quantity of urine of low specific gravity. A third patient passed a large quantity of urine of low specific gravity, and complained of constipation and intestinal gas. The fourth patient showed a low blood pressure. The fifth patient was somewhat overweight. This patient had a slight chloroanæmia and some alcoholic tendencies. She was also engaged in an occupation that required considerable exercise of the emotions. In the seventh patient the neurasthenic symptoms were of several years' duration and were apparently dependent upon overwork.

An examination of the case records from a somewhat different point of view shows that twenty-nine of the patients suffered from more or less marked constipation, and nineteen from more or less marked gastric disturbances. We wish to point out the possibility of toxic absorption from the stomach and intestine as being sufficient in many cases so to upset the cerebral equilibrium that symptoms of neurasthenia may arise. In such cases the removal of the gastrointestinal disturbances should be followed by improvement, if not by cure, of the neurasthenia.

We are mindful of the fact that this study of our cases of neurasthenia is made from one viewpoint only, and we do not pretend to deny that there may be some congenital or developmental defect of the nervous system of a certain individual which will result in a train of neurasthenic symptoms in that individual. We do find, however, that the diseases which we have shown to be present in many of our patients are almost always accompanied by a greater or less amount of neurasthenia.

SUMMARY:

Nineteen cases due to cardiovascular disease; four myocarditis with low blood pressure, one myocarditis with arteriosclerosis, ten arteriosclerosis with high blood pressure, four beginning interstitial nephritis.

Three cases due to pulmonary disease.

Nine cases due to gastrointestinal disease; three cholecystitis, one appendicitis, four very marked constipation, one pyorrhæa alveolaris.

Four cases postoperative.

One case due to scoliosis.

One case due to syphilis.

Four cases due to overwork.

Three cases due to nervous shock.

Seven cases undetermined.

Total fifty-one.—Thirty-seven cases dependent upon organic disease, 72.5 per cent; fourteen cases apparently independent of organic disease, 27.45 per cent.

In conclusion we wish to emphasize the necessity for adopting the well tried methods of examination that serve so well in plainly developed chronic disease as a routine measure in neurasthenics. Many times one will discover underlying organic changes responsible for the disturbance in the nervous equilibrium. The relief of the former ought to be followed by relief of the latter. Such cases should, we believe, not be called neurasthenic; they should be called cardiac, arteriosclerotic, nephritic, toxic, etc.

DO MEDICAL SCHOOLS ADEQUATELY TRAIN STUDENTS FOR THE PREVENTION OF INFANT MORTALITY?*

By Ira S. Wile, M. S., M. D.,
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Intellectual unrest may be said to characterize the present attitude of thinking people as they pause to contemplate the various problems that appear throughout the educational system. Are the present educational methods efficient, are goals correct, are the educational ideals sufficiently high, are educational institutions fulfilling their purposes in the best interests of the community?

Medical schools exist, not for the purpose of turning out wage-earners, but in order to supply the community with well trained men who are capable of looking out for the health of the community. If the medical schools fail to accomplish this they fall short in the performance of their duty. Do medical schools adequately train students for the work of prevention of infant mortality?

As has been frequently stated there is one fourth of the total mortality in the registration area under the age of 2.68 years. In registration cities, one fourth of all born die at or under the age of 1.8 years. This is not a condition existing only in this country. Westergard has shown that twenty-five per cent. of the mortality of Berlin during the first year occurs during the first month and forty-seven per cent. during the first three months. In London 11.09 per cent. of the first year's deaths happen within the first month and 34.6 per cent. is confined to the first three months. In short, the figures carefully compiled from various countries reveal the shocking fact that the greatest loss of life from disease arises during the first two years of life, with particular periods of unusually high mortality.

Do medical colleges give proper and efficient instruction to their students to combat the diseases of that period of life that causes such a tremendous portion of the total mortality? Should the problems of infancy be placed in a subordinate position in medical curricula when they occupy the most prominent place in the category of destructive conditions? Is it fair to the student, is it fair to the community? Should not every medical college lay especial stress upon the diseases that are responsible for one quarter of the total mortality? I do not mean to be too harsh in my criticisms but no one can deny that at the present time there are not over one half dozen medical colleges in this country that are properly and fully equipped to give the medical student the education humanity has the right to demand of a physician along the line of caring for normal infants not merely sick ones. When the question of preventing infant mortality is considered, the conclusion must be that the colleges have hardly begun to think of this part of the problem. There are no medical schools that give adequate instruction in the prevention of infant mortality and, in this failure to give the merited training, they are negligent of the best interests of the humanity they profess to serve. Let us be honest with ourselves. Our medical schools as a whole turn out men and women who

* Read before the American Association for the Study and Prevention of Infant Mortality at Baltimore, Md., November 15, 1910.

are seriously minded and anxious to give the best that is in them for the benefit of their patients. They are in possession of the knowledge that has been imparted to them, a feeling of confidence, a commendable ambition, and high ideals. At the end of the first year of practice the shortcomings of their teaching become manifest in the mere field of therapeutics, and in the work of prophylaxis they are amazed at their own ignorance. The colleges have not enabled them to live up to their ideals, and society has to suffer the consequences.

At the majority of medical schools, pædiatrics is made a part of the general course in medicine. In a few schools, there are some didactic lectures without any clinics, in others there are a few or a moderate number of clinics without any or a few didactic lectures. Some few colleges make the subject a required subject, while others class it as an elective. Pædiatrics presents problems that are not to be included in the subject of internal medicine nor in general medicine. Infant feeding is a topic as peculiar to pædiatrics as is menstruation to gynæcology. The possibility of reducing the infant death rate is retarded as long as preventive work remains untaught in a special department of pædiatrics. There must be didactic lectures, clinics, and ward class work so that each student may be brought into intimate relations with the patients for the purpose of history taking, physical examination, and giving the advice to the mother herself who needs the education. The institution that places pædiatrics among the elective studies is minimizing the importance of the subject and thus does an injustice to the student, who depends for his course of study upon the superior intelligence of the faculty directing his work. The report of the Carnegie Foundation entirely overlooked this phase of the question of medical instruction, though emphasizing the disproportionate attention given to various subjects as at present taught. By virtue of its relative importance in the welfare of the community, the study of the prevention of infant mortality demands a commensurate attention at the hands of medical schools.

The crime of omission becomes more noteworthy, when one pauses to realize that fully one half of the infantile death rate is from preventable causes. Are the best schools of this country to be regarded as overlooking their responsibility in the matter of preventing disease?

The cry throughout this land has been for prevention first and cure when prevention fails. The backbone of preventive work lies in widespread education. Unfortunately, the physicians just graduated are not equipped to enter the field of education either in infant feeding or general infant hygiene. The Council on Medical Education suggested that 180 hours be given to pædiatrics and 120 hours to hygiene and medical jurisprudence. No schools have begun to reach this standard.

Holt, in his investigation of 44,226 deaths under one year of age, found twenty-eight per cent. to be from gastrointestinal diseases. In New York city, eighty-five per cent. of the infantile deaths occurred among the artificially fed children. In Great Britain seventy-five per cent. of the infant mortality is among the bottle fed children. How harsh these figures seem in the face of opinions such as that expressed by Holt: "It is my belief that ignorance in feeding causes quite as many deaths as bad milk." And our medical schools do not place sufficient stress upon infant feeding. I do not believe that I am guilty of exaggeration in stating that ninety per cent. of the graduates of medical schools during 1909 received too little instruction in infant feeding to allow them to take up the work of feeding infants without recourse to the widely advertised prepared infant foods.

In an address before the Association of American Colleges, Hoxie stated: "Our schools of medicine are designed primarily for the education of practitioners of medicine." There are to-day one of these practitioners of medicine to every 113 families in the United States. It is generally admitted that the schools are turning out graduates more rapidly than the increase of the population and the death of physicians warrants. In the light of the lack of efficient training the schools are giving, the public might well become aroused and seek to call a halt to this poorly drilled procession. It is time to think of the better preparation of the student with a view to eliminating some of the unfit. The first problem lies, not in raising the entrance requirements, but in raising the standard of teaching for the students at present enrolled. The teaching of pædiatrics must be strengthened. Few colleges have specially prepared teachers in this subject. The pædiatrist must give more attention to hygiene of infancy in his teaching. There is, to be sure, more of a shortage of competent teachers in this branch of medicine than in almost any other part of the curriculum. It is not necessary that an effort be made to turn out so called specialists but as every physician is called upon to care for infants, he should at least be taught as much about them and the conditions peculiar to them as about performing the numerous operations that he may never have a chance to perform or even see.

The University of Michigan, for example, devotes 185 hours to gynæcological clinics, 160 hours to bacteriological laboratory work, and only sixty hours to lectures, clinics, and recitations on the diseases of children.

Philanthropic societies too frequently complain of the poor services that are offered to patients. Physicians are severely criticised for giving mothers poor advice. Carry the criticism back to the teachers of pædiatrics in the medical schools. At the meeting which gave birth to this organization, Gerstenberger called attention to the existing conditions "which have to a very large degree prevented or rather neglected the establishment of the proper and adequate means to teach that are to blame for this shortcoming." Let the medical schools recognize their responsibility for the poor results that their graduates have shown in the realm of diseases of infancy. Let independent departments be organized for giving instruction and training in the hygiene of infancy and the treatment of the diseases of infancy.

The subcommittee of the Council on Education of the American Medical Association recommended that in a medical curriculum covering 4100 hours 180 hours should be spent upon pædiatrics. This

estimate was cut down to one hundred hours. Hygiene and medical jurisprudence were cut down to about thirty hours. In the curriculum advised by the Association of American Colleges, pædiatrics was assigned one hundred hours, hygiene thirty hours, obstetrics one hundred hours. If this curriculum was to be established and sixty of the one hundred hours, as advised, were to be given over to clinics, would medical schools be prepared to live up to the standard? The Council on Medical Education regarded one patient for each two clinical students essential for proper clinical facilities. Its estimation of one hundred medical patients for a school having one hundred in each class or 200 in the last two classes did not include pædiatrics, nervous or mental diseases. While clinical facilities are already lacking in many colleges, there is an especial lack of pædiatric material under the present system of hospital organization. There may be plenty of clinics, but students do not have access to them during the period of their student life. General hospitals fail for the most part to have special wards for children. Too few institutions treating children are under control or even under the supervision or advice of medical schools.

The possibility of using obstetric services for instruction in pædiatrics as covering the conditions of the first few weeks of life has apparently been overlooked, though it would be a great mistake to have the teaching done by an obstetrician, judging from the feeding practised by the specialized obstetrician. Speaking of obstetrics, it is hard to realize that "more than 6,000 women die annually in the United States during confinement," according to the Council. The prevention of a part of this tremendous mortality, in number at least, if not in percentage, would be possible if the teaching of obstetrics were on a higher plane. "Thirty per cent. of the blind are so because of the insufficient knowledge of the obstetrician." This again is on the authority of the Council. The common midwife has made a better record in the matter of ophthalmia neonatorum than the medical attendant in the city of New York and in Massachusetts, though not in Maryland. Have the teachers of obstetrics presented the importance of this ophthalmic duty to the child to their students? The annual loss of mothers during child birth is in itself at the bottom of no small part of the infant deaths that are roughly classed as due to artificial feeding.

The most difficult phase of pædiatrics is infant feeding. Possibly that is the reason that so many colleges do not approach the subject. Even Johns Hopkins has no required course in infant feeding, nor indeed is it impossible for a student to graduate from this most excellent school without any particular training in pædiatrics, for the subject is merely rated as an elective in the curriculum. Infant feeding should not be taught dogmatically with a lot of formulæ arranged in some incomprehensible manner, like an algebraic formula, and as soon forgot. The principles of infant feeding should be given. There should be ample instruction didactically and clinically in the method of varying the constituent parts of milk so as to adjust them to the age and digestive capacity of the individual children under observation. The evidences of incorrect feeding should be taught from a study of the vomitus and the stools, not merely theoretically in a lecture room. At the present there is too much dogmatism in the teaching of infant feeding and too little teaching students how to feed. The result is shown in the general ignorance of practitioners upon the subject of infant feeding. Sufficient emphasis is not placed upon the dangers of artificial feeding. The high mortality among children not breast fed should be given prominence and women should be encouraged to continue babies on the breast as long as possible. How often are students told how to improve the milk supply of the mother? Rarely. Even a lying-in hospital of the reputation of Sloane Hospital of New York evidences as poor judgment in matters relating to feeding children during the first two weeks as can be found in institutions that are supposed to stand for the highest teachings in medicine. Repeatedly mothers come directly from Sloane to the Vanderbilt Clinic with the children already on partial artificial feeding when there is no excuse for it, as may be judged from the fact that the babies are promptly placed upon the breast and no other food, and are content to gain on that milk alone for months. Yet this is part of the teaching equipment of the College of Physicians and Surgeons, though, unfortunately, having no supervision by the Department of Pædiatrics.

Students are not made to appreciate the full value of breast milk, nor are they advised fully as to the conditions demanding that the child be taken off the breast, nor the best way to wean, nor when to wean. The teaching in these phases of infant feeding are intimately bound up in the question of the prevention of infant mortality. If students fail to receive adequate instruction along these lines how can they be prepared to take a part in the educational work that has been deemed so essential to the work for which this association was organized. Physicians must be social teachers, and all the stress should not be placed on nurses and health officers. At the present time the educational institutions are not supplying them with the training to enable them to take their place.

Over forty per cent. of the present infant mortality has been adjudged to be preventable. As a general average there are twenty-eight cases of sickness to each death. The amount of preventable illness is thus seen to be enormous.

From the figures presented by Dr. Holt, 25.9 per cent. of the infantile deaths are due to tuberculosis, acute respiratory diseases, as influenza, contagious diseases, as pertussis, measles, and diphtheria. These different causes of death are "capable of considerable reduction, chiefly through proper housing, isolation, and medical treatment." This is very true, but medical students have no training in the very subjects mentioned as the means of securing the reduction of deaths.

From the same source we learn that 52.5 per cent. of the infantile deaths are due to acute gastro-intestinal diseases, marasmus and inanition, and prematurity after the seventh month. This type of mortal cause is regarded as "capable of very great reduction through proper care and feeding." But no teaching is given regarding boarding out babies

or securing breast milk from a wet nurse or a willing mother.

Ditman has made a splendid plea for the establishment of a school of public health. There should at least be obligatory courses in the many parts of this question in every medical school. Pending the institution of such obligatory courses covering the subject of public hygiene, the responsibility for adequate training in the hygienic aspects of the various portions of the curriculum must rest upon the heads of the departments. The necessity for instruction in hygiene falls particularly heavy upon the teachers of the diseases of children. At the present time they have not given any evidence of their intention of living up to their responsibility in this regard. Many of these teachers are the first to criticise the ignorance of the young graduate in the matter of the hygiene of infancy. Proper education in the medical school should be the strongest factor in the prevention of infant morbidity.

The fundamental causes of infantile mortality may be summed up as poverty and ignorance. The physician may not be able to cure poverty, but he can correct the ignorance and its stepchild, neglect. The social aspects of this question are largely of a medical character and the teaching of prevention has to take into account the social conditions that underlie, or the teaching must be inadequate and but half done. Pædiatric medicine should be taught in its relation to community life in order to present the preventive phases to the students in their true relative importance. The relation of the infant death rate to the occupation of mothers before labor and after labor—is such a topic ever mentioned in the pædiatric lecture room? The value of home nursing as opposed to babies' hospitals—is thought ever given to the types of diseases that are best treated in the hospital? Eighty-five per cent. of the infant mortality occurs among children receiving artificial foods. What stress is placed on municipal milk supplies or milk sanitation? There is insufficient teaching of the value of breast milk. Practically no instruction is given regarding the care of the breasts in preparation for their functions. Little is taught regarding the milk supply during the first few weeks after labor, the time when many women are told that they have insufficient milk. How scant is the information as to the best foods to be given to the mother for the purpose of increasing the flow of her milk. These are sins of omission that must be corrected in order to lessen the number of children that are to be unnecessarily weaned. The problem of the proprietary infant foods demands careful attention that students may receive unbiased information in regard to their constituents and their proper place in pædiatrics. The recent graduate must not be left at the mercy of the representations of the detail men, whose information is largely confined to the printed information that is upon the wrapper around the infallible food. The relation of poor ventilation, room congestion, baby farming, overdressing, vital statistics, and the countless other aspects of public hygiene merit consideration in the course that is designed to turn out men trained in the prevention of infant mortality. Illegitimacy, alcoholism, milk stations and their consultations and their work are special problems that are bound up in the lessening of the infantile death rate, and stress should be placed upon them. Nursery hygiene, boarding out systems, convalescent homes, preventoria are worthy at least a lecture to students who later will be the teachers of the public.

To adequately teach the prevention of infant mortality, the medical schools must be socialized in spirit. A proper consideration of the social origin of much of the infantile disease marks a new era in ætiology. Physicians cannot escape the responsibility of having information upon this subject. The medical schools must revise their teaching of pædiatrics so as to supply what is most necessary for the protection of the community from the plague of preventable disease. Students should have lectures upon social questions as related to the cause of infantile morbidity and also training in the value of various types of institutions for the cure of the diseases.

Obstetrics, pædiatrics, and hygiene should be taught in the light of the social basis of disease. At the present time medical schools do not prepare students for the work of preventing infant mortality. If physicians are to be leaders in the preventive medical work that is now the present ideal in medicine, the medical schools must awaken to their responsibility and duty in the matter of affording the adequate training to the students who go to them for the purpose of being trained in all that makes for the highest type of efficient, conscientious, humanitarian physician. In short, preventive pædiatrics must be taught. This becomes possible only when it is a required course, based upon the present day needs of the community. To be successful the preventive work in pædiatrics must have a foundation in the knowledge that the faulty social structure is at the basis of many of the ills that infant flesh has thrust upon it.

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THE SIGNIFICANCE OF THE BACILLUS CARRIER IN THE SPREAD OF ASIATIC CHOLERA.

By Allan J. McLaughlin, M. D.,
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[illegible]
Service.

The infective agent in cholera is found only in the stools and vomit of persons who have in some way taken cholera organisms into their alimentary tract. The organisms may have been ingested directly into the stomach with food and drink, or at least the germs must have gained entrance to the mouth in some way.

Cholera is spread from place to place by individuals, carrying the cholera vibrios in their intestines and more or less sick with cholera. Where the distance between infected points is considerable the disease is probably carried by man, and by man alone.

Cholera is an absolutely preventable disease, and theoretically a case of cholera properly cared for should not result in further spread of the infection. The spread of cholera is primarily due to one of four factors: 1, Bacillus carriers; 2, unrecognized

light or atypical cases of cholera; 3, failure to find or report cases early; 4, carelessness in carrying out precautions, or failure to take such precautions.

The bacillus carrier.—The bacillus carrier is an individual carrying cholera vibrios in his intestines without showing signs of the disease.

The writer has never known a bacillus carrier to harbor cholera vibrios for longer than twenty days, and the great majority lose their vibrios in less than ten days. However, many observers have found them present for longer periods, although all agree that the long time carrier is the exception and not the rule. The following are the longest cited by Pfeiffer[1]:

PERSISTENCE OF CHOLERA VIBRIOS IN STOOLS OF CONVALESCENTS, OR BACILLUS CARRIERS.

Name of observer	Longest duration, in days	Name of observer	Longest duration, in days
Guttmann	10	Kolle	48
Lazarus and Puheke	12	Dönitz	49
Michailow	12	Abel and Clausen	15
Simonds	18	Burger[2]	3
Rumpel	24	Pfeiffer	60
Rommelaere	47		

During times of epidemic bacillus carriers are numerous, and the writer found from six to seven per cent. of carriers among healthy individuals living in the infected neighborhoods in Manila. When cases are few, the so called sporadic cases, hundreds and even thousands of stools may be examined before the first carrier is found. The fact that the bacillus carrier may harbor the cholera vibrios as long as sixty-nine days[2] illustrates how quarantines may be passed and an apparently inexplicable outbreak be explained. The danger from the bacillus carrier depends upon his habits and the sanitary conditions of the community in which he finds himself. If he deposits his stools in a modern flush closet in a city in which disposal of human excrement is properly effected and if he washes his hands freely enough and at the proper time, he is harmless. His urine contains no vibrios. He may find himself, however, in a community with no proper system of disposal of excreta, or in spite of the existence of such system he may deposit his stool where flies or other insects have access thereto, or deposit it in a place from which a well or other source of water supply becomes infected. He may fail to wash his hands after defæcation, and with his dirty fingers infect the food or drink of others.

Mild or atypical cases.—Unrecognized, light, or atypical cases of cholera, failure to carry out the necessary precautions, or carelessness in carrying out these precautions in recognized cases, are responsible for the spread of cholera, by permitting the infective material contained in the stools or vomit to get beyond control. Many writers speak of "latency" in cholera, "long incubation periods," etc., these terms indicating that an individual, for instance, a bacillus carrier, already carrying the vibrios in his intestine, may by reason of some factor which damages his intestinal mucosa or lowers his power of resistance, suddenly become ill after carrying the organisms for days beyond the ordinary period of incubation (from one to five days). It is a very plausible theory, but lacks positive proof. I have seen cases which seemed to accord with this description, but was never able to exclude the possibility of infection from some unknown source (undiscovered bacillus carrier) within the ordinary incubation period.

A cholera stool improperly cared for may be deposited where flies and other insects may carry the vibrios to exposed food or drink. In communities without a safe water supply the stool may be deposited in or near a source of water supply. Milk may become contaminated either by flies or by washing the containers in infected water. Kitasato asserts that the vibrios will only live until the milk sours. There is some question about this, but in any event this duration of life would be quite long enough to permit milk to spread the disease.

Vegetables and fruits growing close to the ground are sometimes fertilized by human excrement. They may also be irrigated by infected water, and if eaten raw may thus be a means of spreading cholera.

There is an impression that cholera bacillus carriers are seldom if ever responsible for outbreaks or rather that direct evidence of their agency is lacking. It is conceded that in times of epidemic they are common enough, but they are not found with frequency during the quiescent periods of cholera. Cholera carriers are much less dangerous than typhoid carriers because they do not void the germs with their urine and they usually carry them for much shorter periods.

In view of these facts the impression that in general the bacillus carrier in cholera is not a great menace seems justifiable yet only in a general way, and given certain conditions he is a very great menace. While discharging vibrios from his intestines, the danger exists, and our protection against the bacillus carrier depends upon the personal cleanliness of the carrier and the sanitary surroundings in which he finds himself.

To show that in particular instances carriers may be responsible for outbreaks I wish to cite my experience with cholera in Bilibid Prison.

Bilibid Prison is one of the finest institutions of its kind in the world. From the standpoint of discipline and control of its inmates it stands almost unrivalled. There is absolute control of the food and water supply, and ordinarily no fresh milk is used in the institution. The appearance of cholera in such an institution seemed inexplicable as the following extract from the *Annual Report* of the director of health for 1906 shows:

"A case in an institution which is practically cut off from the remainder of the world; where all foodstuffs are permitted to enter only after the most rigid inspection; where all food served that could likely convey cholera is cooked at all times, and, on account of dysentery, it is said that all drinking water was sterilized; it would seem that the routine precautions thus taken should also have afforded protection against cholera. The commencement of an outbreak in this insidious manner was puzzling to the sanitary authorities, and the prospects of combating a disease whose origin was so obscure were not encouraging."

Each year, however, when Manila and the surrounding provinces were cholera infected outbreaks occurred in Bilibid Prison.

The year 1908 was no exception. When the writer took charge of the Bureau of Health in August, 1908, cholera was present in Manila and epidemic in the surrounding provinces. In September the disease assumed epidemic proportions in Manila and broke out in Bilibid Prison. The precautions taken in Bilibid Prison were even more rigid than formerly in regard to water and food and the prohibition of vegetables, fruits, and fresh milk. Each incoming prisoner was placed in quarantine for five days and their stools were examined for intestinal parasites, but not for cholera.

Under these circumstances it occurred to the writer that the bacillus carrier afforded the only logical explanation, and orders were issued to examine the stools of the prisoners concerned in the preparation or handling of food and water. Owing to the pressure of work incident to the epidemic it was deemed impracticable to examine the stools of over 3,000 prisoners. The results were as follows:

BILIBID PRISON.

Number of healthy persons examined	264
Number of persons carrying cholera vibrios	17
Percentage of bacillus carriers among healthy individuals	6.44

The outbreak was quickly suppressed in Bilibid Prison following an order by the writer to compel thorough disinfection of the hands under guard upon leaving the latrines and before eating.

To prevent recurrence disinfection and screening of the latrines, sterilization of water, prohibition of uncooked food, vegetables or fruits, prohibition of the use of fresh milk, hand disinfection before leaving latrines and before eating, five days quarantine of incoming prisoners, and stool examination for cholera of incoming prisoners were enforced. In spite of the presence of cholera in the surrounding provinces these measures sufficed to prevent recurrence.

SERUM AND ANAPHYLAXIS.

By JOSEPH H. BARACH, M.D.,
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HISTORICAL.[1]

Since the observations of Theobald Smith in 1903, followed by the investigations of Otto under Professor Ehrlich in 1905, and independently by Rosenau and Anderson at about the same time, the phenomena of anaphylaxis have been investigated by a steadily increasing number of observers, abroad and in this country. Its meaning and its importance is now becoming more clearly defined and it is coming to be more fully understood by medical men in general.

As the experimental work of the laboratory increases, new evidences are accumulating which tend to show that anaphylaxis plays a considerable role in the pathological physiology of various diseases heretofore not at all or misunderstood.

The abnormal conditions now known to be of anaphylactic origin are serum disease, hay fever, the tuberculin and mallein reactions, and injection of other known foreign proteids.

There are a number of conditions which up to the present have not been understood and which are said[2] to have considerable similarity in their behavior to anaphylactic reactions. They are asthma, toxæmias of pregnancy, ill effects from ingestion of certain fish and sea foods, and some of the bacterial infections.

ANAPHYLAXIS.

For the causation of anaphylaxis we must have, first of all, the entrance into the body of a strange proteid substance. The word "strange" is here used because the normal body is immune to a large number of foreign proteids. This strange proteid may be introduced in the body in various ways; by the mucous membrane (Calmette's conjunctival reaction); the cutaneous route (von Pirquet and Moro reaction); subcutaneous (Koch's method for tuberculin reaction); intraperitoneal, by the way of the respiratory tract as in hay fever; by direct entrance into the circulation, as in intravenous injection, by the intestinal tract, as in feeding experiments and perhaps in poisoning from fish and in asthma.

After entrance of the strange proteid substance into the body there elapses a period of time during which the body cells are becoming sensitized; at the end of seven to twelve days the state of sensitization is usually fully developed so that the body as a whole is oversensitive. It is oversensitive specifically to the proteid injected. At this time, when the body is oversensitive, it has been shown in guinea pigs that a specific substance is present in the blood of the animal (Otto). So that this animal or another animal into which its blood serum has been introduced has in its circulation a substance known as anaphylactin. Injecting an animal having anaphylactin in its blood with the proteid for which that anaphylactin is specific, will bring on a symptom complex known as anaphylactic reaction. This reaction may be local or general, immediate or delayed, mild or severe, and at times, fatal.

SERUM REACTION.

Serum reaction after a second injection of horse serum was first encountered in the administration of diphtheria antitoxine. It is well established now that the reaction is due to the serum itself, and not to its antidiphtheritic content.

In the use of diphtheria antitoxine as an immunizing agent as well as in its therapeutic use, a considerable number of instances of severe anaphylactic reactions have followed primary injections of serum. These individuals had evidently come to be oversusceptible to horse serum in some way other than by previous injection. As to how such a person becomes thus sensitized nothing definite is yet known, and the field for speculation seems, indeed, very broad when we recall that there probably are very many sensitizing proteids and that they may unsuspectedly enter the body in any of the previously mentioned ways.

Serum reactions may be mild or severe, they may be, as previously stated, local or general, immediate or delayed.

For the object of this paper I will discuss in brief only the severe cases of general reaction.

Gillette[3] has collected, up to February, 1909, fif-

[1] Anderson and Rosenau, *Med.*, pp. 550 to 568.

teen fatal cases, and thirteen cases of very severe general reactions. Of twenty-eight cases, eighteen were in individuals who gave a history of asthma, and of these eighteen asthmatics, nine died. Since these reactions were due to the horse serum, it is noteworthy that in a number of these individuals the previous asthmatic attacks were incited by being near horses.

ANAPHYLACTIC SHOCK.

In this reaction, symptoms referable to the respiratory system such as dyspnœa cyanosis, and swollen mucous membrane of the upper respiratory passages, are very prominent, and death is due to respiratory failure.

According to Meltzer,[4] the recent investigations of Auer and Lewis definitely establish acute anaphylactic death as being caused by respiratory failure subsequent to stenosis of the bronchi. This bronchial stenosis is the result of a tonic contraction of their muscle fibres, which is of peripheral rather than central origin. The state of the lungs is therefore exactly the same as in "nervous asthma." Meltzer then asks, "May we not assume that asthmatics are individuals who are sensitized to a definite proteid substance and that the asthmatic attack takes place when the same proteid substance invades the body in the same manner? For one form of asthma this has been established, and that is for hayfever asthma."

Weaver[5] makes the same suggestion: "Sensitization can be produced through foods and we may not be far wrong in assuming that man, an omniverous animal, may become oversensitive through various protein substances taken as food."

ANAPHYLACTIN.

As previously stated, the blood of a sensitized guineapig has been shown to contain anaphylactin and its serum when transmitted to another guineapig renders the animal susceptible within twenty-four hours. Otto suggests that it would be of value to determine whether the blood of asthmatics contains anaphylactin, and that this sensitizing test be carried out with the blood of an asthmatic.

If "bronchial asthma" or "nervous asthma" of man really is a manifestation of anaphylaxis, and if anaphylactin can be demonstrated in the blood of an asthmatic, such a test should be of the greatest value. It would at once determine the line of investigation for the cure of asthma, and it would also be a test for the contraindications against the use of serum as a remedy. This in itself would be a life saving measure.

PRESENT INVESTIGATION.

To this end I have carried out the following investigations.

My asthmatic patient was a boy with the following history:

Case I. R. L., age sixteen. Family history not significant. In early childhood he had the milder infectious diseases. He first came under my observation at the age of eleven when he had a typical case of left lobar pneumonia which ended with a false crisis on the sixth day and a normal temperature after the eighth day. Recovery of his pulmonary condition was good.

Seven months later he had another attack of lobar pneumonia; right middle and lower lobe, crisis on the sixth day. Recovery, good. In his fourteenth year he acquired typhoid fever—running a typical course. The fastigum of the disease continued two weeks, temperature ranging from 102° to 104° F. This was followed by a mild relapse. His recovery was apparently good. From the first time that I saw him up to the present, he has been having periodical attacks of asthma. They do not appear with any regularity and a most careful watching of his general condition and his mode of life has revealed nothing definite as to the exciting factors of his attacks.

About a year ago, during the winter months, at a time when he suffered more than usual with recurring attacks, I noticed that there was grass matting on the floor of his sleeping room. This was at once removed, thinking that possibly his attacks were excited or aggravated at that time by a pollen from the grass. No beneficial change could be noted immediately nor since then. So that, we here have a case of typical bronchial asthma in a youth who has been thus afflicted as far back as a history can be definitely obtained.

Physically, he is a slender boy, was rachitic in child hood, having now a rachitic rosary and a pigeon breast. When free from asthma the examination of his lungs is entirely negative. He did not react to tuberculin after doses of 1.0, 2.0, and 3.0 milligrammes, at proper intervals.

On November 15, 1909, when the boy was having a severe attack of asthma, I withdrew blood from his cephalic vein. Two and a half cubic centimetres of serum from this blood were injected subcutaneously into guineapig I. Twenty-four hours later, I injected the guineapig intraperitoneally with 1 c.c. of serum from a healthy boy (also tuberculin negative). The animal was carefully watched for a reaction but none could be observed. Five days later an injection of 1 c.c. antitoxine (Lederle's refined and concentrated), containing 1,000 units, was given, with no results.

Guineapig II was injected subcutaneously with 5 c.c. of the asthmatic's serum. As in the first pig there was no distinct immediate reaction of any kind. Twenty-four hours later, 5 c.c. of normal horse serum was administered intraperitoneally. No anaphylactic reaction could be detected although the pig did not seem quite so lively as before and did not take food for about two hours. Part of this indisposition I laid to the fact that the serum having been taken out of the refrigerator a short time previously was quite cold. This I have avoided since.

Guineapig III was given subcutaneously 5 c.c. of the asthmatic's serum. No reaction. Twenty-four hours later intraperitoneally 2 c.c. of antitoxine containing 3000 units, no reaction.

LOCAL REACTIONS.

In guineapig II and III, each of which were given 5 c.c. of serum subcutaneously, there followed an infiltration of the skin, which disappeared later. No evidences of the intraperitoneal injections were found.

REMARKS.

The results of these investigations are therefore to be considered negative.

If anaphylactin was present in the blood of the asthmatic it could not be demonstrated with the given technique by this method.

This one negative result is to be considered, however, as a mere incident in a big and important problem.

The experimental evidences already at hand, coming from such authoritative sources as they do, are

[4] Journal of the American Medical Association, i., p. 1202, 1911.
[5] Weaver. *Archives of Internal Medicine*, iii, p. 507, 1909.

so striking and present so many parallelisms that the belief in this explanation of the ætiology of asthma and the other named disease conditions, should only be given up with much reluctance; even then only after very extensive investigation. This is, indeed, a promising field for research and it is to be hoped that it will be taken up accordingly.

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SOME CLINICAL METHODS OF DIAGNOSIS OF THE FUNCTIONAL ACTIVITY OF THE HEART.

By Julius Schneyer, M. D.,
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Notwithstanding the value of anatomical diagnosis of diseases of the heart, modern investigators are still not fully contented with it, for it gives, in a measure, only a one sided and incomplete conception of the true condition of the diseased organ.

The necessity of estimation of the functional capacity of the heart was recognized long ago; but Rosenbach, in 1891, placed the importance of this method above other methods of diagnosis. It is, in his opinion, of great value in prophylaxis, differential diagnosis, prognosis, and treatment of heart disease, as well as in other diseases (infectious diseases, diseases of the bloodvessels, kidneys, lungs, etc.). Until very recently medicine possessed no reliable methods of determining the degree of functional disorder of the heart. We have been able to detect the gross deviations of cardiac power by certain subjective and objective symptoms, such as dyspnœa, cyanosis, œdema, urinary changes, etc. We have been lacking some more simple methods of estimating clinically the functional efficacy or inefficiency of the heart.

Perusing the medical literature I came across the following methods of testing as to the functional capacity of the heart, which, I think, are worthy of a trial by the medical profession.

1. Change of pulse rate on change of posture of the body. A number of investigators, as Byron, Robinson, McDonnel, Knox, Hold, and others, detected that in healthy individuals on changing from the upright to the recumbent posture of the body, the pulse becomes slower by a few beats. In view of the constancy of this reaction in health, it must be considered as normal or physiological. Later on there appeared reports in the medical literature that in various diseases the heart does not respond by the usual slowing of the pulse on change of posture of the body from the vertical into the horizontal. In order to verify the correctness of these reports, S. A. Shapiro made systematic observations on a number of his patients, and he came to the conclusion that the absence of normal reaction of the pulse on change of the posture of the body may occur in various cardiac disorders, as well as in other acute or chronic diseases, and that it indicates functional incompetency or insufficiency of the heart. A. P. Longavoi studied 180 cases. He found that in patients having anatomical lesions of the heart, but with good compensation, the change of the pulse rate on change of posture of the body is normal. Other observers also corroborated these findings. They observed in many cases of functional disorder of the heart, instead of slowing of the pulse rate, an increased frequency, on change from the vertical to the horizontal posture of the body, and they considered it a pathological phenomenon indicating insufficiency of the heart. In spite of the evident value of such phenomena modern medicine has not availed itself of this method of diagnosis.

2. Estimation of cardiac function by pressure on the femoral arteries. Physiologists, as Marey, Zion, Romberg, Pässler, and others, have long observed that pressure on a large vessel in healthy animals produces a slowing in the rhythm of the heart and a rise of blood pressure. Basing on this physiological principle, G. A. Shapiro, in 1881, in a thesis presented by him to the St. Petersburg Medical Academy, concluded that pressure exerted on the femoral arteries in individuals suffering from cardiac weakness, would cause the heart to react entirely differently than in health. He reported eleven cases of heart disease in which it is distinctly shown that in case of ruptured compensation, pressure on the femoral arteries would cause an increased frequency of the pulse, and when compensation was reestablished, the physiological reaction of slowing of the pulse rate returned. The same reaction was noticed in individuals suffering from other diseases and presenting cardiac insufficiency. Shapiro, therefore, advises to resort to this diagnostic method of pressing the femoral arteries, slowing of the pulse rate, in his opinion, indicating the normal working power of the heart muscle, and increased frequency of the pulse, its incompetency. Shapiro, therefore, deserves the credit of being the first one to introduce this method of functional diagnosis of the heart's action.

Katzenstein, of Berlin (*Deutsche medizinische Wochenschrift*), in 1904, made a number of studies on collateral circulation. He noticed that ligation of a large bloodvessel in individuals with normal hearts produced a decrease in pulse rate and a rise in blood pressure. He collected 128 cases and summarized his observations as follows: (a) In people with normal functional capacity of the heart muscle compression of the femoral arteries produces a rise of general blood pressure by from 15 to 20 mm. of mercury in the sphygmomanometer, and it may not affect the pulse rate or may cause it to beat slower but more forcibly. (b) In moderate degree of insufficiency pressure on the femoral artery may have no effect on blood pressure, but may increase the frequency of the pulse. In mild cases there may be no change in pulse rate either. (c) In severe cases of cardiac insufficiency compression of the femoral artery causes a distinct fall in blood pressure and an increase in the frequency of the pulse. (d) In cardiac hypertrophy with good compensation compression of the femoral artery produces a rise of blood pressure by from 15 to 40 mm. of mercury and no change in the pulse rate. (e) In patients, however, with poor compensation of the heart pressure rises slightly, but the pulse becomes more frequent.

Thus both Katzenstein and Shapiro came almost to the same conclusions; but Katzenstein improved upon Shapiro's observations. He added the theory [illegible] pressure, a rise of pressure [illegible]

a fall of the same in cardiac insufficiency of a severe type, no change in blood pressure in milder types of incompetency of the heart. This method became known under the name of Katzenstein's method. As Shapiro, however, deserves much credit in this work, this method should be called Katzenstein-Shapiro's method.

As said before, both investigators base their findings on fundamental physiological principles in the theory of blood pressure. Blood pressure is governed by the pumping force of the heart, peripheral resistance, and the volume of blood. If, while the force of the heart remains the same, the number of pulsations should be increased, thus increasing the volume of blood in the arteries, the general blood pressure would rise. If the rate remained the same, but should the force of the heart increase, pressure would also rise. Causes increasing peripheral resistance produce an increase in blood pressure. On the other hand, influences diminishing either the volume of blood, the force or rate of the heart, or the peripheral resistance, produce a fall in blood pressure.

The heart in health possesses a certain amount of reserved force or latent energy, which is called upon in cases of emergency. In disease the heart lacks that force and becomes weaker when excessive strain or tension is exerted upon it. For example, if an artery is compressed by this increasing arterial tension, and the heart, devoid of latent energy and unable to respond to this tension by increased effort, gives way, still more reducing its force, the blood pressure necessarily falls. It is evident from this explanation, that in milder cases of cardiac insufficiency, when the latent force is not entirely exhausted, blood pressure may either rise slightly or remain unchanged when pressing upon the femoral artery: for the heart may respond to the increased tension by slightly increased force and cause a slight rise in blood pressure, or by slightly diminishing its energy enough to counterbalance the increased resistance, and cause no change in pressure.

If the pressure of the femoral artery, for example, should raise the pressure by 15 mm. and the decreased force of the heart should lower the pressure by 15 mm., blood pressure would remain the same. If compression of the femoral artery, for instance, should raise the pressure by 15 mm. and the weakened force of the heart should lower the pressure by 10 mm., pressure will rise by 5 mm. of mercury.

Such are the explanations that may be offered for these methods of diagnosis.

3. Muscular exercise as a means of estimating cardiac function: The heart reacts upon physical exercise in disease differently than in health. Work, therefore, is quite often used as a means of testing the functional aptitude of the heart. The patient is required to rise from bed, to walk rapidly to and fro, or to climb stairs and is then examined as to the character of his pulse and heart sound, as to pallor, cyanosis, and dyspnœa, vertigo, and other phenomena of cardiac insufficiency.

The ergometer is an apparatus devised by Graupner for estimating the amount of work done by muscular action. The patient is asked to do some work on this apparatus and then the time necessary for the heart to recuperate from the exertion is estimated and also the blood pressure is taken. The patient is told to repeat the work, each time increasing the amount, and blood pressure and the time necessary for recuperation are estimated each time, until a fluctuation or even some fall of blood pressure is noted. If upon repetition of the work the recuperation time becomes less and the blood pressure rises or remains unchanged, Graupner concludes that the heart is up to the given task. On the other hand, if the time required for the heart to recuperate lengthens and blood pressure decreases, the heart is not strong enough to perform the given work. Thus, he concludes, that blood pressure on repeated muscular exertion rises in cases of health and falls in cardiac insufficiency.

A few words are now necessary as to the comparative advantage of each of these methods of diagnosis. The first method of estimating the condition of the heart by noting the change of pulse rate on change of posture of the body has that great value that it can be employed in the sick room under any circumstances. The pulse frequently remains unchanged and its increase occurs especially in the recumbent posture in cases of cardiac incompetency. This is of great diagnostic significance.

Katzenstein-Shapiro's method has also a great advantage, because it affords a possibility of employing it in any severe case without practically disturbing the patient. As to Graupner's method, the curve of blood pressure, according to Byron, after accomplishment of a certain amount of work, is not always typical; i. e., it does not always present phenomena permitting of distinguishing between the sound and the unsound hearts. His method, however, is useful in estimating approximately the working capacity of the heart. It is especially useful, according to Byron, in convalescence after infectious diseases, to determine when the patient may be allowed to resume his usual occupation. The practitioner should not be misled, however, by only noting the change in blood pressure, but he should also be guided by the sum total of other phenomena, as the variation in the pulse rate, the recuperation time, and subjective symptoms, as dyspnœa, cyanosis, palpitation, vertigo, etc.

In conclusion I wish to say that these methods, although not entirely perfect, introduce a new phase in diagnosis. Many points are still obscure for the clear conception of cardiac activity in every individual case. Modern medical science, however, striving accurately to determine the working capacity of the heart is undoubtedly on the right track to its goal. Let us hope that the indefatigable endeavor and experimentations of modern investigators will, in the very near future, be crowned with success and will enable us to exactly determine the force of the heart and record it graphically in actual figures.

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[illegible] No. 12, S. 81 ff. Siehe.

INDICATIONS AND DIRECTIONS FOR THE USE OF ALBUMIN MILK.

By Isaac A. Abt, M.D.,
Chicago.

[illegible] milk [illegible] for feeding [illegible] infants has attracted attention in America, as it has in nearly every part of the world. The reports from various quarters lack in uniformity; some are favorable and laudatory, others less favorable. Professor Finkelstein thinks that the unfavorable results are undoubtedly due to improper preparation of the food or to some error in technique of its administration.

If one will spend some time at the Kinder Asyl in Berlin with Professor Finkelstein and his assistants he will be impressed with the gratifying results which are obtained. It is only stating the fact to say that in this institution this plan of feeding infants is successful in nearly every case. Sick and premature infants show remarkable improvement with this diet. It is noteworthy, too, that the mortality rate among the many infants treated in this hospital is unusually low. One will rarely see an asylum where the infants look so well fed and respond so rapidly to dietetic treatment.

For the sake of completeness, I desire to repeat the directions for preparing albumin milk. The nurse in the milk laboratory of The Kinder Asyl proceeds in the following manner: She adds one tablespoonful of essence of pepsin to a quart of milk. (A junket tablet, elixir of rennet ferment, or any one of the various digestants used to make whey would answer the same purpose.) She then places the dish containing the milk in a water bath and the milk is heated to about 100° F. After the milk has curded, she stands it aside for fifteen minutes longer, then pours off the whey. The junket or curd is then put into a clean muslin or cheesecloth bag, tied at the top, hung up, and is allowed to drip for two hours. By this time the junket is free from whey. She now places the junket in a hair sieve and with a small potato masher gently breaks up the curd, adding boiled water little by little until enough has been added to make a pint. The junket, with addition of water, should be strained. She repeats this process of passing the curd through the sieve six or seven times, until the mixture is perfectly smooth and free from lumps. She now adds one pint of previously boiled buttermilk and one per cent. of malt sugar in some form (*Nähr Zucker*) and the preparation is ready to be bottled.

It is apparent that if the same results are to be obtained in other quarters the milk must be properly prepared and the technique of its administration and the indications for its use thoroughly understood. I append herewith minute directions which have just been issued by Professor H[illegible] kelstein and Dr. Ludwig F. Meyer, and in compliance with their suggestion I am transmitting them to American physicians who are interested in this therapy.

Albumin milk prevents abnormal fermentation in the intestinal tract on account, 1, of the low content of easily fermentable milk sugar; 2, of the low content of whey salts (the latter favor fermentation); and, 3, of the comparatively high proteid content (the latter counteracts fermentation). Upon standing, a precipitate is likely to form in the bottle containing the albumin milk. Before feeding, the bottle should be well shaken. The quantity to be fed should be warmed to the body temperature and again shaken. (Overheating is objectionable.) The milk should be kept in a cool place. If thus taken care of, it preserves its quality well, for at least five weeks.

Albumin milk contains 3 per cent. proteid, 2.5 per cent. fat, from one to 1.5 per cent. of milk sugar, from 0.4 to 0.5 per cent. of mineral salts. The mixture contains 450 calories to each litre. In addition, one per cent. of malt sugar (Nähr Zucker) is added.

DIRECTIONS FOR USE.

Albumin milk is indicated in all infantile disorders, which are associated with diarrhœa, especially in those cases where breast milk is not obtainable. It is also valuable in cases of dyspepsia, enterocatarrh, cholera infantum (intoxication, Finkelstein), atrophy (decomposition, Finkelstein).

As these diseases are accompanied or have been preceded by diarrhœal attacks, the albumin milk is a valuable diet. The bowel movements soon improve, but the child does not at once gain in weight. As soon as the evacuations have improved, or have become less frequent, sugar in some form should be added. This should not occur too late, certainly at the end of eight days, if not before, sugar should have been added, even if the number and the appearance of the stools leave something to be desired.

The albumin milk is given in increasing quantities until the stools become less frequent. Saccharin may be added at first, so as to make the food more acceptable to the infant's taste. Children over three months of age may have starch in some form added to the albumin milk. The substance to be added is to be stirred up in a small quantity of water (two ounces), boiled, and then added to the milk.

The use of milk sugar or cane sugar is not advisable, since these lead readily to relapses. Much more certain in their action are the maltose preparations, or any of the dry malt preparations which do not contain milk in some form.

At first one should add only a few grains of malt sugar to a three ounce mixture, but the quantity may be increased from day to day, particularly if the child does not increase in weight, adding one per cent. at a time. It is not advisable or necessary, at any time, to add more than four per cent. of sugar to the entire mixture. Children over three months will sometimes need the addition of starch in the form of flour; two or three drachms of the latter may be added to an entire day's feeding.

In cases where the bowel movements continue thin and frequent, or contain mucus, even after [illegible] days [illegible] should proceed to make

a daily increase in the quantity of albumin milk, and after the lapse of eight days more, begin to add sugar. Recovery may be confidently expected, though the course of the illness will be somewhat protracted.

It sometimes happens during the period of convalescence, after improvement has once set in, that an apparently unfavorable condition occurs, characterized by frequent and thin stools. In these cases it may be said with great emphasis, one should not diminish the quantity of the albumin milk or the sugar, but should continue with the same dosage and quietly wait. After a short time, if this suggestion is followed, improvement sets in.

In some of these cases the disturbance is not primarily a digestive one, but it seems to be associated with an infection in some other part of the body. Thus, for example, an intercurrent rhinitis, or bronchitis, will almost invariably cause a standstill or loss in weight, with more or less pronounced digestive disturbance.

No error can be made which will place in greater jeopardy the results of albumin milk feeding than a *too protracted underfeeding*. In severely atrophic babies one or two days' reduction in diet will answer every possible therapeutic purpose.

MANAGEMENT IN DETAIL.

a. In cases of dyspepsia, feed baby tea sweetened with saccharin for six hours. Begin by feeding 300 grammes (ten ounces) of albumin milk, divided into five or six feedings. Tea and saccharin may be given between feedings, as seems indicated.

b. In the cases of socalled enterocatarrh and cholera infantum, a tea diet for twelve to twenty-four hours, then for one day albumin milk, teaspoonful ten times daily, with tea and saccharin in the intervals. In a day or two as the little patient shows improvement, the albumin milk may be increased fifty grammes (from one and one half to two ounces) each day, when the stool becomes less frequent; then increase the albumin milk 100 grammes (three ounces) each day, until eventually the baby is receiving from 180 to 200 grammes (from six to seven ounces) to each kilogramme (2.2 pounds) of body weight in twenty-four hours. Sugar and flour may be used in the manner which has already been described. The number of meals should gradually be reduced to five or six each day.

c. In cases of atrophy (decomposition, Finkelstein), proceed as in cases of dyspepsia; increase food as rapidly as is possible, even if the bowel movements are not perfectly satisfactory in appearance. Sugar should be added comparatively early in the treatment, particularly as the *danger of underfeeding* in these cases is paramount.

Particular emphasis should be laid upon the observation that during the first few days of treatment with albumin milk the loss of weight may continue and the general appearance does not improve.

In many cases larger quanties of albumin milk may be given than have been herein indicated, and in some cases the increase may be more rapid.

The entire quantity of albumin milk should not exceed in any case more than one litre a day. After diarrhœa has stopped older children may have the usual additional food (soup, vegetables, stewed fruit, and cereals).

DURATION OF TREATMENT WITH ALBUMIN MILK.

Children over three months of age will usually require from six to eight weeks of treatment with albumin milk. Those under three months will require about ten weeks of treatment. At the expiration appropriate milk mixtures should be tried.

To wean a baby from albumin milk it is recommended that all of the bottles be taken away at once, and that the substitute feeding be instituted. If a relapse should occur, the albumin milk is again indicated.

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SOME PHASES OF ASTHENOPIA.

*A Study of Eye Strain.**

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To one whose work is limited to a particular branch of medicine or surgery, even the selection of the title of a paper to be read before a gathering of workers in so many fields as here represented presents serious difficulties. But in this era of what may almost be called "specialized specialism," when our patients not infrequently seem surprised that we received a general medical education and were doctors before we were specialists, when even some of our professional brethren are so carried away by one idea that it is sometimes difficult to persuade them that the tail does not wag the dog, it may not be altogether unprofitable to stop a moment and remember that while we go, each his different way, along the path of choice, special aptitude or least resistance, as the case may be, our paths are continually crossing those of workers along different lines. If at the crossings we sometimes find the lettering on the guideposts obscure and hard to make out, and are in doubt as to the proper course to take, we may be guided on our way by the traveler whom we may meet, profiting by his experiences on a road he may have traveled often and wearily, or we may, perchance, be able to warn him of the pitfalls in the way by which we have come and show him a short and easy way out of the woods. It is with this idea in mind that I have chosen the subject of this paper, for asthenopia, difficulty in the use of the eyes, in the broad use of the term, is a field in which the path of the oculist often crosses that of the family physician, and only a hearty coöperation between the two can bring relief to the sufferer.

It would not interest you, and I do not propose to enter into the technicalities of the subject, but to approach it from a clinical standpoint, pointing out symptoms and seeking, as far as possible, their causes. For many of the cases of asthenopia first seek relief from the family physician for symptoms of a general nature, sometimes quite remote, and not infrequently remain for a considerable period under treatment before the eyes come even under sus-

Read before the Harvard Graduates' Club.

picion. Over and over again patients come with the story that they have tried this doctor and that doctor and all sorts of medicines, regular and quack, all without relief of distressing headaches. Or they come with a letter from their family physician saying that all ordinary remedies have failed, and with a request to have the eyes examined. The story will vary from one of moderate headache, often hardly more than a feeling of discomfort on use of the eyes, to a complex of symptoms which make life almost unbearable.

Here is a case in point. A little over twenty years ago I assisted the late Dr. Henry D. Noyes in the removal of a nearly normal eye from a lady of middle age, socially prominent, but whose sufferings were so great that she was willing to make even this sacrifice to gain relief. The right eye was emmetropic, with perfect vision; the left had a low grade of myopic astigmatism, correction of which gave normal vision. She had submitted to several operations on her ocular muscles without benefit, and was a physical wreck, forced to spend most of her time in bed, tortured by agonizing headaches, and utterly unable to use her eyes for anything on account of the pain in her left eye which she begged Dr. Noyes so hard to remove that he at last, after all other measures had failed, reluctantly consented to do so. I saw this patient from time to time for over a dozen years. So great was her relief that she never expressed the slightest regret, and on one occasion she volunteered the remark that she would not have that "old eye back in her head for a million dollars." I quote her own words.

As a basis for this paper I have selected at random, as the names came to mind, cases presenting various phases of asthenopia. It is not, however, my purpose to weary you with the details of specific cases, which would not particularly interest a mixed audience. I prefer to build up out of this material a sort of composite patient and call your attention to symptoms which go to make up the story of the asthenopic patient, a story so oft-repeated, in whole or in part, that one can almost anticipate in taking notes.

The symptoms of asthenopia are subjective and objective; the subjective symptoms being either general (often exceedingly remote) or local, i. e., purely eye symptoms.

SUBJECTIVE SYMPTOMS.

General:—Of the subjective symptoms headache is the general symptom which easily holds first place, both in the frequency of its occurrence and the suffering of the patient. The severity varies from a mere feeling of discomfort or fatigue on use of the eyes to severe pain, often nearly constant, sometimes well nigh maddening. While there may be more or less pain in the eyes themselves, it is more commonly referred to the region around the eyes. The patient will tell you that the pain starts just above the eyes, that it is in the forehead and radiates to the temples. Very often they will tell you that it goes clear through the head to the occipital region and back of the neck. This is particularly the case when the ocular muscles are at fault. From the back of the neck the pain may extend to the arms and even the legs. I distinctly recall a case in which use of the eyes would cause pain and cramps in those distant members. Rather less common than frontal or occipital pain is pain referred to the top of the head. As the headaches vary in intensity, not less do they vary in frequency and duration. They may occur only after reading, sewing, etc. Curiously enough, one patient may be able to read without pain but unable to sew, while another may have no trouble in sewing and yet be practically debarred from reading. School children are often free from headache on Saturday and Sunday only to have it return with the renewal of the school work on Monday; and Sunday is often the only day of relief in the week for adult eye workers, particularly if the day is not observed in a strictly orthodox fashion. Sometimes the headache can be slept off. Often, however, it is practically constant throughout the waking hours, going with the patient through the day and standing like a ghost beside his couch to take him by the hand and drag him through another weary day when he wakes, often more tired than when he went to bed. This is no exaggeration. I have heard the tale over and over again until I know it by heart. Time and again I have been told by patients well on in middle life, usually women, that they had not known what it was to be free from headache since their earliest recollection.

Sometimes there is a feeling of great weight or pressure on the head. In other cases it seems to the patient as though the head would burst. One lady very graphically described her sensations by saying her head felt as if she had a bunch of springs coiled up in it.

There is practically no limit to the kind, degree, occasion or time of the headaches, and while general and other special causes are often associated with eye strain in their production, there yet remains a large class of cases in which the eyes are primarily and wholly at fault, as shown by the prompt relief following correction of the ocular errors.

Let me just call your attention to another class of patients. They do not belong to the oculist, they do not seem to belong to anybody, but they often come to the oculist. They are usually women and may be said to have the headache habit. They suffer when they do use their eyes and when they do not. They wander from family physician to oculist and on down the line of specialists, and none of us do them much good. We all know them, are sorry when they come and glad when their visits cease. Nothing but morphine will relieve them, and they are finally either driven to it or they accept the situation and suffer on. They will tell you that they have always had headache, and often, that their mothers had it before them. Time alone, in a certain number of these cases, brings a greater or lesser measure of relief, particularly after the menopause.

Pardon a digression, but I cannot pass from the subject without mentioning a form of headache entirely outside the province of the oculist, although he sees many of the cases, and very frequently they are sent to him by the family physician who suspects eye strain on account of the location of the pain. I refer to a form of frontal headache, a pure supraorbital neuralgia due to malaria, and often the

only manifest symptom of that disease. So common is this symptom that, as a matter of routine, almost the first thing I do when a patient comes to me complaining of pain above the eyes is to press the tip of my finger into the supraorbital notch, and it is astonishing to find how often the very slightest pressure on the supraorbital nerve at this point will cause the patient to almost rise out of the chair, while quite firm pressure over any other point of the orbital margin will hardly make him wince. I must say that I see fewer cases of this variety of headache than I formerly did, for my custom is, when the patient comes from his family physician, to refer him back with a letter advising stiff antimalarial treatment. After two or three such letters the regular attendant usually tries his own finger tip and thus eliminates from my practice a large percentage of these pseudoasthenopic cases. I well remember one case, an apparently healthy lad, where I could find no important ocular error, but in which this supraorbital tenderness was very pronounced. The family physician was rather skeptical, but made a blood examination, found the plasmodium malariæ, and promptly relieved his patient by antimalarial treatment.

Passing from headache, I feel like apologizing before enumerating the long list of symptoms, many of them remote, as already stated, which go to make up the complex story of those who are, or think they are, suffering from eye strain. I am not one of those who think that all the ailments to which flesh is heir are due to eye strain, but there is not a symptom on the following list which I have not heard patients attribute to use of their eyes, fantastic as the connection may seem in many instances; and the relief afforded by eye treatment is often the most surprising thing in the case.

After headache, very frequently accompanying it, nausea is perhaps the most common general symptom of asthenopia, often ending in vomiting—a good, old fashioned sick headache. Loss of appetite, indigestion, flatulence, diarrhœa, and constipation are even included in the tales of woe to which the oculist has to listen. Hiccough is occasionally a distressing symptom. Vertigo a very common one. Some patients suffer from insomnia. Others become so sleepy if they sit down to read that they fall asleep before finishing a page. They complain of lack of concentration and loss of memory. Some are exceedingly irritable, annoyed by little things, almost melancholic at times. Transient aphasia was a symptom in one case. Some patients will sum it all up in the one expression, "I feel so tired"—and they look it.

Pain in regions more or less remote is not so very uncommon. I will merely mention some of the localities at the risk of provoking smiles of doubt if not of derision. A detailed account would weary you, but patients—eye patients, mind you, and relieved by eye treatment—have told me that use of their eyes caused pain in the side of the face, behind the angle of the jaw, in the arms, legs, back or side, stomach, bowels, ovaries and even rectum. Cardialgia and palpitation of the heart occur. I well remember the case of a physician, a sufferer from facial tic, who said that before wearing glasses he could hardly get to sleep on account of the twitching, and then only by pinching up the skin over his right temple.

With such an array of symptoms is it strange that many of these patients come last to the oculist?

Eye symptoms:—Still under the head of subjective symptoms, we pass now from the general to the local or eye symptoms. A feeling of heat in the eyes is often present, a manifestation of moderate conjunctival irritation due to strain. Photophobia is a very common symptom, at times the most troublesome of all, the lights of the theatre being particularly complained of. With this there may be lachrymation and even blepharospasm. There may be absolutely no pain in the eyes themselves; on the other hand, the pain may be very severe, a real eyeache, or sharp and shooting. Sometimes it is more a feeling of weight or tension, or as if tense cords were pulling on the eyes and restraining their movements. One patient said her eyes felt "bulging as if they would come out." Patients complain bitterly of their inability to use their eyes. They will tell you they cannot read half a page before the print becomes blurred and unsteady and the lines run together, and there is such a feeling of strain and fatigue that they have to lay the book aside.

The following symptoms are particularly characteristic of muscular asthenopia, and they are very often grouped: Seeing the nose; inability to ride on the cars without headache or nausea or both; some always have to shut their eyes on a train if they would have any comfort; others can ride backward, but not forward, because in the former position the eyes are not constantly strained to catch the last look at a flitting object; ladies complain that they never go shopping without going home with a sick headache, and the theatre produces the same result; some are never able to sit through all the acts of a play; the direction of the gaze, however, is an important factor; some being comparatively comfortable in the balcony, where they can look down, but unable to sit in the orchestra, or just the reverse, according to the muscles involved; the moving crowd on the streets and the procession of carriages in the park drive some patients nearly crazy; the game of tennis often becomes a torture rather than a pleasure to those whose weak ocular muscles unfit the eyes to follow the rapid flights of the ball.

OBJECTIVE SYMPTOMS.

The general appearance of the patient is often quite characteristic. The eyes sometimes have a furtive look, the face a worn, drawn, tired, distressed, anxious expression. The head is often tilted toward one shoulder and rotated slightly to the opposite side; sometimes it is at the same time tilted a little backward. Old photographs often show this position of the head. The friends usually consider it a mark of affectation, but it is really the unconscious favoring of the weak ocular muscles, the head taking a position, which becomes a habit, in which the weak muscles can act to the best advantage. Few faces are symmetrical and often the asymmetry is very noticeable, one eye being on a considerably higher level than the other, and often without causing any trouble. A very common habit

of asthenopic patients is that of holding the book they are reading a little to one side or very close to the eyes, the latter position bringing undue strain both on the accommodation and convergence.

The movements of the eyes should be closely observed, making the patient follow the finger or a small object as it is moved quickly and slowly before the eyes in all directions. Note whether the eyes move smoothly or in a jerky manner, whether one keeps pace with and travels as far as its fellow in coordinate movements, whether one eye goes higher or lower than the other, whether there is any decided failure of either, singly or combined, in lateral movements, or whether there is any rotatory movement. Partially cover one eye with a card so that it cannot see the moving object, but can still be observed by the examiner, and see if it moves in harmony with the uncovered eye. These are only the rough tests which can be made by the family physician without the aid of even simple apparatus, and much can be learned thereby. Of course the crucial objective symptoms in cases of muscular asthenopia are those determined by accurate measurements of the motility of the eyes with simple prisms or more complicated instruments. But these details would not interest the general practitioner and would only bore my ophthalmological colleagues. Later, under the head of treatment, I will briefly refer to the futility of too exact measurements apart from the pleasure and satisfaction they afford the investigator.

ÆTIOLOGY.

In considering the causation we can conveniently divide the cases into five classes.

I. Cases dependent on the general health. Under this head we can properly include heredity and defective development of the motor centres of the eyes. For example, some patients seem to have a real convergence paresis without any weakness of the internal recti muscles except in this one particular. Some patients may also be dependent on defective development of other brain centres, for brain fatigue is certainly a decided element in many cases of asthenopia.

But under this head I refer more particularly to the cases of breakdown from overwork or worry; to neurasthenic cases with the attendant cerebral and retinal exhaustion; to the cases of acute disease in which convalescence has been protracted and the patients have read a great deal during the period of confinement to bed. In all these conditions the resulting depreciation of general tone is a potent factor in the causation of asthenopic symptoms.

II. Reflex cases. These are the cases which seem to be directly due to irritation or disease of some other part or organ of the body, near or remote. It is often difficult to determine just what part the depreciation of the general health plays in these cases, but certainly in some of them the eye symptoms seem so directly influenced by, and dependent on, the state of the diseased organ, and so promptly subside when that organ is relieved, that I think we may fairly assume that a certain number of cases of asthenopia are purely reflex in character. Here belong the cases due to irritation of the nasal mucous membrane, hypertrophied turbinates, etc., and preeminently those due to uterine and ovarian disease. Earlier in my remarks I pointed out that the current may be reversed, correction of ocular errors being immediately followed by relief of pain in distant organs.

III. Cases due to errors of refraction and accommodation.

IV. Muscle cases.

V. Mixed refraction and muscle cases.

Classes I and II deal with contributory causation: III, IV, and V with direct.

No class or condition is immune. Neurotics and phlegmatics, delicate women and sturdy men, lawyers, clergymen, physicians, college athletes, and even day laborers—all are liable. Appearances are often deceptive. I have seen delicate women with ocular muscles ideal in balance and power, and I have seen college athletes of magnificent physique, whose ocular muscles were exactly the reverse.

TREATMENT.

With the treatment of the general health and reflex cases this paper has no concern. They belong to the general practitioner or the specialist whose domain is invaded. The refraction and muscle cases, however, are the oculist's own, although possession of the latter is sometimes disputed by the neurologists.

It stands to reason that any error of refraction giving rise to symptoms should be corrected. It does not follow, however, that every patient with a refractive error needs glasses. The personal equation is a factor not to be neglected. One individual with a very slight error will suffer torments if that error is not corrected, while another with a deviation from the normal four or five times as great will have no symptoms at all. Still, I think we are all agreed that, in general, errors of refraction call for attention, whether as the only or simply subsidiary treatment; and in all cases of asthenopia this is naturally the first point of attack. In fact, a prescription for glasses is usually all that the family physician expects when he sends his headache patients to the oculist.

We pass now to the treatment of the difficult cases, the muscle cases, which tax the patience, knowledge, ingenuity, and skill of the doctor to the utmost and require on the part of the patient an amount of confidence, trust and even credulity which is to me a never ending source of wonder. Throughout this paper I have avoided technicalities, and in speaking of the treatment of these muscle cases I shall do so in as general a way as possible, but a few fundamental facts and principles must be established at the outset that we may be able the better to appreciate the possibilities and limitations of remedial measures.

What is a normal standard for the power of the ocular muscles? From long study of these cases, and after many thousand tests, I have come to regard an abduction, or diverging power, of seven degrees, and an adduction, or converging power, of from thirty-five to forty-five degrees, measured by prisms, as about the ideal figures for distance, i. e., twenty feet or more, while an abduction of twenty degrees and an adduction of forty degrees are the corresponding satisfactory figures for the reading

distance, thirteen to fifteen inches. That is to say, the ratio between divergence and convergence for distance is about 1:5 or 6, and for the reading distance about 1:2. Wide variations, however, from these figures may exist without causing any discomfort, the personal equation counting fully as much here as in the refraction cases. The vertical movements of the eyes are quite limited, rarely amounting to five degrees, usually not more than two or three degrees, often less. In addition to these normal movements of the eyes we have to take into consideration in our examinations the abnormal rotatory movements, or inclination of the vertical axes.

How do we determine the power and balance or lack of balance of the ocular muscles? We have delicate and accurate instruments such as phorometers and clinometers, but a few prisms, some single and some, for convenience, arranged in sets or piles, together with a candle for distant tests, and a simple frame like a stereoscope, with a card having a small dot on it for the reading distance tests, are all we require to obtain sufficiently accurate results for all practical purposes. With the instruments of greater precision previously mentioned, the head during the tests is fixed in an unnatural, uncomfortable position which it never assumes voluntarily, so that the tests are made under unnatural conditions. For further steadiness of the head in the use of one of the instruments the patient is required to bite firmly on a little pine stick inserted between his teeth like a bit, and which always rests under the suspicion of not having been changed since the last patient.

The muscular error having been approximately determined, we can, within certain limits, restore the proper balance by the use of prisms. I say within certain limits, because above 10° prismatic glasses become too burdensome. But if a moderate degree of prismatic correction will suffice, particularly if, as in the mixed refraction and muscle cases, the patient on account of his refractive error has to wear glasses any way, we can, by combining prisms with the glasses correcting the refractive error, often give the greatest possible relief.

What is the therapeutic action of prisms?

1. They may satisfactorily correct a real muscular insufficiency permanently.

2. They may be of use temporarily by relieving muscles fatigued and strained by overwork, and then be laid aside when the muscle tone has been restored by rest or improvement of the general condition.

3. They may correct an apparent error and develop a latent one. That is, a weak muscle gladly accepts the proffered help, relaxes its tension, and asks for more.

4. They may, by exercising it, strengthen a weak muscle—prism gymnastics.

5. They may be absolutely useless, yes, worse than useless, positively harmful.

Let me give you one illustration of what a little help with prisms will sometimes do. Last June a professional woman of about thirty, whose work required close application with fine instruments many hours a day, came to me with a story of headache all her life. This had at last become so severe that she had been forced to give up her work and practically abandon a career when success was assured. Physically she seemed a perfect specimen of womanhood, but she was of a highly nervous temperament, and her face had an anxious, care worn expression. I examined her eyes, including the muscles, most carefully and could find nothing to account satisfactorily for so much trouble. A slight hyperopic astigmatism had been corrected by another oculist whose prescription I could at the time see no reason for modifying. I suspected that the trouble might be reflex, possibly due to uterine or ovarian irritation. On questioning the patient, however, I found that she had been the rounds. She said every organ in her body had been examined and all had been pronounced perfect. I went over the ocular muscles a second time most carefully. Their behavior was rather uncertain, even contradictory, and the only weak point I could detect was a possible insufficiency of the external recti. It was the last straw and I grasped it and ordered a weak pair of prisms, 1½ degrees, base out, for each eye, combined with a weak astigmatic correction she was already wearing. At the same time I told her frankly that I expected very little from them, that they were in some respects even contraindicated, but that I could do nothing else. Any relief obtained by their use, therefore, could not be due to suggestion. Six weeks later she reported that she had had only one headache since she got her new glasses. Still two months later, on my return from my summer vacation, not having seen her in the interval, she told me she had never been so free from headache as she had been during the summer, and that on one occasion she had taken six young people down to Coney Island for the day, and was the only one in the party who returned without a sick headache; whereas, before wearing her prisms she had never been able to take a trip or go to the theatre without going home with a sick headache which would frequently keep her in bed the following day. Often she had to leave the theatre before the play was over.

Finally, prisms failing, we are driven to the consideration of operative interference. Earlier in the paper I said I would again refer to the futility of too refined tests and measurements from a therapeutic standpoint. There is no rule, there never can be, for determining that a certain degree of muscular insufficiency or overactivity requires a definite amount of cutting or advancement of a muscle. Indisputable proof of this assertion is found in the fact that men who use the most accurate instruments and make the closest measurements, men whose operative technique and skill is beyond question, often operate six, eight, ten and sometimes twenty times on one patient, which shows most conclusively that degrees in prisms and millimetres in muscles are not interchangeable values. I have seen many of these overoperated patients and have frequently listened to their expressions of profoundest regret that they ever submitted to the treatment. Their last state is often worse than their first. Not that I would decry operative treatment, for I have seen many brilliant successes as well as lamentable failures, but I do say that operations on the ocular muscles should be most carefully and

conscientiously considered, and held in reserve as a last resort. Then, having determined the kind and approximately the amount of the error, we can go ahead, using our best judgment acquired by long experience. You can cut off the end of a steel guy rope which is too long, or you can splice one which is too short; you can be exact in your measurements and can count on definite results; but in surgery we are dealing not with iron and steel, but with living tissue which has no fixed law of expansion or contraction, and all flesh is not the same flesh. Results are necessarily uncertain. One more caution. Never, if you value your future peace of mind, put the points of your scissors beneath the conjunctiva of a neurotic patient.

I never operate on the ocular muscles without thinking of the man who tried to tinker his own clock. He took it apart, cleaned and oiled it, but found, as it seemed to him when he tried to put it together again, that he had wheels and springs enough to make several clocks. One who recklessly disturbs the attachments of the ocular muscles will meet with similar surprises.

If, as has been my purpose, I have succeeded in showing that the ophthalmologist is not altogether out of touch with his elder brother, the general practitioner, and that his vocation is not wholly one of fitting presbyopes with reading glasses or, as one of my aural friends irreverently puts it, practising mucous membrane surgery, I shall have accomplished all that I hoped and more than I feared.

80 West Fortieth Street.

A RAPIDLY FATAL CASE OF AMŒBIASIS WITH ABSCESS OF THE LIVER ORIGINATING IN THE VILLAGE OF GREEN ISLAND, NEW YORK.

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The belief that has been held by the medical profession of New York State that amœbiasis was a tropical disease purely, was modified recently by Patterson (1) in his review of the distribution of the disease in New York State and North America. In the review mentioned eight cases of amœbic dysentery were collected, the patients being residents of this State and had never lived in the tropics. One case was reported by Stockton (2) in Buffalo in 1894, one from an unknown source in northern New York, and six cases were reported from New York city. Of these last six cases, one was reported by Brannon (3) in 1893, two by Graser (4) in 1900 and three by Patterson in 1909. In May of this year Patterson (5) added two additional cases. In each of the ten cases cited the infection occurred in the localities from which they were reported.

The case recorded by us here supports the views of Patterson that amœbic dysentery is endemic in New York, but aside from this it is of interest because there was no dysentery and the infection of the liver developed with great rapidity.

Case. Mr. W. McK. (Hospital number 10751), moulder, æt. thirty-one, admitted to the Samaritan Hospital, Troy, May 29, 1910. Complaint, pain in the side.—Family history, unimportant.—Past history. He had always lived in the village of Green Island and with the exception of a three day trip to the city of New York in the summer of 1909, had not been away from home for many years. He had never served in the army or navy, and had never been employed on shipboard.

Present illness. He had been in good health up to two weeks ago (May 1, 1910), when he began to feel tired, and this symptom became so bad that he could hardly continue his work. Two weeks later he was suddenly attacked with a severe pain in the right side, followed by a shaking chill, fever, and sweating. There had been no diarrhœa at any time, on the contrary the bowels were constipated. To relieve this he took, on the advice of his family physician, calomel followed by purgative salts which promptly relieved him. Jaundice was noted almost at the start of the illness and continued.

Physical examination. The patient was a man of medium height and build. He was delirious. The expression was anxious, the respirations rapid. The finger tips were cyanotic. The conjunctivæ were icteroid.—Lungs. The expansion was restricted on the right side. On percussion there was Skodaic resonance in the right infraclavicular region. At the third rib the note became flat and extended downward to blend with the liver dullness. Posteriorly on the right side the note was vesiculotympanitic in the suprascapular fossa and interscapular regions, but from the angle of the scapula to the base the note was flat. Over the left side of the thorax the note was vesiculotympanitic except for a small triangular area of dullness beginning at the ninth dorsal spine (paravertebral triangle). The vocal fremitus over the dull areas was absent. On auscultation over the areas of Skodaic resonance front and back the expiration was prolonged and low in pitch but over the dull areas the respiratory murmur was absent. No râles were detected. Over the triangular area on the left side the breath sounds were distant. The remainder of the left thorax exhibited the signs of a compensatory emphysema.—Abdomen. The right hypochondrium bulged, but in general there was no distension. The liver dullness extended downward eight cm. below the costal margin in the mammary line and above blended with the dullness in the right chest. The left lobe was also enlarged and the dullness extended six cm. below the tip of the ensiform. The border of the liver was very tender, easily palpable, and regular. By bimanual examination there was a deep seated fluctuation felt in the right loin. The spleen was easily palpable and not tender.—The pulse was rapid, regular, soft, and of low tension. (The remainder of the examination was unimportant and is omitted.)

Diagnosis. Probable abscess of the liver or subdiaphragmatic abscess.

On the day following admission an incision into the peritoneal cavity was made. Evidence of liver necrosis was found near the border and when the hand was passed up beneath the diaphragm large abscesses were found on the upper surface of the liver which were easily opened by the finger. Several ounces of mucopurulent material escaped. Iodoform gauze drains were inserted to drain the abscesses through the abdominal wound and a second incision was made in the right loin for the purpose of securing better drainage.

Following the operation the condition of the patient grew steadily worse; the temperature reached 106° F. and the pulse 160. On May 31st the patient died.

Following is an extract from the autopsy notes, which was made on June 1st four hours after death:

The abdomen was distended particularly in the right upper quadrant. When the peritoneal cavity was opened the coils of intestine were somewhat distended but not generally adherent to one another. Adhesions of recent formation were found about the cæcum close to the appendix. The diaphragm was felt at the level of the fifth rib on the right side, and the fourth rib on the left. No pus was found beneath the diaphragm or in the cavity of the peritonæum.

The liver was very large, extending 10 cm. below the costal margin in the mammary line and 10 cm. below the tip of the ensiform cartilage. The lower portion of the right lobe was [illegible] the left

bound it to the under surface of the diaphragm. The surface of the right lobe was mottled greyish brown and red. The former represented areas of necrosis, the latter, congested portions of the organ. The left lobe was intensely red in color everywhere. The necrotic areas were soft and friable, and formed the major portion of the right lobe. On the under surface of the liver an abscess, 5 cm. in diameter, was found which contained thick yellowish pus. When the right lobe was sectioned the necrotic areas were very irregular in size and shape, often communicating with one another. The contents were made up of somewhat gelatinous necrotic tissue mixed with blood and pus and dotted with small yellowish pinhead size areas representing small abscesses. One noticeable feature of the necrosis was the small amount of pus found in comparison with the large amount of tissue destroyed.

Lungs. On the right side the lung was compressed by the right lobe of the liver which extended upward to the third interspace. The base of the lung was bound to the diaphragm by delicate, recently formed, fibrous adhesions. Both pleural cavities were free from fluid. Old fibrous adhesions were found at each apex. Aside from this the lungs presented no noteworthy changes.

Intestines. In the small intestine, close to the origin of the appendix, was an oval area (2x1 cm.) slightly raised, greyish white in color, and with sharply defined edges. In its central portion it was necrotic. Pus from the liver abscesses and scrapings from the ulceration in the intestine were examined on a warm stage. Many large, actively motile amœbæ, often containing red blood cells were found in each.

Microscopical description: Sections of the cæcum showed the normal intestinal mucosa extending up to the ulcerated portion, where it ceased. The summit was made up of necrotic material. The ulcer distinctly undermined the mucosa on all sides and extended downward to the muscular coats of the bowel. The extreme summit under high magnification was completely necrotic and devoid of structure. Toward the lateral borders the tissue consisted of a poorly staining, fibrous connective tissue and polymorphonuclear leucocytes. At the base close to the muscular coats the tissue was necrotic and the upper layers of the muscular coats were infiltrated with lymphocytes, polymorphonuclear leucocytes, and plasma cells. At the margins of the ulcer in the necrotic tissue numerous round or oval bodies were seen which were sharply defined and approximately ten to twelve times the size of the polymorphonuclear leucocytes. At the periphery these bodies had a clear outer zone with a granular central portion containing small round transparent globules and a faintly staining nucleus. Small pseudopodia were occasionally seen projecting from the outer surface. Sections from the various portions of the liver showed a fairly extensive increase of fibrous connective tissue. This was especially prominent about the bile ducts and portal veins where there was also much round cell infiltration. The infection was entering apparently by way of the portal veins which contained necrotic material, small round cells, and bodies (amœbæ) identical with those described in the sections from the ulcer in the cæcum.

Numerous separate areas of necrosis were found at intervals in the section. These were quite sharply marked off by a zone of polymorphonuclear leucocytes. The central portions were entirely devoid of structure and consisted of cellular debris. At the margins of these areas many amœbæ were found. The columns of liver cells, bordering on the necrotic areas were stained uniformly red; their outlines were not clear and they appeared to have undergone coagulation necrosis.

The remainder of the autopsy protocol is omitted as it contains nothing of pathological interest.

Diagnosis. Amœbic ulcer of the cæcum and amœbic abscess of the liver.

We were not able to trace the source of the infection in this patient but we are of the opinion that the pathogenic form of amœbæ may have been brought to this section of the State by soldiers and others who have been infected in the tropics.

Last year one of us reported a case of chronic amœbic dysentery (6) in a soldier who had returned from the Philippines nine years previous. During the nine years of his residence in Troy he had had a continuous dysentery, averaging from ten to twenty stools a day. As he was ignorant of the nature of the infection he had used no precautions whatever in the proper disinfection of the intestinal discharges.

From cases such as this it is easy to understand how the water of the Hudson river, into which the sewage of the cities on its banks is emptied, might become infected with amœbæ and produce an infection in others using the water for drinking purposes.

From our experience with this case we are quite in accord with Patterson in his belief that amœbic dysentery is endemic in New York State, and if a closer search is made for the nature of intestinal infections in general many additional cases will surely be found.

References.

1. Patterson. *American Journal of the Medical Sciences*, August, 1909, p. 198.
2, 3, 4, 5. *Ibid.*
6. Carey. *Albany Medical Annals*, November, 1909, p. 806.

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LETTER FROM EDINBURGH.

A New Medical Society.—Scottish Infirmaries and Their Position.—The King and the Scottish Universities.—Importation of Tinned Food Stuffs.—A Hostel for Edinburgh Students.

Edinburgh, *January 4, 1911.*

The want of opportunities for discussing and exchanging views on matters connected with diseases of the ear and throat has for some time been felt by those interested in this department of medicine in Scotland. There is a Section of Laryngology and Otology belonging to the Royal Society of Medicine in London, but it has been thought that a purely Scottish society would present greater opportunities for those resident in Scotland without proving in any way inimical to the interests of the larger society. A Scottish Otological and Laryngological Society has therefore been formed with an initial membership of twenty-eight, all of whom hold a university, hospital, or dispensary appointment in this branch of medicine. Dr. W. S. Syme, of Glasgow, has been appointed secretary and treasurer: a chairman will be elected at each meeting, and it is proposed, for the present at least, to conduct the society's business in as informal a manner as possible. The first meeting was held in Edinburgh on November 11th last, and the meetings will be held from time to time in Edinburgh, Glasgow, Aberdeen, and Dundee.

At the annual meeting of the contributors to the Edinburgh Royal Infirmary, held on January 2d, Lord Salveson made an important speech in dealing with the report of the year. After referring to the position held by the Royal Infirmary of being the largest hospital in the British Dominions, he paid tribute to the officials of the institution and spoke at some length of the resignation of Colonel Warburton (referred to in a previous letter). The most important part of Lord Salveson's speech, however, dealt with the financial position of the infirmary.

Their expenditure had reached the very large total of £54,000, while their income from voluntary contributions had amounted to only £21,000. Their income from invested funds came to £15,000 per annum. The deficiency had been made up to some extent by legacies, but they had been obliged to draw upon their capital reserves to the extent of £2,500, so that their stock had been decreased to that extent. He was afraid the outlook was even more serious than the figures represented. There had been increased taxation, and that taxation fell very largely upon benevolent institutions. During last year they presented a memorial to the Chancellor of the Exchequer urging upon him the propriety of exempting legacies and charitable institutions from the tax which was now levied upon them. The increase of the taxation would especially affect the infirmary with regard to the case where it was a residuary legatee. In such a case it had to bear the whole tax, and where the estate was a large one the tax had been very considerably increased by recent legislation. They did not get any satisfaction from the Chancellor of the Exchequer. They were not aware of one fact, which he thought might have largely influenced his mind, and it should have been entered in their memorial if they had known it—the fact that in Ireland all legacies to charitable institutions were exempt from all kinds of taxation, and hospitals and the like were free from all kinds of taxation, whereas the infirmary had still to bear school rates and poor rates. It was a curious thing that an institution, because its whole funds were derived from the benevolent public toward the relief of the poor, should have to pay poor rates for the privilege of doing that, and that an institution which could not by any chance send pupils to the board schools should also have to pay school rates at the same figure as any ordinary person who contributed his family to these institutions. He hoped something might yet be done to remove what appeared to be an injustice to that great benevolent institution, because, to a certain extent, it paralyzed philanthropy when it knew it would be taxed. They depended entirely upon voluntary contributions, except to the small extent with which the income from their invested funds, the result of the benevolence of past testators, enabled them to meet the charges; but they could not keep the infirmary going for fourteen weeks if it were not for the voluntary contributions they received from the citizens of Edinburgh and the large contributions from the country and the increasing contributions from the working men in the various parts of Scotland.

The King has been pleased to command that the three ancient Scottish universities of St. Andrews, Glasgow, and Aberdeen shall be included among the representative bodies having the right of personal access to the Throne for the presentation of addresses. This honor has hitherto been held only by the General Assembly of the Church of Scotland, the Corporation of the City of Edinburgh, and the University of Edinburgh, whose representatives are always personally received by the Sovereign when presenting loyal addresses.

The action of the American authorities in prohibiting the importation of food stuffs which upon examination are found to contain more than a certain percentage of tin salts has led to the public health authorities of Leith examining tinned food stuffs imported there. The Medical Officer of Health of Leith has recommended the local authority to petition the British Government to make a similar regulation in this country.

One of the principal differences between the conditions of student life in Scotland and in England is the fact that students here have no fixed hall of residence as they have in the south. A student in Edinburgh, for example, attends his classes and studies in his lodgings, and the only chance he has of associating with his fellow students is at the union or at one or other of those social functions which busy and studious undergraduates often prefer to avoid. A deputation appointed by the Edinburgh Provincial Committee for the Training of Teachers has recently visited a number of hostels in England, and has submitted a report in which they recommend that such residences should be established in Edinburgh. The advantages of a student's hostel are summarized in their report as follows: (*a*) It secures to the students the benefits of a satisfactory environment during the years of training, when the character and temperament are still plastic and are rapidly assuming that final setting which will determine their tone in after life. (*b*) It provides opportunities for social and intellectual intercourse between students from different parts of the country, of different breeding, of different ideals and aspirations, thus affording special facilities for the cultivation of manners and development of a capacity for appreciating other points of view. (*c*) It tends to orderly habits of life and to a wise balance of time between work and recreation. (*d*) It fosters a keen sense of corporate life and a healthy desire to participate in all kinds of corporate agencies—educational, social, and recreative. (*e*) It tends to the physical well being and upbuilding of the students, particularly by providing for better and more regular feeding, more hygienic housing conditions, and greater facilities for outdoor exercise. The questions of site, cost, etc., are all gone into in the report, and it is probable that something will be done toward providing at least one such residence in the near future.

LETTER FROM LONDON

Resorts.

The value of the opsonic index as a guide during the progress of a course of therapeutic immunization with vaccines has been the subject of much discussion. In this country Sir A. E. Wright and his school are the principal upholders of its value, but there is an increasing weight of opinion on the other side. A very important contribution to our knowledge of the subject has been made by Dr. Major Greenwood and Dr. J. D. C. White in a recent number of *Biometrika* (vol. vii, p. 505). They have made an extensive statistical study of the phagocytic and bacterial distributions as obtained by the ordinary opsonic method. The material employed consisted of 20,000 cells, and the counts were made by Dr. White at the Inoculation De-

partment of the London Hospital, the time occupied in the work of counting being one month. The general conclusion arrived at by the authors is that no reliance can be placed on single determinations of the tuberculoopsonic index. Unless the index determination can be repeated several times under comparable conditions, little value can be attached to the result. In diagnosis, such multiple determinations, though time consuming, would be practicable, but in the process of vaccination the results of successive determinations would, as the authors rightly point out, be falsified by the rapidly varying antibody content, and the labor and time involved in order to obtain reasonably comparable conditions would militate against the method as a useful guide in controlling the injections.

At a recent meeting of the Royal Society of Medicine, Balneological and Climatological Section, Dr. Neville Wood read a paper on British Health Resorts. He pointed out that the policy of the British municipalities exhausted itself in the endeavor to keep Britons from foreign countries rather than to bring the foreigner to Great Britain, and in addition no serious attempt had been made by the profession in England to inform their foreign colleagues that there existed in this country both spas and climatic stations of the highest rank.

Speaking generally, the class of foreign invalids for which British spas were most suitable included those who thrived on a relatively cool climate and were able to walk well, and those who in association with complete change derived benefit from baths which were neither very hot nor taken in close succession, and their maladies were held to be amenable to the special waters of the country. It had been objected that English spas were intolerably dull, but they were as lively as many on the continent. Excessive rainfall had been urged against them, but on the European mainland, too, it was not uncommon for a whole season to be spoiled by a persistent downpour of rain. At some of the inland climatic stations in Great Britain the air, though bracing, was not devoid of sedative qualities. Among such stations were Hindhead, Church Stratton, Crowborough, Okehampton, and Ben Rhydding. When the inhabitants of Central Europe became aware of the advantages of British health resorts there would be a free interchange of invalids instead of, as now, a movement in only one direction and that away from our shores.

Therapeutical Notes.

Treatment of the Neurasthenic Headache.—Rehm (*Progrès médical*, through *The Practitioner*, January, 1911) considers that the treatment of this headache rests upon the administration, simultaneously and judiciously applied, of tonics and sedatives of the nervous system. Narcotics, as a rule, are only indicated for procuring sleep, during which the headache disappears. This is but a palliative at the start, which should only be used for the moment. The improvement in the general condition should more or less quickly bring its use to an end, by inducing the return of sleep and relief of headache. Among the drugs of this class, opium and its derivatives are particularly dangerous. Many morphinomaniacs are neurasthenics, not understood or badly advised by their physician. Small doses of antipyrine and analogous analgetics are well borne, but these should be given in such a way that they do not increase the dyspeptic troubles; unhappily, with all these drugs, the danger or nuisance of habit exists. The patients are obliged to increase the dose, and soon obtain no longer a happy result; hence the necessity of changing the analgetic. Local applications to the forehead and head should be advised of cold water compresses, in which should be placed some alcoholic solution of menthol. Powders containing small doses of cocaine are given. The affection at the neck will often be relieved by the application of local counter irritants.

Treatment of Stubborn Cases of Supertension.—Elsner (*American Journal of the Medical Sciences*, January, 1911) has used the Lauder Brunton draught effectively in rebellious cases of supertension associated with sclerosis. Elsner's modification of the Lauder Brunton draught follows:

℞ Sodium nitrate, ... gr. xl.
Sodium bicarbonate, ... ʒi.
Potassium nitrate, ... ʒii.
Water, ... q. s. ad ʒiv.

M. et Sig.: Shake well. One teaspoonful in a goblet of hot water before breakfast.

Sterilization of the Skin Prior to Operation.—At the congress of the Association française de chirurgie, held at Paris, October, 1910, Delaugre (*Presse médicale*, November 19, 1910) reported good results in the sterilization of the skin prior to operation with the use of a modified tincture of iodine of the following composition:

℞ Metallic iodine, ... gr. xlv;
Sodium borate, ... gr. xlv;
Alcohol, ...
Ether, ... āā . . . . . ʒi.
Chloroform, ...

M.

This is said to form a very stable solution, which, when applied in three different paintings, renders the skin perfectly sterile, without exerting any caustic action.

The Advantages of Sulphur as an Intestinal Antiseptic.—Summarizing the advantages of sulphur as an intestinal antiseptic Wild (*Proceedings of the Royal Society of Medicine*, December, 1910) says:

1. It is almost tasteless and easily administered.
2. It is insoluble in the stomach, and the greater part of it passes along the whole length of the alimentary canal.
3. It does not interfere with the action of any of the digestive secretions.
4. It forms active antiseptic substances in the intestines when their contents become neutral or alkaline. Some of these substances are gaseous and penetrate to all parts of the intestine.
5. It is sufficiently nonpoisonous to be given in effective doses.
6. It has valuable laxative properties which promote an early evacuation of the intestinal contents.
7. It is cheap.

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NEW YORK, SATURDAY, JANUARY

THE PREVENTION OF SYPHILIS.

The treatment of syphilis during the past few months, chiefly owing to the discovery of "606" and the curative properties alleged for it, has received the most earnest consideration of the medical profession in all parts of the world. This attention has been directed for the most part to curative measures, and, while preventive methods have been suggested and practised for centuries, it was not until the discovery was made that monkeys were vulnerable to syphilitic infection that it was possible to make clear the many obscure points in the mechanism of infection and to investigate properly the means for prevention. In short, up to recent times the question has not been approached from a scientific standpoint, so that it has been impossible to demonstrate with any degree of accuracy the value of any preventive remedy, though very satisfactory results have been obtained in the United States Navy.

According to M. Maisonneuve, who a short time ago presented a thesis on the subject to the Faculty of Medicine of Paris, the road has been so far cleared as to admit of a judgment on the most recently suggested preventive measures. Most of this work has been accomplished by French investigators, the most prominent of whom were Metchnikoff and Roux, and Maisonneuve gives a résumé of the result of their labors in his thesis, an abstract of which is published in the *Medical Press and Circular* for December 28th. From the experiments on monkeys carried out by Metchnikoff and Roux the following conclusions were drawn: 1. That mercury exerts an even more specific control over the local disease than over the constitutional affection. 2. That mercurial liquids and solutions have no influence. 3. That fatty mercurial products employed from eighteen hours and a half to one hour after inoculation invariably prevented infection in the monkey.

The results of these experiments in monkeys were sufficiently striking, but, as monkeys after all differ from men in many respects, it was felt that it would be taking too much for granted to assume that the results would necessarily be the same in human beings. Maisonneuve, who was then a student, offered to place himself at the disposal of the investigators so as to test the value of the preventive treatment in man, an offer which was finally accepted, Maisonneuve was inoculated with freshly obtained syphilitic virus and the process was repeated with virus from another syphilitic subject. Four monkeys were inoculated with the virus on the same day, and one hour after inoculation the student and one of the monkeys were rubbed on the site of the inoculation for five minutes with an ointment specially devised by Metchnikoff. The man, in the words of Metchnikoff, "notwithstanding the inoculation of a vastly larger quantity of active virus than would obtain in the ordinary way, had remained absolutely free from any manifestations of syphilis." Metchnikoff therefore considers that this experiment shows that the application of calomel ointment within an hour of inoculation is preventive of infection both in the man and in the monkey. Experiments on monkeys showed that when the ointment was applied twenty hours after inoculation, the preventive action did not take place.

As for the practical value of these experiments, it is too soon to speak confidently. It has been proved, apparently, that it is possible to prevent syphilitic infection by rubbing in mercurial ointment as quickly as it can be done after exposure to infection. This protection, at any rate, should be useful to those, as Maissoneuve says, who are exposed to the risk of infection in the exercise of their professional calling. It is stated that Metchnikoff has devised a preparation said to be free from any irritating effects and to be constitutionally innocuous. If this is so and it possesses the preventive properties alleged for it, a remarkable advance has been made in the checking of the ravages of syphilis.

TREATMENT OF LUPUS VULGARIS WITH HYDROGEN DIOXIDE.

In our issue of September 10, 1910, we published a description of Pfannenstill's method of treating laryngeal tuberculosis with ozone inhalations in conjunction with the internal administration of sodium iodide. Pfannenstill has since obtained good results in lupus vulgaris by substituting local applica-

tions of hydrogen dioxide for the ozone inhalations.

In a recent report of the Finsen Institute, Dr. Ove Strandberg states that the latter method has been in use there in the treatment of lupus vulgaris of the nose and the nasal cavities since August, 1910. Previous to that time the method which had yielded the best results was a combination of bichloride tampons, galvanocautery, and painting with iodine. This treatment is, however, very tedious and complicated and gives only temporary relief. Radiotherapy has also not proved effective in lupus of the nasal mucosa, with the exception of Lundsgaard's prismatic pressure glass, whose usefulness is limited to affections of the vestibule.

Strandberg reports thirteen cases treated by Pfannenstill's method, and all successfully, though some were of several years' standing and had proved refractory to ordinary methods. The time required to bring about a cure varied. In one case with extensive ulceration of the septum and inferior turbinate healing was complete in sixteen days, while another patient with far less extensive lesion was only cured after three months.

The details of the treatment are as follows: Sodium iodide, three grammes daily, divided into six doses. The nasal cavities are packed with sterile gauze saturated with acidulated two per cent. hydrogen dioxide. In order to expose the mucous membrane to the action of the oxygen constantly the patients are instructed to instil hydrogen dioxide into the nose through a pipette until they feel the fluid trickling down into the pharynx. This is repeated several times every hour. It is noteworthy that the Wassermann reaction was negative in all cases but one, and in that case antisyphilitic treatment had no effect upon the lesions in the nose, while they healed rapidly under the combined iodide and hydrogen dioxide treatment. While it is too early to judge of the lasting benefits of this treatment, it deserves a trial.

THE DIAGNOSTIC DIFFICULTIES IN HYDRONEPHROSIS.

Hydronephrotic tumors give rise to many diagnostic pitfalls and hide their evolution behind innumerable syndromes. Very frequently they are mistaken for an ovarian cyst, their lower pole extending into the true pelvis and being made distinctly evident on vaginal examination in the form of a fluctuating mass situated on the side of or behind the uterus and quite independent of that organ. Maire (*Thèse de Lyon,* 1909) has recorded ten cases in which this mistake was made. At other times the tumor takes on the appearance of a hydatid cyst of the liver or a cyst of the pancreas, and cases of calculous hydronephrosis, accompanied by icterus from compression, simulating a pancreatic growth, have been recorded.

Another diagnostic error may be made when the hydronephrosis simulates appendicular inflammation, and Maire records three cases. The evolution of the process is marked by violent paroxysms of pain, vomiting, and digestive disturbances. The tumor will be found in the iliac fossa having all the appearances of an appendicular collection, but at the operation a healthy appendix is found. Hydronephrosis has been mistaken for biliary lithiasis, pregnancy, or a lesion of the pylorus. In tuberculous subjects hydronephrosis often passes unnoticed and is found only at autopsy, and instances have been recorded where the only symptoms present were indefinite renal pain and painful micturition. In reality there is no diagnostic criterion, but ureteral catheterism is certainly of great value and should always be resorted to. It will frequently affirm the diagnosis and at the same time reveal the condition of the opposite kidney. Radiography, after injection of colloidal silver into the renal pelvis and ureter, as demonstrated by Braasch, at the last meeting of the American Urological Association, is also of utility.

However, clinical diagnostic procedures should not be neglected for instrumental exploration, particularly the location of areas of dulness or tympany made out by percussion over the surface of the tumor or around it, which at least allows one to recognize the retroperitoneal situation of the mass. The objective clinical examination should always be completed by a careful analysis of the two urines. In the majority of cases primary nephrectomy is the only rational treatment, although in some few cases nephrotomy has given good results. Conservative methods may do away with the obstacle causing the hydronephrosis in some cases where the distention of the renal pelvis is small.

TUBERCULOUS DISEASE OF THE ŒSOPHAGUS.

In the *Gazette des hôpitaux* for February 5, 1910, Gardère has studied this affection, a rare process from the fact that the mucosa of the tube is thick and with only a poorly developed lymphatic system and from the rapidity with which the food passes through it. However, three forms have been observed, the ulcerating, the perforating, and the sclerous. Perforation of the organ takes place from within outward, and is usually the result of a caseous lymph node which contracts adhesions with the œsophagus, then softens, and progressively causes the walls of the tube to undergo pathological changes which give rise to the perforation. Occasionally an ulceration occurs with perforation into

a neighboring organ and instances of a communication with the trachea, the right bronchus, the aorta, and the pleural cavity have been noted. Ulceration and sclerous stricture are most often due to the inoculation by the specific bacillus of lesions which existed previously. The latter are always considerable in extent, and those which extend in the direction of the axis are variable as to number; their borders are irregular and the bottom of the lesion is granular and grayish in color, surrounded by yellowish tubercles undergoing the process of caseous transformation. In depth the lesion varies, but perforation is rather infrequent.

Such lesions may often pass unnoticed. Usually the disease is first made evident by dysphagia, which, after alternations of regression and aggravation, becomes persistent. In the period of full development the ulceration gives rise more particularly to the sensation of a sharp burning pain along the œsophagus. Painful phenomena are less evident in cases of stricture, in which case the efforts necessitated for the accomplishment of deglutition, with regurgitation following these efforts, indicate the presence of a stenosis. Catheterism will show the situation of the stricture, but when there is ulceration, if cocaine is not used, the sound may be arrested by a spasmodic contraction of the organ. Œsophagoscopy will allow one to ascertain the shape and often the nature of the lesions. The patient's general condition is always poor. The lesion is, in point of fact, secondary, and the difficulty in nourishing the patient results in loss of flesh and strength.

The diagnosis is difficult. The ulceration may lead one to suppose that it is the result of the passage of a foreign body or some corrosive liquid or a peptic ulcer of the terminal portion. In the case of stricture, one must eliminate lesions producing external compression or cicatricial, cancerous, or syphilitic stenoses. The patient's antecedents, examination of the other viscera, catheterism, and œsophagoscopy, with the result of an antisyphilitic treatment, will put the physician on the way to a conclusion. The treatment of the ulceration consists in cleansing and cauterizing the lesion with lactic acid or silver nitrate and the instillation of cocaine. When stricture is present, a carefully conducted progressive dilatation has been known to bring about long remissions in the progress of the affection.

SYPHILIS OF THE URETHRA.

Syphilis may attack the urethra during any of the periods of its evolution, and make itself manifest in various forms and different situations. Urethral chancre is well known and it is far from being rare, although not always recognized. Tauton, in the *Progrès médical* for November 12th, has published a very complete study on syphilis of the urethra. In urethral chancre the symptoms are two, induration and a urethral discharge. Usually the diagnosis of gonorrhœa is made, but, as the discharge is less abundant and seropurulent in nature, often hæmorrhagic, with practically no pain on micturition, the diagnostic error cannot be long maintained. Then, again, the induration, although it may be late in its appearance, is never wanting.

The occurrence of secondary specific lesions, much discussed and even denied by several writers, is admitted at the present time. Secondary syphilitic urethritis is to-day proved to exist. The patient complains of pruritus at the urethral orifice and a thin secretion causing agglutination of the lips of the meatus, all being phenomena which appear at the same time as the general eruption, and disappear rapidly after the patient has been placed on specific treatment. It is to this urethritis that is to be attributed contagion by the semen, which, passing down the urethra, becomes loaded with the secretion from the urethral lesions, which are rich in the *Spirochæta pallida*.

Tertiary urethral syphilomata are less frequently met with. Sometimes there is a primary lesion of the canal, or there is an extension to the canal by continuity of tertiary lesions of the penis, of the glans, or the corpus cavernosum. Secondary syphilomata may begin as a diffuse infiltration with primary ulceration or in the form of a circumscribed gumma. Autochthonous gummata of the urethra are rarely met with, but several cases have been recorded by Fournier. The cylindroid syphiloma of the urethra presents itself in the form of a regular cylindrical infiltration of a segment of the urethra, and one instance has been recorded by Gaucher and Druelle in which the entire pelvic portion of the urethra was the seat of a gummatous infiltration. The difficulty of diagnosis in such cases is evident.

THE CANADIAN MEDICAL ASSOCIATION JOURNAL.

We have received the first number of the *Canadian Medical Association Journal* which is to be published monthly in virtue of a resolution which was passed at the annual meeting of the Canadian Medical Association held in Toronto, in June, 1910. The association has acquired the *Montreal Medical Journal* which is merged into the new publication. The editor appointed by the Finance Committee of the Association is Dr. Andrew Macphail, of Montreal.

Obituary.

CHARLES J. KIPP, M. D.,
of Newark, N. J.

Dr. Kipp died on Friday, January 13th, of pneumonia, in the seventy-third year of his age. He was born in Hanover, Germany, and received his preliminary education there. He came to New York in 1854, and was graduated from the College of Physicians and Surgeons in 1861. When the Civil War began he volunteered his services, and served in the Union Army for three years on the battlefield, when he retired to take up hospital work until the end of the war. In 1865 he was breveted a lieutenant colonel. Dr. Kipp began the practice of medicine in Newark in 1869, and soon became eminent in the fields of otology and ophthalmology. In 1870 he organized at St. Michael's Hospital, Newark, the first eye and ear clinic. He was consulting surgeon to the Newark Eye and Ear Infirmary from 1880 until the time of his death, and was connected with a number of New York hospitals. He was a contributor to the literature of ophthalmology and otology, and was one of the editors of *Archives of Otology*.

News Items.

Changes of Address.—Dr. Joel Ginsburg, to 193 Columbia Road, Dorchester, Mass.

The Cholera Epidemic in Madeira.—The cholera situation in Madeira is growing worse. Up to January 15th 1,646 cases of the disease had been reported, with 535 deaths.

The Famine Situation in China is rapidly growing worse, according to cablegrams from Shanghai. The American Red Cross Society has sent $10,000 to aid in the work of relief.

The Italian Medical Society.—The officers of the Italian Medical Society of New York for the year 1911 are as follows: Dr. A. Stella, president; Dr. P. Virdone, and Dr. G. Di Santi, vice-presidents; Dr. A. Vernaglia, treasurer; Dr. R. Bellantoni, secretary; Dr. M. Petrella, Dr. G. De Liquori, and Dr. M. Viggiani, Committee on Audit.

Civil Service Examinations.—Among the positions for which the New York State Civil Service Commission will hold examinations on February 18th are: Director of the Tuberculosis Exhibition, State Department of Health, $1,500, open to physicians only; Superintendent of State Hospital Training School, $1,200 and maintenance, women only.

Vermont Tuberculosis Commission.—Dr. W. N. Bryant, of Ludlow, and Dr. S. E. Darling, of Hardwick, have been appointed a commission to investigate and report on the advisability of establishing in Vermont a sanatorium for advanced cases of tuberculosis. These appointments were made by Governor Mead in pursuance of a joint resolution adopted in both houses.

The Aid Association of the Philadelphia County Medical Society.—At the quarterly meeting of the board of directors of this association, held on Tuesday, January 3d, resolutions in memory of the late Dr. John C. Da Costa, Dr. James B. Walker, and Dr. De Forrest Willard, all former presidents of the association and directors at the time of their death, were adopted.

Emergency Hospital, Milwaukee.—At the annual meeting of the Board of Trustees of the Emergency Hospital, of Milwaukee, held on Wednesday, January 4th, Dr. Warren B. Hill was elected president of the board to succeed Dr. F. B. Golley, who was president of the board for twelve years. Dr. George J. Jurss was elected secretary, to succeed Dr. Ralph Elmergreen, whose term as trustee expired in December.

The Philadelphia Medical Examiners' Association.—At the bimonthly meeting of this association, held on Tuesday evening, January 10th, Dr. Harry Toulmin read a paper entitled Mortality Tendencies in the United States in Relation to Life Insurance Work. The subject was discussed by Dr. A. T. Gaillard, president of the association, Dr. J. D. Farrar, the secretary, Dr. George D. Morton, Dr C. M. Seltzer, and Dr. T. J. Ellinger.

The Northern Medical Association, of Philadelphia, held a regular meeting on Friday evening, January 13th. The chief feature of the programme was an address by Dr. William H. Riesman, his subject being gout. Officers were elected as follows: Dr. O. Larchford, president; Dr. Paul F. Bremer, vice-president; Dr. L. Boice, secretary; Dr. John W. Millick, treasurer; Dr. J. T. Geisler, librarian; Dr. J. S. Geisler, censor; Dr. T. Shriner, corresponding secretary.

Hospital Benefits.—The annual benefit performance in aid of the Italian Hospital, at No. 165 West Houston Street, New York, was given at the Metropolitan Opera House on Saturday evening, January 7th. The net receipts amounted to $12,500.

An entertainment was given at the New York Theatre on Sunday evening, January 8th, for the benefit of the National Jewish Hospital for Consumptives, at Denver. The net proceeds amounted to about $3,500.

The Eastern Medical Society of the City of New York held a special meeting on Friday evening, January 20th, to consider the question of the annual dinner. The paper of the evening was read by Dr. Paul Cohnheim, of Berlin, on Gastric Hyperacidity and its Treatment. Among those who participated in the discussion were Dr. Isaac Adler, Dr. Morris Manges, Dr. George Myers, Dr. A. Bassler, Dr. Jacob Kaufmann, Dr. Max Einhorn, Dr. Ludwig Kast, Dr. G. A. Friedman, and Dr. Harris Weinstein.

Prescribing by Wireless.—The ship's surgeon of the Ward Line steamer *Merida* sent a prescription by wireless to the captain of a steamer five hundred miles away, in response to a wireless message picked up while the *Merida* was off the coast of Yucatan, on January 4th. The message received was to the effect that the commander of the ship was critically ill and needed medical attention. The ship was equipped with a medicine chest but carried no surgeon. The *Merida* received a message back the same night stating that the prescription had been received and the condition of the patient was much improved.

Licenses to Practise Medicine in Ohio were granted to thirty-seven applicants, at the meeting of the State Board of Medical Registration and Examination, held on Wednesday, January 4th. Twenty-three candidates took the examination and twenty-one passed. Two osteopaths were granted the right to practise, and fourteen practitioners were received by reciprocity. At the annual election Dr. S. M. Sherman, of Columbus, was reelected president and treasurer of the board; Dr. James A. Duncan, of Toledo, was elected vice-president, and Dr. George H. Marson was reelected secretary. Professor K. D. Swartzel, of the Ohio State University, was made entrance examiner.

The Cincinnati Academy of Medicine held its annual meeting on the evening of January 9th and elected the following officers to serve for the coming year: President, Dr. W. D. Haines; vice-presidents, Dr. J. Ambrose Johnston and Dr. H. C. Jones; secretary, Dr. E. O. Smith; treasurer, Dr. A. G. Drury; librarian, Dr. A. I. Carson; trustee, Dr. E. Gustave Zinke; censor, Dr. A. H. Freiberg; delegates to Ohio State Medical Association, Dr. G. Strohbach and Dr. William Gillespie; alternate delegates, Dr. Samuel Iglauer and Dr. J. H. Landis; member of auxiliary committee on public policy and legislature, Dr. C. A. L. Reed.

Infant Mortality in New York.—The Committee on Infant Mortality of the New York Milk Committee held an open meeting at the Hotel Plaza on Monday afternoon, January 16th, for the purpose of discussing plans for reducing infant mortality in Manhattan. The committee is endeavoring to raise $300,000 for the purpose of maintaining sixty additional milk depots in Manhattan, with physicians and trained nurses in attendance to teach mothers how to take care of their babies. Among the speakers at this meeting was Dr. Abraham Jacobi, who was emphatic in his endorsement of the work done by these milk depots, not only in furnishing pure milk for infants, but for the educational value of the work among the mothers.

Public Health Lectures in Newark.—Six free lectures will be given in the Newark Public Library between January 16th and May 1st, under the auspices of the Public Education Committee of the Essex County Medical Society. The dates of the lectures follow: January 16th, Food Fads, by Dr. Newton; February 6th, The Eye in Health and Disease, by Dr. Emerson; February 27th, Clean Streets for Health, by Dr. William Buerman, of Newark; March 30th, Care of the Teeth in Relation to Health, by Dr. Walter F. Barry, of Orange; April 10th, Causes and Prevention of Nervous Exhaustion and Mental Derangement, by Dr. C. C. Beling, of Newark; May 1st, The Social Evil and Its Effect on Public Health, by Dr. Thomas N. Gray, of East Orange.

Infectious Diseases in New York:

[illegible] indebted to the Bureau of [illegible] Department of Health for the following statement of new cases and deaths reported for the two weeks ending Jan[illegible] 1911:

	January 7th		January 14th	
	Cases	Deaths	Cases	Deaths
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] and croup	[illegible]	[illegible]	[illegible]	[illegible]
Measles	294	5	280	7
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

The Health of Chicago.—During the week ending January 7, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 24 cases, 5 deaths; measles, 114 cases, 2 deaths; whooping cough, 9 cases, 1 death; scarlet fever, 150 cases, 13 deaths; diphtheria, 128 cases, 16 deaths; chickenpox, 58 cases, 0 deaths; tuberculosis, 116 cases, 83 deaths; pneumonia, 35 cases, 188 deaths. There were 3 cases of German measles and 1 of influenza, and 34 of contagious diseases of minor importance, making the total number of cases reported 738, as compared with 818 for the preceding week and 619 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 39, and there were 39 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 181, of whom 121 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 776, corresponding to an annual death rate of 18.1 in a thousand of population, as compared with a rate of 16.0 for the preceding week and 15.3 for the corresponding period last year.

Gifts and Bequests to Charity.—The will of Mrs. George H. Babcock, who died recently in Plainfield, N. J., contains public bequests amounting to $55,000. Of this amount, $5,000 is given to the Antituberculosis Society of Plainfield and $5,000 to the Children's Home.

Mrs. Emily H. Moir, who died in New York on December 23d, left the bulk of her $1,000,000 estate to charity. The Presbyterian Hospital is the largest beneficiary, receiving $20,000 in cash and one fourth of the residue of the estate, which will amount to about $800,000. Other bequests are as follows: New York Eye and Ear Infirmary, $20,000; Society for Lying-In Hospital, $10,000; Hospital for Scarlet Fever and Diphtheria Patients, $10,000; Babies' Hospital for the City of New York, $10,000; Northern Dispensary, $5,000; Nursery and Child's Hospital, $5,000; Barnard College, $10,000; Charity Organization Society, $5,000.

By the will of Caroline W. Train, of Haverhill, Mass., the Hale Hospital, of Haverhill, will receive $500 and the Old Ladies' Home $200.

The contest over the will of Mrs. Mary A. Mason, of Great Barrington, Mass., has been settled, and in accordance with the terms of the settlement, the town will receive $110,000 for a hospital.

Numerous charitable bequests are contained in the will of Mgr. Thomas Griffin, late of Worcester, Mass., who left an estate valued at $41,000. Included in these bequests is one of $10,000 to St. Vincent's Hospital.

The New York Nursery and Children's Hospital, at 571 Lexington Avenue, receives $10,000 by the will of John W. Ellis, who died on December 20th.

Pellagra in Florida.—Dr. J. Y. Porter, State Health Officer of Florida, reports that during the years 1909 and 1910 pellagra was diagnosticated and treated in twenty-two of the forty-seven counties in Florida, there being a total of 91 cases, with 41 deaths, distributed among the races and sexes as follows: White, male, 16 cases and 10 deaths; female, 30 cases and 13 deaths; Colored, male, 17 cases, 3 deaths; female, 11 cases, 1 death. Sex and race not stated, 17 cases and 18 deaths. Twenty-eight of the cases were reported from the State Hospital for the Insane at Chattahoochee. Dr. Porter states that the reports are so incomplete, particularly among the colored population, as to make it impossible to make a correct estimate of the number of cases on hand, and urges physicians to furnish more complete details regarding cases of pellagra which they may encounter.

Society Meetings for the Coming Week:

MONDAY, *January 23d.*—Medical Soicety of the County of New York.

TUESDAY, *January 24th.*—New York Dermatological Society; Metropolitan Medical Society; Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); New York Medical Union; New York Otological Society.

WEDNESDAY, *January 25th.*—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society.

THURSDAY, *January 26th.*—New York Academy of Medicine (Section in Obstetrics and Gynæcology); Hospital Graduates' Club, New York; New York Celtic Medical Society; East Side Physicians' Association of the City of New York; Brooklyn Society for Neurology; Bronx Medical Association (annual).

FRIDAY, *January 27th.*—Manhattan Medical Society; Academy of Pathological Science; Society of German Physicians of New York; New York Clinical Society.

SATURDAY, *January 28th.*—West End Medical Society of New York; Lenox Medical and Surgical Society; New York Medical and Surgical Society; Harvard Medical Society, New York.

Vital Statistics of New York.—During the week ending December 31, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,666, corresponding to an annual death rate of 18.10 in a thousand of population, as compared with a rate of 17.59 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 18.40; the Bronx, 16.74; Brooklyn, 18.34; Queens, 16.28; Richmond, 18.08. There were 134 stillbirths. The deaths of children under five years of age numbered 362, of whom 231 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 34; over five years of age, 37. There were 180 deaths from pulmonary tuberculosis, 29 from bronchitis, 208 from pneumonia, 150 from bronchopneumonia, 142 from Bright's disease, 219 from organic heart diseases, and 74 from congenital debility and malformations. There were 7 deaths from suicide, 4 from homicide, and 61 due to accidents. Nine hundred and ninteen marriages and 2,688 births were reported during the week.

During the week ending January 7, 1911, the deaths from all causes numbered 1,697, corresponding to an annual death rate of 17.77 in a thousand of population, as compared with a rate of 19.06 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 18.41; the Bronx, 20.19; Brooklyn, 16.35; Queens, 14.95; Richmond, 24.46. There were 140 stillbirths. The deaths of children under five years of age numbered 369, of whom 260 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 30; over five years of age, 32. There were 198 deaths from pulmonary tuberculosis, 29 from bronchitis, 216 from pneumonia, 138 from bronchopneumonia, 120 from Bright's disease, 202 from organic heart diseases, and 88 from congenital debility and malformations. There were 15 deaths from suicide, and 60 due to accidents. One thousand one hundred and forty-eight marriages and 2,560 births were reported during the week

The American Society of Tropical Medicine.—The eighth annual meeting of this society will be held in New Orleans, on Thursday and Friday, May 18th and 19th. The secretary of the society, Dr. John M. Swan, of Watkins, N. Y., would be glad to receive, as soon as convenient, the titles of all papers to be read at this meeting. Those who are unable to attend the meeting may send papers to be read either by title or by proxy, and published exclusively under the imprimatur of the society.

In Memory of Women Doctors.—A meeting will be held at the New York Academy of Medicine, on the evening of January 25th, to do honor to the memory of Dr. Elizabeth Blackwell and Dr. Emily Blackwell. The meeting has been arranged by the Women's Medical Association of New York. Addresses will be delivered by Dr. Stephen Smith, Mrs. Henry Villard Miss Alice Stone Blackwell, Dr. Abraham Jacobi, Dr. William H. Welch, Dr. Gertrude B. Kelly, Dr. William M. Polk, and Dr. Emma B. Culberson.

Scholarship in Ophthalmology.—A scholarship in ophthalmology has been founded by William A. DuBois, Matthew B. DuBois, and Katherine DuBois, sons and daughter of Dr. Abram DuBois, who have presented to Columbia University the sum of $18,000, to be used as a fund for this purpose. This is to be known as the Doctor Abram DuBois Memorial Fund. The scholarship is open to graduates of the College of Physicians and Surgeons, who have satisfactorily completed a term of service in an eye hospital and who have given evidence of serious intention of pursuing ophthalmology as a specialty. The holder of the scholarship is expected to devote himself to postgraduate studies, preferably of a scientific character connected with ophthalmology in foreign and American universities. The income amounts to about $700 a year. The bestowal of this scholarship is in the hands of a committee consisting of the professor of ophthalmology, the dean of the Medical School, and Dr. Edward L. Partridge.

Fifteen Million Dollars Spent in Tuberculosis Campaign in 1910.—The second annual statistical statement recently issued by the National Association for the Study and Prevention of Tuberculosis, shows that in 1910 nearly $15,000,000 was spent in the fight against tuberculosis, as against $8,000,000 in 1909. The largest item of expense in 1910 was for treatment in hospitals and sanatoria, $11,376,500 being expended for that purpose. Antituberculosis associations spent $760,500, and dispensaries, $889,000. Special municipal and State expenditures aggregate $1,750,000. Of the total amount expended, 62.6 per cent. came from public appropriations. New York State again leads in the money spent with a total expenditure of $4,245,000. Pennsylvania runs second with a total expenditure of $2,104,000. Expenditures of other States are as follows: Massachusetts, $1,518,000; Colorado, $836,000; Ohio, $649,500; Connecticut, $506,000; New Mexico, $501,000; Illinois, $453,000; California, $404,000; New Jersey, $385,700.

The Medical Society of the County of New York will hold a stated meeting in Hosack Hall, New York Academy of Medicine, on Monday evening, January 23d, at 8:15 o'clock. Dr. Rosalie S. Morton, chairman of the Public Health Education Committee, will present a report. Dr. John E. Weeks, the retiring president, will deliver an address, which will be followed by the inaugural address of the president elect, Dr. James F. McKernon. Dr. Charles B. Slade will read a paper entitled The Selection of Patients for a Tuberculosis Sanatorium, with Special Reference to the Otisville Sanatorium, which will be discussed by Dr. Hermann M. Biggs, Dr. James Alexander Miller, Dr. Linsly R. Williams, and others. A Morning at Bier's Clinic in Berlin is the title of a paper which will be presented by Dr. Harry G. Watson, and discussed by Dr. Willy Meyer and Dr. Charles Gilmore Kerley. The officers of this society for the year 1911, which were elected at the November meeting are: Dr. James F. McKernon, president; Dr. Charles Gilmore Kerley, first vice-president; Dr. T. Passmore Berens, second vice-president; Dr. John Van Doren Young, secretary, reelected; Dr. J. Milton Mabbott, assistant secretary; Dr. Charles H. Richardson, treasurer. Dr. John E. Weeks is chairman of the board of censors and Dr. H. Seymour Houghton is secretary; other members of the board are Dr. Linnaeus E. La Fetra, Dr. Brooks H. Wells, Dr. John J. MacPhee, and Dr. Howard Lilienthal.

The Ohio River Sanitary Commission.—Dr. M. K. Allen, of Louisville, Ky., has been elected president of the Ohio River Sanitary Commission, representing the States of Kentucky, Ohio, Indiana, Pennsylvania, and West Virginia. Dr. Allen attended the third meeting of the commission, which was held in Columbus, Ohio, during the first week in January, and was elected president to succeed Dr. J. C. Vickers, of Huntington, W. Va., who was forced to retire on account of ill health. The purpose of the commission is to conduct an examination of the Ohio River, to ascertain what legislative measures are necessary to preserve the health of the inhabitants near the river, and to work toward that end. Reports made by river inspectors state that in many places the Ohio River is "nothing but an open sewer."

State Requirements for Medical Practice.—The *Monthly Bulletin* of the Illinois State Board of Health, for October, 1910, contains a summary of the laws and regulations governing the practice of medicine in the States and territories of the United States. The requirements for medical practice as set forth in this *Bulletin* are correct up to October 31, 1910. No attempt has been made to furnish a complete digest of the several laws and regulations. It has been the purpose rather to give the leading facts regarding the conditions of medical practice desired by the physician who wishes to locate in a State. Such information as that relating to standards of preliminary education, the fees for examination and license, the time and place of examination, has been purposely omitted. Full information may be obtained of the respective secretaries, whose names and addresses are given. There has been added an abstract of the laws in each State governing osteopaths, midwives, and itinerant vendors of medicine. This pamphlet is published at the offices of the Illinois State Board of Health, Springfield.

The Medical Society of the County of Oneida, N. Y., met in annual session on Tuesday afternoon, January 10th, and elected the following officers to serve for the ensuing year: President, Dr. F. H. Peck, of Utica; vice-president, Dr. Charles R. Hart, of New Hartford; treasurer, Dr. R. L. Baker, of Utica; secretary, Dr. W. B. Roemer, of Utica; librarian, Dr. Smith Baker, of Utica; censors, Dr. F. J. Douglas, of Utica; Dr. Charles Bernstein, of Rome; Dr. Earl D. Fuller, of Utica; Dr. F. D. Crim, of Utica, and Dr. H. G. Jones; delegates to State society, Dr. Charles Bernstein, Dr. F. J. Douglas; alternates, Dr. Thomas P. Scully, Rome; H. L. Borland, Camden; delegates to district branch, Dr. T. H. Farrell, Utica; Dr. S. C. Maxson; alternates, Dr. F. M. Miller, Utica; Dr. W. E. Wetmore, Utica. Dr. Kent Williams, of Rome, had his membership transferred from the Jefferson County Medical Society to that of the Oneida County Association. The committee of censors moved the following be admitted to membership: Dr. Fred G. Jones, of Clark Mills, and Dr. L. Ward Locke, of Utica.

Personal.—At a recent meeting of the board of trustees of the Jefferson Medical College, Philadelphia, Dr. John Funke was elected professor of pathology, bacteriology, and hygiene at the institution.

The University of Marburg, Germany, has conferred the honorary degree of Doctor of Philosophy on Mr. Ernest Leitz, head of the firm of Ernest Leitz, manufacturers of microscopes, photomicroscopic apparatus, microtomes, etc., for "his meritorious services rendered to science, by having constructed for over fifty years instruments of the greatest scientific value."

Dr. William B. May, of Buffalo, has been appointed director of the Division of Communicable Diseases of the New York State Department of Health.

Dr. James F. Edwards, of Pittsburgh, has resigned as chairman of the Pittsburgh Tuberculosis Commission, and Dr. E. R. Walters, director of public health and charities, has been appointed to fill the vacancy.

Dr. Elizabeth Bruyn has been appointed ambulance surgeon of the Williamsburg Hospital, Brooklyn.

Surgeon George Pickrell, United States Navy, on Monday, January 16th, assumed his duties as superintendent of the Navy Hospital, in Annapolis, Md., succeeding Surgeon Luther L. von Wedekind.

Dr. Simon Wendkes, of Philadelphia, has resigned as superintendent of Mount Sinai Hospital, a position which he held for three years. Dr. Wendkes will go to Berlin on March 1st, to take a special course in medicine and surgery and on his return will engage in private practice.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

January 12, 1911.

Acute Poliomyeloencephalitis (Infantile Paralysis), By JOHN LOVETT MORSE.

The Treatment of Acute Poliomyelitis, By W. E. PAUL.

A Review of Sanitation in Panama, By FRANCIS P. MCCARTHY.

Some of the More Important Diseases of the Upper Abdomen That May Require Surgical Intervention, By JOHN W. KEEFE.

Mongolian Idiocy, By WILLIAM N. BULLARD.

1. Infantile Paralysis.—Morse gives a review of our knowledge of infantile paralysis. He states that acute poliomyeloencephalitis is contagious, due to an ultramicroscopic organism, which belongs in the class of the filterable virus in which belong also the organism of foot and mouth disease and those of a number of other diseases of animals. Inoculation experiments have been unsuccessful in all the warm blooded domestic animals. There are no definite data as to how contagion takes place. The fact that it has been proved experimentally that the virus may enter and escape through the nasopharyngeal mucous membrane suggests that this is the usual portal of entry and that the virus is contained in the secretions of the nasopharynx. Further evidence in this direction is the analogy with cerebrospinal meningitis in which the organism is found in the nasopharynx of patients ill with the disease, of convalescents, and of persons who have been associated with them. This analogy with cerebrospinal meningitis leads him to believe that acute poliomyeloencephalitis may be transmitted by convalescents, by those who have had the disease in an abortive form, and by "carriers." The facts that epidemics cease with the onset of cold weather and that the virus is resistant to cold suggest an intermediate host which is destroyed by cold, that is, some insect. There is, however, no proof whatever of this supposition. There is no data whatever as to whether the virus may be carried by clothing, fruit, or other articles of food. In all probability, however, it cannot be carried in this way. The diagnosis is at present impossible before the appearance of the paralysis. As to treatment our author remarks that hexamethylenamine can do no good after the appearance of the paralysis, because the harm has then already been done. It is possible, perhaps probable, that it may do good if it is given before the appearance of the paralysis. It certainly should be given to all children who may possibly have been exposed to the disease. Since there is nothing characteristic about the early symptoms of acute poliomyeloencephalitis, it would be necessary, in order to give it in time, and in order not to miss any of the cases, to give it to every sick child all summer, which certainly does not seem reasonable. Local applications are useless. The use of the affected parts, electricity, and massage must be avoided during the acute stage, because stimulation of the peripheral ends of the lower motor neurons causes stimulation of the ganglion cells of the neurons and consequently tends to increase the trouble. Rest, and not stimulation which the ganglion cells need. These measures should not be begun until six weeks after the onset of the paralysis. If there is pain or tenderness, they should not be begun until three weeks after the cessation of the pain and tenderness, however long this may be. Strychnine must be avoided in the acute stage because it is a stimulant to the lower motor neurons and, as already stated, it is rest and not stimulation which is needed. He quotes Flexner, who states that the serum treatment of poliomyelitis must at the present time be regarded as strictly in the experimental state, and it cannot be predicted how soon or whether ever at all such a form of the specific treatment of the disease will be applicable to the spontaneous epidemic disease in human beings. It is probable that on general principles moderate catharsis and a light diet are of some use in limiting the progress of the disease. A very important part of the treatment during the acute stage is that directed to the prevention of contractures. These develop very quickly and, if they develop, make the later treatment much more difficult and materially delay recovery. The development of contractures can easily be prevented by using a cradle to keep the weight of the bedclothes off of the legs and by the proper application of light splints.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

January 14, 1911.

1. Why the General Practitioner Should Study Surgical Diagnosis of Gastric and Duodenal Ulcer. Report of Cases, By J. N. HALL.
2. Report of Sixteen Syphilitic Patients Treated with Ehrlich's Salvarsan, By M. F. ENGMAN, W. H. MOOK, and JOHN W. MARCHILDON.
3. Diagnosis of Operability of Carcinoma of the Cervix Uteri, By EMIL RIES.
4. Use of the Cautery in Treatment of Carcinoma of the Cervix, By CARLTON C. FREDERICK.
5. Results Obtained by the Radical Abdominal Operation for Carcinoma of the Uterus, By J. H. JACOBSON.
6. The Participation of the Tissues Adjacent to the Uterus and of the Pelvic Lymphatics in Uterine Cancer, By JOHN A. SAMPSON.
7. Repair of Cementum in Relation to the Treatment of Alveolitis, By M. H. FLETCHER.
8. A Suggestion for the Use of the Stanton Sphygmomanometer, By EDWARD H. GOODMAN.
9. Apparatus for Proctoclysis, By MAURICE DUANE BIRD.
10. New Reflex Sign in Meningitis Diagnosis, By W. P. NORTHRUP.
11. Apparatus for the Preparation of Bacterial Suspensions. By [illegible]
12. The Treatment of Puerperal Eclampsia, By FREDERIC J. PLONDKE.
13. The Situation as Regards Salvarsan, By WILLIAM ALLAN PUSEY.

2, 13. Salvarsan.—Engman, Mook, and Marchildon report their experience with salvarsan in sixteen cases, and draw, from this number of cases, the conclusion that, with the exception of one patient, they have seen equally as rapid disappearance of skin manifestations from the use of injections of mercury; but several of their cases seemed to be rebellious to mercury. They conclude that salvarsan has a remarkable effect on the cutaneous manifestations of syphilis——Pusey states that the use of salvarsan is still in the experimental stage, its position, even the degree of its usefulness, is not established. "Our present experience shows that it does not cure syphilis and that we are not justified in holding out to patients any hope of cure by it, but that it is

likely to prove a useful remedy in syphilis, with mercury, however, as before, our chief dependence."

10. **New Reflex Sign in Meningitis Diagnosis.**—Northrup states that Brudzinski's "new sign" in meningitis is probably one of the best signs in the diagnosis of this disease, although it does not distinguish between the various forms. It consists of reflex actions manifested in what are called the neck sign and the leg sign. It comprises two reflex phenomena, the identical reflex (*réflexe identique*) and the contralateral reflex (*réflexe contralatérale*). The identical reflex is elicited by forcibly flexing the head on the chest, when the arms and legs are drawn up, to remain thus. The contralateral reflex is produced by passive flexion of one leg, which causes the fellow limb to draw up and remain in the same position. Of the two signs the neck sign is the more constant and is really a refinement of the ordinary "stiff neck," "rigidity," etc., mentioned in the descriptions of the physical signs in meningitis. Brudzinski in forty-two cases of meningitis found the neck signs (*réflexe identique*) positive in ninety-seven per cent.; the leg sign (*réflexe contralatérale*) in sixty-six per cent.; Kernig's sign in fifty-seven per cent., and the Babinski sign in fifty per cent. Morse examined 400 children, "well, or ill with diseases other than meningitis," and his conclusions are that "neither the neck signs nor the contralateral reflex are present in well children or in those ill with diseases other than diseases of the nervous system, and that they are very seldom met in diseases of the nervous system, outside of meningitis." "Their presence is strong evidence in favor of meningitis; their absence does not rule out meningitis."

MEDICAL RECORD

January 14, 1911.

1. Some Recent Experiences with the New Specific Remedy, Ehrlich 606, By Samuel W. Lambert.
2. Some Practical Points in the Treatment of Diseases of the Heart, By Edward E. Cornwall.
3. The Treatment of Chronic Appendicitis with High Frequency Currents, By William Harvey King.
4. The Future of Psychotherapy, By Theophil Klingmann.
5. Duodenitis, By M. Gross.
6. Gastric Röntgenology, By E. H. Skinner.

1. **Salvarsan.**—Lambert reports five cases, which, he says, represent the three principal groups in which arsenobenzol seems particularly indicated: 1. A hereditary case, in which the results were most striking. 2. The primary lesions; one, a patient with slight sclerosis about the chancre, recovered rapidly; the other was a case with heavy induration at the base of the chancre, the slow improvement, even after two injections, bears out the conclusion that chancres in the stage of induration are more difficult to influence with "606" directly in proportion to the size of the sclerosed tissues. 3. The third group of cases is the type which either bear mercury ill or which are not influenced by mercury.

3. **The Treatment of Chronic Appendicitis with High Frequency Currents.**—King has treated forty two patients with chronic appendicitis with high frequency currents. All were selected as suitable for the treatment. All but seven had been diagnosticated by other physicians than himself and operations had been advised more or less strongly. Of these forty-two cases four were complete failures. Every opportunity was given to the patients and why the treatment failed he cannot say. One thing is noteworthy, that two patients gave a history of syphilis. There was no aggravation nor amelioration of any of the symptoms except in one case. After a thorough trial the four were dismissed as they had been received. In the one exception mentioned all symptoms would apparently clear up under treatment, but two months after discontinuance all would return. Treatments were again given with the same result and this experience was repeated four times. Six others must go down as failures as they were not cured; but he does not consider that in these cases the treatment had a fair trial. He is certain a good proportion of these patients could have been cured had they been less skeptical and given the treatment a longer trial. Six were only partial successes. Some were benefited very much, but fell short of that apparently complete cure which characterized the remaining twenty-six. King bases the use of high frequency current upon the observation that if a high frequency current is made to traverse a piece of meat and thermometers are placed, one near each electrode and in rather close proximity thereto and one midway between them, the rise of the column of mercury in the middle one, or the one farthest from the electrode, during the passage of the current, is greater than it is in the ones approximately nearer the electrodes.

BRITISH MEDICAL JOURNAL

January 7, 1911

1. Treatment of Venous Thrombosis mainly from the Surgical Aspect, By Sir William Bennett.
2. Some of the Rarer Occurrences in the Rheumatism of Childhood, By F. J. Poynton.
3. Kidney Pain, By E. Hurry Fenwick.
4. The Prevention of Heart Disease, By William Calwell.
5. The Treatment of Rodent Ulcer, By E. Graham Little.
6. Excision of a Cancerous Segment of the Œsophagus: Restoration of the Œsophagus by Means of Skin Flab, By W. Arbuthnot Lane.

1. **Treatment of Venous Thrombosis.**—Sir William Bennett remarks that, in dealing with a case of thrombosis occurring in different parts of the body, or in different parts of the same limb, the chances of doing away with the subsequent probability of clotting by any local treatment are small. If, on the other hand, the clotting takes place at one focus, and if when it recurs it comes at the same spot, or at least so near to it that it may be said to come within the area of the original phlebitis, it may be regarded as a local condition, and the tendency to further recurrence may be obviated by getting rid of the original focus of the clotting, which can only be done effectually by removing the portion of vein concerned, although it is said that the same result may be attained by opening up the vein at the spot and turning the clot out—a statement open to doubt. It seems, then, at first sight that the actual surgical treatment of thrombosis is narrowed down to a somewhat limited application, for the ideal case must be one in which the clotting is local and limited, and if in a case in which recurrence has happened, the thrombosis must be in the same

place, or at all events in the immediate neighborhood of the original attack. Under those circumstances there is no doubt that the tendency to recurrent thrombus can generally be obviated by removing the abnormal veins which originally excited the clotting of the blood in that situation.

3. **Kidney Pain.**—Fenwick observes that thirst, with or without diuresis, rouses the suspicion that renal changes, generally bilateral, are present, and that there may be back pressure upon the parenchyma of the kidney. Sleep posture may indicate a movable kidney with an aching pelvis if the painful side is slept on, or an inflamed fixed cortex if the painful side is avoided. Intermittent diuresis points to a dilated renal pelvis, and some interference by tug or torsion with the vasomotor influence of the renal vessels. These clinical findings, taken in conjunction, are of real inferential value. The pains are varied. First, the pang of the sensitive orifice of the pelvis. This opening, like the other urinary orifices—namely, that of the lower ureter, of the bladder, of the membranous canal of the urethra—is highly sensitized. The pain which marks its mechanical abrasion, closure, or distension is felt in the hollow of the loin, just where an angle is formed between the last rib and the erector spinæ. It is quite localized, and can be covered by the point of the thumb; it is stabbing and severe—often enough to make the patient vomit—but it merges into discomfort which is due to the distension of the pelvis. This latter, if the pelvis is uninflamed, is a dull aching, diffused and covered by the hand placed on the same loin area—ileocostal angle. As the distension increases so that the capacity of the pelvis is reached the symptom most marked is that of abdominal distress—pain in the belly, generally over the front of the same side—and finally sharp renal colic, with all its characteristic symptoms. The attack, however, is shorter than real renal colic, for the pelvis empties gradually; the pain is under the control of hot application or hot drinks, or at the most a little morphine suffices. There is also a drag pain on the vessels in between the attacks—this is very definite in certain cases—but relieved in an hour usually by lying down, returning on rising. This pain is due, however, merely to the mobilized organ, and is relieved in a kidney belt. With an inflected pelvis a new form of pain is added, and when the inflamed pelvis is occluded the pain is agonizing. In addition to the local pain, the radiations go down to the groin and leg, and the relief from rest, time and morphine is less, for it depends on the subsidence of the actual attack of pelvitis. Generally with the infected renal pelvis, bladder symptoms are present also, such as frequency of urination, pain at the urinary outlet, and others. As the pelvis gets larger, and the distension is more marked, we may get a characteristic sleep posture. The patient sleeps on the painful side, violent thirst is occasionally complained of, although only one kidney is affected.

5. **Treatment of Rodent Ulcer.**—Little remarks that the propriety of treating any malignant tumors without radical operations of removal may very reasonably be questioned, especially by surgeons, some of whom are not inclined to view the radium propaganda with approbation. In the case of rodent ulcers the malignancy is so slight, and in the absence of glandular involvement so constant, the disfigurement produced by radical removal so great, and in the special circumstances of its usual sites so resented by patients, that the decision in practical experience goes against the operating surgeon in the majority of instances, and it becomes a choice as to what other means can be adopted. The choice at present lies between x rays, radium, actual cautery, ionization, and freezing. His experience with the x ray method has been that it is uncertain in its effects, tedious, more exposed to risk of untoward happenings, such as a severe conjunctivitis, for the ulcer commonly is in such positions that the conjunctiva cannot help being included in the exposure, and as such disfiguring telangiectases on the parts treated. With radium the same uncertainty exists as to what the extent of the effect may be, and treatment is tedious and expensive, and often not within the reach of practitioners out of the large towns. He has had small personal experience of the actual cautery, a treatment much practised in Paris at present, but he had seen two excellent results. It is rapid and convenient, but produces much scarring. Between ionization and freezing, which are equally convenient and widely practicable, his own preference has turned to the latter, but he is not convinced that ionization is not equally efficient in producing a permanent cure. The author is in favor of treatment by carbon dioxide snow and by ionization.

LANCET

January 7, 1911

1. Remarks on the Report by the Education Committee Presented to the General Medical Council, By Sir Henry Morris.
2. Ultra Chronic Pulmonary Tuberculosis, By H. Batty Shaw.
3. Some of the More Rare Causes of the Acute Abdomen, By William Henry Battle.
4. A Case of Interstitial Gestation at the Third or Fourth Month where the Sac was Removed Unruptured with the Body of the Uterus by Abdominal Hysterectomy, By Arthur H. N. Lewers.
5. A Note on the Cardiac Diastolic Sound and Impulse, By Theodore Fisher.
6. British Health Resorts for Foreign Invalids, By Neville Wood.
7. The Use of Iodine as a Disinfectant of the Skin before Operation, By Willmott Evans.
8. Pulmonary Tuberculosis Treated by Continuous Antiseptic Inhalation, By I. Burney Yeo.
9. Perithelioma (Angiosarcoma) of the Great Omentum; Excision, By W. Gifford Nash.
10. The Relation of Acute Phosphorus Poisoning to Acidosis, By H. Letheby Tidy.
11. Note on a Case of Digitalis Heart Block, By E. E. Laslett.
12. The Technique of Intravenous Injection of Ehrlich-Hata Preparation "606," By Otto Grünbaum.
13. Raw Meat and Raw Meat Juice in the Treatment of Consumptive Diseases (Zomotherapy), By J. Hu[illegible]

4. **A Case of Interstitial Gestation.**—Lewers reports a case of interstitial gestation at the third or fourth month in which the sac was removed unruptured with the body of the uterus by abdominal hysterectomy. He observes that interstitial ectopic gestation is much the rarest variety of tubal gestation. It is one of the most dangerous, because, owing to the walls of the sac being formed of uterine tissue, pregnancy proceeds generally to a

more advanced date than is the case in the other varieties of tubal gestation. When, therefore, the sac does rupture a large and often fatal amount of blood is rapidly lost owing to the relatively large size of the vessels. Thus, in this variety of ectopic pregnancy, once rupture has occurred there is much less chance of having the opportunity to operate in time to save the patient. It is, of course, quite true that in the commoner kinds of tubal pregnancy—the isthmic and ampullar—a fatal quantity of blood may be lost; the loss, however, owing to the smaller size of the vessels concerned, takes place more slowly, and, if the case is seen early enough, the probability is that the operation will be successful. It is obvious how important it is, therefore, in cases of interstitial pregnancy, to recognize its presence as soon as possible and to operate without delay. In his case the diagnosis was not absolutely made before the abdomen was opened. It was evident, however, that the patient was seriously ill and in great pain, and that there was an abnormal swelling to the left of the uterus and closely connected to it. In the presence of such conditions it is undoubtedly the best thing to perform laparotomy, and ascertain exactly what is wrong. A point of some interest in the history of cases of interstitial gestation is that usually there is persistent amenorrhœa up to the time when the case comes under observation, whereas in other forms of tubal pregnancy more or less irregular hæmorrhage is found to have occurred in the great majority of the cases. A point requiring consideration during the operation in interstitial pregnancy is as to whether it is possible to excise the sac, or whether it is better to perform hysterectomy. No doubt in some cases, where the sac is small, is may be safely excised. When, however, the sac is as large as it was in his case just recorded, he feels sure the safest plan is to perform hysterectomy.

6. British Health Resorts.—Wood gives a good, condensed synopsis of the British health resorts, comparing them with the places on the continent.

7. Iodine as a Disinfectant.—Evans is in favor of the use of iodine as a disinfectant of the skin before operations.

8. Continuous Antiseptic Inhalation in Pulmonary Tuberculosis.—Yeo refers to his paper, published in 1876 in which he called attention to the value of antiseptic inhalation in the treatment of phthisis. Since then he has used this form of treatment, which was endorsed by many physicians, with good results.

12. Technique of Intravenous Injection of "606."—Greenbaum describes an apparatus which he has used in intravenous injection of salvarsan and the technique for it.

MEDIZINISCHE KLINIK

December 25, 1910

1. Gonorrhœal Rheumatism, By GERHARD HAHN.
2. Defects of Children in School and at Home as Early Signs of Constitutional Epilepsy, By HEINRICH STADELMANN.
3. The Artificial Termination of Pregnancy in Tuberculosis, By HELLENDALL.
4. Distinctive Diagnosis between Deaf Dumbness and Aphasia without Loss of Hearing, By EMIL FROESCHELS.
5. Preliminary Remarks Concerning a Percutaneous Method of Application of Ehrlich-Hata's "606," By HANS LEYDEN.
6. Manual or Mechanical Massage. By ANTON BUM.

2. Defects of Children as Early Signs of Epilepsy.—Stadelmann thinks that the conditions of precocious brutality and obscenity occasionally met with in children, as well as mental dissociation symptoms, such as mental negligence and forgetfulness, are indicative of constitutional epilepsy.

4. Distinctive Diagnosis between Deaf Dumbness and Aphasia without Loss of Hearing.—Froeschels says that the normally hearing child is very sensitive to tickling in the ear, while the deaf dumb child is not, and that therefore the ticklishness in the ear is a distinctively diagnostic characteristic between deaf dumbness and conditions in which there is no power of speech although hearing is unimpaired.

5. Percutaneous Application of "606."—Leyden, after suitable preparation of the skin of the patient, rubs in an aqueous solution of "606." He reports three cases in which this method was employed.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

December 27, 1910

1. Experimental and Clinical Studies of Dioxydiamidoarsenobenzol (Salvarsan) with Special Reference to Its Effect on the Eye, By IGERSHEIMER.
2. The Local Effect of "606" at the Place of Injection, By MARTIUS.
3. Certain After Symptoms Observed Following Injections of "606." By BOHAC and SOBOTKA.
4. A Case of Bone Regeneration after a Single Injection of "606." By THERSTAPPEN.
5. Some Experiments Concerning Poliomyelitis, By RÖMER and JOSEPH.
6. The Pupillary Disturbances in Dementia Præcox, By BUMKE.
7. Mechanical Methods for the Checking of Dangerous Hæmorrhages from the Stomach and Intestines. By KELLING.
8. The Value of the Subcutaneous Lymphatic Glands of the Thorax in the Diagnosis of Pulmonary Tuberculosis. By SCHULZE.
9. The Action and Dosage of Adrenalin Given Subcutaneously, By KIRCHHEIM.
10. Clinical Experiences with Adalin, a New Hypnotic, By SCHAUS.
11. A Historical Contribution to Hyoscyamus Poisoning, By SCHULZ.
12. Prolapse of the Genitals and Formation of a Hernia in Consequence of an Old Injury to the Pelvic Ring, By HARRASS.
13. The Clinical Behavior of the Liver in Scarlet Fever, By BACH and VON REUSS.
14. The Nature and Importance of Anaphylaxia (*Concluded*). By FRIEDBERGER.
15. [illegible] By STUMPF.

1. Studies of the Effect of "606," especially on the Eye.—Igersheimer found experimentally that the normal cornea of rabbits treated with "606" never showed any trace of arsenic, and that the same was true of the vascularized cornea of rabbits previously infected in the anterior chamber, but in three out of four syphilitic corneæ the test for arsenic gave a positive result. This, he thinks, can be explained only by the storing up of the arsenic in the specifically diseased corneæ and that therefore the arsenic was joined chemically with the syphilitic tissue or the spirochætæ themselves. This forms a positive contradiction to the theory of those who have held that the great curative results produced

by "606" were due to an increased vital capacity of the organism and seems to show that its principal action is specifically chemical. Igersheimer finds parenchymatous keratitis in human beings practically uninfluenced by "606." Some brilliant results were obtained in gummatous diseases of the eye, but failures were met with in a hæmorrhagic iritis in a syphilitic, infected four years before and with positive Wassermann's reaction, in a case of deterioration of the field of vision in a boy with hereditary syphilis suffering from old parenchymatous keratitis, chorioretinitis and increase of tension, and in a case of ophthalmoplegia interna of the right eye of a man who had acquired syphilis, twelve years before, but whose serological condition was negative. In the last case the existence of a metaluetic affection was probable, but it is noteworthy that a similar affection in the other eye six months before had been completely cured by mercury and iodide.

2. **Local Effects of "606."**—Martius reports three cases of necrosis of the deep muscular tissue of the glutæi after injections of "606," two cases of muscular necrosis after injections into the back found on autopsy, one of necrosis of the skin after an injection into the wall of the thorax, one of extensive necrosis of the muscles of the back, such that excision of the entire area was necessary forty days after the injection, and a case in which excision of the place of injection into the glutæi had to be performed three months later. The most important point in this last case is that an extensive necrosis following injection of "606" showed no tendency to resorption and cicatrization even three months after the injection. In two other cases excision of the place of injection had to be performed after the lapse of about the same time. In another case the autopsy revealed an abscess as large as a fist, thrombosis of the veins extending into the left iliac and femoral veins, and emboli in the lungs.

3. **After Effects of "606."**—Bohac and Sobotka have observed after the injection of "606" retention of urine persisting a longer or a shorter time and coming on either immediately or after some time, reduction or absence of certain reflexes, severe and long continued rectal tenesmus, and constipation. One or more of these symptoms was present in each of three patients.

4. **Bone Regeneration after a Single Injection of "606."**—Therstappen reports a case in which the x ray pictures of the bones of the feet taken before and after the injection show a regeneration to have taken place in two bones of the foot. Less than a month intervened between the taking of the two pictures.

6. **Pupillary Changes in Dementia Præcox.**—Bumke says that in dementia præcox the pupils are on the average larger than normal and fluctuate in their size quickly and often. Whether permanent disturbances of the light reflex occur is uncertain, in rare cases of katatonic stupor a katatonic pupillary rigidity has been transiently observed, associated with mydriasis, miosis, or an oval or linear pupil. Such changes of form may also occur independently of the katatonic pupillary rigidity and may affect only one eye. The pupillary anomaly pathognomonic of dementia præcox is the absence of the pupillary restlessness, of the psychoreflex, and of the reflex dilatation of the pupil to sensory irritation while the light reflex is preserved. This symptom is constant when it once exists; it occasionally develops in the early stage of the disease, it is present in more than half of the cases at the height of the disease, and is almost never absent in the very bad cases. During this development the dilatation of the pupils to sensory irritation becomes lost, the same as the pupillary restlessness and the psychoreflex. The diagnostic importance of these signs rests upon the fact that they are almost never present in other processes of similar nature caused by organic brain changes, aside from dementia præcox, while they are present in healthy persons, as well as in those with manic depressive insanity or other functional mental diseases.

[illegible]

1. [illegible] Tests of the Vegetative Nerve Systems in Some Groups of Psychoses, By O. Poetzl, H. Eppinger, and L. Hess.
2. New Contributions to the Diagnosis of the Diseases of the Hæmatopoietic Organs by Means of Test Puncture of the Bone Marrow, By Ghedini.
3. An Experimental Quantitative Reduction of Syphilitic Sera to the Intensity of Their Complement Fixing Property with Alcoholic Extract of the Heart, By [illegible]
4. A Typical X Ray Condition of the Hearts of Corpulent People and Its Anatomical Basis, By [illegible]
5. Giant Cells in the Sediment of the Urine of Patients with Genital Tuberculosis, By Hans [illegible]
[illegible] By [illegible]
[illegible] [illegible]

1. Functional Tests of the Vegetative Nervous Systems in Psychoses.—Poetzl, Eppinger, and Hess have undertaken to explain the relations between anomalies of metabolism and psychic diseases. To do this they instituted function tests of the nervous apparatus that connects the central nervous system with the vegetative organs, the sympathetic and autonomous nervous systems which they speak of as "vegetative nervous systems," to determine the extent to which they are influenced by drugs in medicamental doses, within the limits and according to the indications of a rational experimental therapy. First they considered whether the response of these nervous systems were characteristically changed during the continuance of psychic diseases and then observed the fluctuations in tone in these nerves. They have prosecuted these studies in more than a hundred patients with typical psychic diseases. Their method of procedure was as follows: 1. The bodily condition with special attention to constitutional anomalies, vasomotor disturbances, and Chvostek's phenomenon. 2. Test with Loewi's reaction, mydriasis after instillation of adrenalin "takamine" 1 in 1,000. 3. Determination of the limits of assimilation of grape sugar. 4. Injection of adrenalin (1 in 10,000 pro kilogramme of body weight) three hours after ingestion of 100 grammes of grape sugar. 5. Injection of pilocarpine hydrochlorate (1 in 1,000 pro kilogramme of body weight) and observation for an hour. 6. Injection of physostigmin (1 in 10,000 pro kilogramme) and observation of the fascicular spasms in the skeletal muscles and of the heart exciting action through the autonomous system. 7. Injection of atropin sulphate 1 in 10,000 pro

kilogramme) and observation for an hour. The instillation of atropine into the eye used at first to test the period of latency and duration of effect was soon abandoned because an exact dosage and an exact comparison of the results seemed to be impossible. 8. The condition of the blood: Counting of the erythrocytes, differential counting of the leucocytes and determination of hæmoglobin. 9. In cases in which a lumbar puncture was indicated the examination of the fluid obtained for lactic acid, sugar, and adrenalin. Four groups of cases were investigated: 1, Melancholia, thirty cases; 2, Manic depressive psychosis, sixteen cases; 3, dementia præcox, sixty cases; 4, hysteria and various psychopathic conditions. The present article deals only with melancholia and manic depressive psychosis. The cases are given in considerable detail. The result may perhaps be stated briefly thus: Sometimes the tone of the autonomous and sympathetic nervous system takes part in the general inhibition in melancholy and the general excitement in mania. The part taken may be greater or less according to the constitutionally greater or less susceptibility of one or both systems.

2. Diagnosis of Diseases of the Hæmatopoietic Organs by Means of Test Puncture of the Bone Marrow.—Ghedini has collated the cases reported since the publication of his first paper on this subject, three years ago, added some more cases of his own, analyzed them at length, and presents his considerations on the differences to be found in the condition of the blood and of the bone marrow and of the diagnostic use of the test puncture. He says that it cannot be contradicted that serious, general, and systemic diseases of the hæmatopoietic organs may exist for a longer or shorter time without characteristic changes in the blood, and it may be that characteristic changes in the blood of patients with such diseases occur in a much smaller number of cases than has hitherto been thought. The difference between the conditions found in the blood and in the marrow is absolute in some cases, comparative in others. The blood can undergo some changes that are not pathognomonic and can at best only awaken a suspicion of disease of the hæmatopoietic organs. Examination of tissue obtained by puncture of the bone marrow relieves the uncertainty and enables the diagnosis to be made with exactitude. Ghedini asserts that the puncture is easily made and is harmless.

AMERICAN JOURNAL OF OBSTETRICS.

January, 1911

1. Abnormal Implantation of Placenta, By W. H. W. Knipe.
2. Should Eclamptic Mothers Nurse Their Newborn? By J. R. Goodall.
3. The Factors Concerned in Spontaneous Rupture of the Uterus, with Report of a Case, By W. R. Wilson.
4. The Value of Local Treatment in Gynæcological Cases, By J. V. D. Young.
5. Pelvic Reflexes, By R. T. Morris.
6. Two Cases of Perforated Gastric Ulcer, By T. B. Noble.
7. Importance of Public and Private Hospitals in the Education of Young Physicians and Nurses and the Clinical Instruction of Practitioners. By J. Price.
8. High Operations in Cæsarean Section, By W. H. Humiston.
9. "Apical Pregnancy" [illegible] Pregnancy in two Horns of a Normal Uterus, By H. Grad.
10. Fibromyomata of the Uterus Complicating Pregnancy, Labor, and the Puerperium, By R. W. Lobenstine.
11. Treatment of Obstruction of Bowels Due to Malignant Neoplasm, By M. J. Rosenthal.
12. Torsion of the Great Omentum, By W. J. Gillette.
13. Secondary Repair of Complete Perineal Laceration; Its Technique and Results, By E. J. Ill.
14. The Possibilities of Maternal Nursing in the Prevention of Infant Mortality, By T. S. Southworth.
15. Intussusception in Infants, By H. E. Hayd.
16. Diagnosis and Treatment of Pneumonia in Infancy and Childhood, By J. W. Parrish.
17. Influenza of Childhood, By L. C. Ager.
18. Is Scarlet Fever a Local Disease? By F. C. Schumacher.
19. Seven Interesting Rectal Pædiatric Cases, By J. Lynch.

4. The Value of Local Treatment in Gynæcological Cases.—Young says that local or non-surgical treatment may be considered under three heads: 1. Hygiene and general care; 2, treatment applied directly to the diseased tissues; 3, treatment which may be instituted at the patient's home. The value of the first of these methods is so great that it may obviate treatment of the genital organs. It should include proper clothing, exercise, sleep, diet, and particularly the relief of intestinal toxæmia and constipation. Suitable tonics, bathing, and massage must also be a feature of the treatment. Local treatment must be preceded by careful and thorough examination. Ulcerations and erosions of the cervix, pelvic peritonitis, and infections may all be cured by proper use of boric acid, pyroligneous acid, iodine, carbolic acid, etc. Tampons may be of service and should be alkaline, antiseptic, specific antiseptic, or hygroscopic. Many other agencies will also be serviceable. The third method of treatment includes copious saline or alkaline vaginal douches at a temperature of 100° or 120° F., and postural treatment, the posture depending upon the malposition of the uterus. Suppositories and medicated tampons introduced by the patient are not recommended.

10. Fibromyomata of the Uterus Complicating Pregnancy, Labor, and the Puerperium.—Lobenstine reaches the following general conclusions: 1. Myoma uteri predisposes to sterility. Parvin and Charpentier consider that the average of sterility in women with myomata is one in three. 2. It increases the tendency to abortion. Whether this is spontaneous or artificial it may be difficult to manage and dangerous to life. In the severe cases and in the presence of profuse hæmorrhage abdominal section will be the operation of choice. 3. Most of the women who do not abort early go through pregnancy, labor, and the puerperium with few symptoms, and the cases therefore should not be interfered with. Myomectomy during pregnancy has results which are none too good and is rarely indicated. In rare instances it may be proper to do a myomectomy or a hysterectomy. 4. Nature frequently does wonderful work during labor, overcoming dystocia in a large percentage of cases. In delivering a patient with such an obstruction great care must be exercised to avoid injuring the tumor. 5. If symptoms of gangrene should develop in a myoma during the puerperium, an early operation will be imperative to save the patient's life.

11. Treatment of Obstruction of Bowels due to Malignant Neoplasm.—Rosenthal concludes his paper as follows: Obstruction of the bowel due to carcinoma is not hopeless, with reference to radical operation. Incomplete excision of cancerous tissue results in recurrence of the disease. Anastomosis without resection of the diseased tissue should be the operation of choice when obstruction is due to cancer if complete excision is impossible. Anastomosis in the lower portion of the pelvis, without resection, where the bowel is comparatively inaccessible, can be successfully performed with the aid of the Murphy button. Anastomosis without resection bears the same relation to cancer of the bowel as gastroenterostomy to cancer of the pylorus. The clamp and suture method of bowel anastomosis is practical, rapid, and trustworthy and may be practised in a large variety of bowel cases in which resection or anastomosis may be indicated.

MILITARY SURGEON.

January, 1911.

Enzootic Plague in the United States,
By W. C. Rucker.

Report of the Board for the Study of Tropical Diseases in the Philippine Islands, Quarter Ending September 30, 1910.
By Weston P. Chamberlain, Horace D. Bloomberg, and Edwin D. Kilbourne.

Report on the 1910 Camp of the Division of the Pennsylvania National Guard at Gettysburg, Pa.,
By A. S. Stayer.

Lessons Learned at a Manœuvre Camp,
By Charles D. Center.

Report of the Chief Sanitary Officer of the Division, Camp of Illinois National Guard, at Peoria, Illinois, 1910. By Daniel W. Rogers.

The Army and the National Guard from the Viewpoint of a National Guard Officer, By H. I. Jones.

Flat Foot: A Possible Cause of Backache,
By Eben C. Hill.

Ankylostomiasis, By Clarence L. Cole.

3, 4, 5. Manœuvre Camps.—Stayer reports on the 1910 camp of the division of the Pennsylvania National Guard at Gettysburg, Pa., and says that medical officers of the division succeeded admirably from every viewpoint. After the various commands had left for home, upon riding over the ground previously occupied by the troops there could be seen but little evidence that there had been a camp there but a few days previously. Every vestige of rubbish had been removed, and all pits had been carefully filled up. Such results could only be attained by perfect cooperation between commanding and medical officers. This has come after years of persuasion and education along sanitary lines. Very important, too, in bringing about these excellent results was the strong circular issued by the surgeon general, making each battalion commander responsible for the sanitary conditions in his own battalion. Battalion commanders with medical officers made daily inspections of the whole camp.——Center reports on the camp of the 5th Infantry, Illinois National Guard, at Fort Benjamin Harrison, Ind. He states that the regular army needs the national guard. The need exists for at least two reasons. One, the guard, as now maintained, managed, and instructed, can, in case of need, hurriedly augment the number of troops of the regular army. Two, because the members of the national guard, living as they do in civil life, meeting as they do from day to day with the lawmakers of the land, can bring great pressure to bear upon these lawmakers in matters of favorable legislation for the army and navy. The national guard needs the regular army for at least two reasons. One, for the instruction which the guard cannot get elsewhere; the regular army should be and is in the position of teacher for the guard. Two, because under present law the War Department at Washington can bring more pressure to bear upon those in authority at the capital of each State than any one else can bring in compelling the State to comply with the requirements of the law in equipment for its portion of the guard. He mentions this because the 5th Illinois was sent to this camp of instruction outside of its own State into camp with troops from other States as well as troops of the regular army, and the medical department of this regiment had as equipment absolutely nothing except the hospital corps pouches of the men, six litters, a little gauze, a little absorbent cotton, a few bandages, and less than twenty dollars' worth of drugs. Not an instrument should it have been needed, not a basin to wash either the hands or a wound should there have been one, not a thing for emergency use should an emergency have arisen. The fault does not lie with the author, for there was a requisition in ninety days before going to camp for a full equipment for a regimental infirmary. Nor does the fault lie with the adjutant general, but it does lie with the State of Illinois for tying the hands of the adjutant general. ——Rogers speaks of the division encampment at Peoria, Ill., of the Illinois National Guard, and mentions the disposal of garbage, the system of latrines, and the use of crude oil. While incineration is unexcelled from a sanitary point of view, he found it impossible to purchase and install incinerators. The system of latrines which was used worked with as near perfection as could be desired. For a short camp of a month's duration, he sees no reason why the pit latrine, as used in Camp Deneen, should not offer a perfect solution to the problem of the disposal of fecal matter. It merely needs attention and crude oil. Too great emphasis cannot be laid on the excellent results which followed the use of crude oil in destroying odor and preventing the breeding of flies. This was particularly true in the use of crude oil in the urinals. The swabbing of the urinals with crude oil keeps away flies and should be used invariably to the exclusion of lime. The disposal of garbage should be in charge of the sanitary officers and is most badly handled when done by contract. The Jamestown pit is an excellent means of getting rid of camp waste. For short tours of duty a simple pit, burning with crude oil, and burial is cheap and effectual. The greatest difficulty seems to be the collecting and handling of the garbage cans. Few national guard regiments have their own transportation, and it is difficult to carry a can by hand from the company kitchen to the pit without spilling more or less of the contents. He is considering the use of a low, two wheeled cart, similar to a painter's hand cart, sufficiently large to carry four cans at a time. This would facilitate gathering the garbage twice a day, or, better still, after each meal, and this would make the [illegible]

AMERICAN JOURNAL OF SURGERY.

January, 1911

1. Pyuria, By Howard A. Kelly.
2. Pylorospasm, By Stuart McGuire.
3. Transfusion of Blood: Its Indications and Technique, By J. Shelton Horsley.
4. The Importance of Educating the Public in Regard to Cancer, By Southgate Leigh.
5. Gastric Symptoms from the Surgeon's Viewpoint, By Louis Frank.
6. Certain Tumors of the Jaw Occurring Most Frequently in the Negro, By W. F. Westmoreland.
7. The Diagnosis of Obscure Cases of Appendicitis with Especial Reference to "Protective Appendicits" (Morris), By Mack Rogers.
8. The Prevention of Immediate Postoperative Pain in Amputation Stumps by the Injection of Quinine Solution into the Exposed Nerve Ends. With a Note on Quinine Anæsthesia for Reducing Fractures and for Rectal Operations, By V. Pleth and V. W. Pleth.
9. Surgery outside of the Hospital, with Reports of Some Interesting Cases in Country Practice, By J. W. Alsobrook
10. Observations on Eight Cases of Aerogenes Capsulatus Wound Infections, By George R. White.
11. The Cure of Stricture of the Rectum Complicating Fistulæ—Case Reports, By Charles S. Venable

1. Pyuria.—Kelly describes the method of examination for pyuria in the female.

2. Pylorospasm.—McGuire, in his paper, brings out the following points. 1. The necessity of distinguishing between gastric symptoms due to organic disease of the stomach and those reflex from other organs. 2. The impropriety of performing a gastroenterostomy for spasm of the pylorus. 3. The advisability, at the time of operation, of examining all abdominal organs and correcting every abnormality, lest the obvious may not be the real cause of the symptoms. 4. The importance of the postoperative and post hospital treatment of patients to overcome the spasm habit of the pyloric sphincter.

3. Blood Transfusion.—Horsley, in summing up the indications for transfusion of blood, classes them in order of their efficacy: 1. Extreme loss of blood in a healthy individual; 2, loss of blood from chronic bowel hæmorrhage due to ulceration from dysentery or tuberculosis; 3, shock; 4, hæmophilia; 5, chronic suppuration or puerperal sepsis; 6, pellagra; 7, tuberculosis; 8, sarcoma and cancer; and 9, pernicious anæmia and leuchæmia; but here transfusion is not only without benefit, but positively harmful. Of the different appliances that are being used the cannula of Crile is the simplest and the most widely known. All such devices as the cannula of Crile, the paraffin tubes of Brewer, and the cannula of Elsberg have the objections that obtain to any special apparatus. Either the proper sizes have to be used in order to insure efficiency, or else the apparatus is so delicate and complicated as readily to get out of order. There is a striking similiarity between the evolution of intestinal suturing and the development of arterial suturing. Formerly there were numerous mechanical devices used in intestinal suturing, but as experience increased it was found that a simple technique and simple instruments were more desirable than a complicated apparatus. Gradually the needle and thread has supplanted all kinds of apparatus in closing intestinal wounds, and so in arterial and venous surgery the needle and thread will probably supplant the various and complicated devices that are now being used. However, whether transfusion of blood is performed by cannula or by needle and thread, animal experimentation should alway be resorted to by the operator until he has so perfected himself in the technique as to be able to use it with a fair amount of dexterity on his patients.

7. Appendicitis.—Rogers observes that there is a normal involution of the appendix, accomplished by a fibroid degeneration of the normal structures of that organ. In this process the nerve fibres are the last to be eliminated and are therefore entrapped in the meshes of the contracting fibroid tissue and irritated. This irritation manifests itself both by pain and by reflex action upon other organs, which pain calls out and maintains a permanent hyperleucocytosis, which protects the appendix from infection. This reflex action may manifest itself upon almost any of the vital organs of the economy.

EDINBURGH MEDICAL JOURNAL.

January, 1911.

1. Epithelioma of the Tongue. A Review of Sixty Hospital Cases, By F. N. Caird
2. A Retrospect and Comparison of the Progress of Midwifery and Gynæcology, By F. W. Haultain
3. On Recurrent Enlargement of the Salivary Glands, By David M. Greig

1. Epithelioma of the Tongue.—Caird states that epithelioma of the tongue is peculiar to the male sex, rarely attacking women. It begins as a local induration, or a hard elevated area, on the lateral border of the tongue where there may already exist a crack or fissure. The covering epithelium gives way, an ulcer forms, and a most characteristic pain, referred to the ear and to the temporal region, annoys the patient, so that he frequently appears with cotton wool plugging the ear. Enlargement of the lymphatic cervical glands speedily ensues. If the trouble is situated near the root of the tongue, or if it spreads to the floor of the mouth, the greater is the inconvenience felt by the patient in the form of discomfort or pain when chewing, swallowing, and speaking. There may be a copious flow of saliva, and the breath acquires an offensive odor. Difficulty in protruding the tongue is experienced, according to the fixation and involvement of the organ. *Antecedent irritation* has long been recognized as at least predisposing to the development of carcinoma. The laity are prone to cite local irritation of some kind, chiefly that from carious or jagged teeth, as the main source of this malady. Of his sixty cases twenty-seven ascribed the disease to this cause, although one patient was convinced that induration appeared prior to the dental irritation; eighteen already had the offending tooth extracted, and thereby thought some amelioration of pain ensued; four had the projecting angles of the tooth filed smooth; seven came with the offending tooth *in situ;* three blamed a badly fitting artificial denture; two were satisfied that the malignant ulcer arose at a point facing that where they held the tobacco pipe; three had made a rather prolonged use of caustics for apparently simple conditions and one had scalded her mouth with porridge eight weeks before the epithelioma developed. Thus thirty-eight gave a definite account of an antecedent

local irritation. Tobacco has been branded as a possible factor. Among the fifty-four male cases it is interesting to find that not one is chroncled as a nonsmoker. The pipe was used by twenty in moderation, eleven to excess (over two and a half ounces a week.) The habit of smoking was abandoned as the disease advanced. One patient occasionally obtained relief by smoking, but as frequently the reverse. In regard to alcohol three patients were total abstainers, fourteen drank to excess, eight in moderation, and of fifteen there was no definite information. In no patient were syphilitic manifestations discovered, and only four males acknowledged infection. Leucoplacia was only noted three times as occurring on the tongue and cheeks. Nineteen patients could give no history of any antecedent irritation. Of the six females three blamed jagged teeth, one irritation from a tooth plate, and one had scalded her tongue with hot porridge.

2. **Retrospect of Midwifery and Gynæcology.**—Haultain's paper contains valuable statistical ref- [illegible] and gynæcology.

Proceedings of Societies

SOUTHERN MEDICAL ASSOCIATION.

urth Annual Meeting, held at Nashville, Tennessee, No- [illegible] and [illegible], 1901.

The President, Dr. W. W. CRAWFORD, of Hattiesburg, Mississippi, in the Chair.

An address of welcome was delivered by Dr. W. D. HAGGARD, of Nashville, which was responded to by Dr. SEALE HARRIS.

President's Address.—Dr. CRAWFORD applauded the advances that had been made in the system of medical education during the past decade. He said the profession must be made to appreciate that an overproduction of medical colleges meant an overproduction of poorly equipped doctors. The layman must be brought to realize that there was a difference in medical degrees, so that he might demand higher standards. State legislatures must be awakened to their responsibility. The medical student himself must be convinced that the best was [illegible].

Safeguarding Society from the Unfit.—Dr. A. J. COOKE, of Nashville, said that vasectomy was not specified as the method of sterilization in the Indiana law, but its advantages over other methods were obvious. Orchidectomy was a mutilating operation, and one of considerable gravity, yet he was persuaded that it should be recognized and specified as the only method permissible in a certain class of criminals. As a preventive, particularly in the South, where rape was most prevalent and most abhorrent, it could not be doubted that the legal infliction of one such penalty would have a more salutary effect than many lynchings or even burnings at the stake. It was as yet too early to point to definite results from the operation of these laws; but when the crucial test of time should have been applied, he thought it was reasonable to predict that crime and degeneracy would be largely decreased and the world would be correspondingly better and happier.

Dr. GEORGE H. PRICE, of Nashville, said it was a difficult matter to secure legislation because there had been a lack of uniformity on part of the medical profession looking to this great problem of safeguarding the public: nevertheless he thought the medical profession should be foremost in advocating restrictive measures.

Dr. FRANCIS DOWLING, of New Orleans, thought the people in various sections of the State of Louisiana were interested in securing such legislation as would safeguard the public. Some had suggested that gonorrhœa and syphilis should be among the reportable diseases to boards of health the same as cases of diphtheria or scarlet fever.

Dr. JOHN H. WHITE, of New Orleans, remarked that there was one difficulty growing out of the particular remedy advocated by Dr. Sharp, of Indiana, for this class of defectives, and that was, the operation of vasectomy would be utilized by the roué as fitting him to practise his nefarious life without risk of being caught, and he believed that was a thing which should be carefully considered before resorting generally to this operation, and a law providing against men voluntarily submitting to this operation for that very reason.

Dr. JERE L. CROOK, of Jackson, Tennessee, said the time had arrived when the medical profession should take active steps toward bringing about the consummation of the ideas embodied in Dr. Cooke's paper.

Dr. ISADORE DYER, of New Orleans, said that in the last few years this particular question had been discussed as one of supreme moment in connection with the general subject of eugenics. He believed that professors of eugenics, criminologists, and scientists, who were interested in the solution of this problem, were all satisfied that the aphorism of Oliver Wendell Holmes, that a man should begin to take care of himself by taking care of his great grandfather was very pertinent, and that we ourselves for the sake of our own people should establish a law protecting our descendants from the possibilities to which they had been exposed in regard to criminals and defectives.

The association then endorsed a resolution to the effect that it concurred in the laws of Indiana regulating marriage and providing for the sterilization of habitual criminals and other degenerates.

Exophthalmic Goitre.—Dr. WILLIAM D. HAGGARD, of Nashville, read this paper. He spoke of the four cardinal symptoms of exophthalmic goitre, and said that surgical treatment had proved superior to any other form of treatment. It simply showed statistically that it offered the best results, and at the present time early operation was the best treatment.

Dr. B. L. WYMAN, of Birmingham, Alabama, said that the medical treatment of hyperthyreoidism had been practically a failure in the majority of cases, and this agreed with his experience in the treatment of this disease, so that in recent years he had referred his cases to a surgeon. He emphasized the importance of early diagnosis.

Bones and Joints.—Dr. JOHN B. MURPHY, of Chicago, gave an address on this subject, and among other things, said that when there was a lesion in [illegible]

tion of thickening or adhesion of the capsule, if the surgeon wanted to overcome deformity the capsule must be dealt with as one would deal with bones or with any other inelastic material. The outer fibrous capsule had a feeble vascularity. It practically never became inflamed; it was never the seat of a primary lesion. It never became tuberculous. It had an inner lining, which was known as the synovial lining. The surface was represented by endothelial cells, which were arranged close to each other, and they sealed up the surfaces of both the synovial membranes just as the epithelial cells sealed up the surface of the skin. He had found in his experiments on dogs that if he wanted to infect a joint with the most virulent type of pneumococci, if he injected half a syringe full of the virulent microorganisms into a joint with a very fine needle, it would produce no effect whatever in that joint. On the other hand, if he took the other half of the same syringe barrel of infective material and injected it into another joint in the same dog, using a fine hypodermic needle, it would tear out the endothelial cells that covered the surface, and this would be followed by infection and death. This meant that if surgeons were going to work on joints, one of the things they must observe was that the joint had an enormous resistance against infection, and they must become the greatest respectors of this endothelial layer in all work that involved the surgery of the joints. He found that if he injected a joint with turpentine a day or two days in advance, or if he injected the joint with tincture of cantharides a day or two in advance, then injected the joint with formalin and glycerin, and afterward injected the virulent microorganisms, the dog would die. Again, if he injected the joint six or twelve days before, then he could inject the joint and tear it up and not the slightest effect would be produced, because the chemical inflammation produced a cofferdam of all the lymph spaces beneath, making it impossible to infect the surface. He could render the joint surface, therefore, immune by injecting it with some chemical irritant two weeks before he operated. The time to attack a joint was when Nature or the surgeon had prepared the joint in rendering it immune against easy infection.

Speaking of ankylosis he said it could be avoided in practically every case of acute infection of joints. The moment the practitioner spoke of draining the joints that were infected, he was assuming responsibility for an ankylosis. If there was an infection in a joint, to save it from destruction, it was necessary to relieve the joint of tension and the products of infection. This could be done by aspiration. For relief from pain, instead of a hypodermic injection of morphine, the patient should be put on Buck's extension and the pressing surfaces that were inflamed separated.

Dr. Murphy reported several cases in which he had operated with gratifying results.

Education of the Specialist.—Dr. E. C. Ellett, of Memphis, in reading his paper, stated that with the establishment of a department of health it might be feasible to map out a course of study and hospital work which a man must satisfactorily complete before he could appear before the world as a specialist in any department of medicine.

Treatment of Trachoma.—Dr. H. H. Martin, of Savannah, Georgia, said that in order to effect a complete cure in chronic trachoma, surgical and medical treatment must be combined as neither was sufficient in itself. Of the surgical methods the one to which he called attention to was the Coover plan which was the most satisfactory from all points of view. For local application a solution, from five to ten per cent. strong of copper sulphate, had no rival, but it must be begun after the operation and continued for eight weeks.

Malarial Manifestations in the Eye was the subject of the paper by Dr. M. H. Bell, of Vicksburg, Mississippi, who stated that his observations were made from the symptoms found in thirteen cases of eye trouble due to malarial infection. Corneal ulceration was present in eleven cases, and two entirely distinct types of ulceration were noted. In seven cases the common dendritic ulceration was present and in the other four the ulcers were of the simple round variety which he had designated acute herpetic. The acute type of dentritic ulcer he had found only in an acute malarial infection, and it had always responded readily to appropriate antimalarial treatment in combination with the application of tincture of iodine to the ulcerated area, and the usual local treatment employed for any corneal inflammation.

The Artificial Leech in Acute Mastoiditis.—Dr. U. S. Bird, of Tampa, Florida, said in this paper that his experience included some nine cases. Clinically they were all instances of typical acute mastoid infection, middle ear disease, raise of temperature, mastoid swelling, and pain. In every case the middle ear had been freely opened without relief. In all of the cases operation seemed probable and in one case the patient was sent to a hospital for that purpose. In some patients heat was used, but in most it was unnecessary after the leech. Calomel was given at first as a routine measure. An improvement was noted at varying intervals after leeching. In every case relief was permanent, no further active treatment being necessary.

Turbinectomy.—Dr. G. E. Vaughan, of Clarksville, Tennessee, who read this paper, pointed out the chief indications for this operation, described the method of operating which was usually practised, and reported cases.

Episcleritis.—Dr. O. Dulaney, of Dyersburg, Tennessee, detailed the symptoms of episcleritis, and discussed the prognosis and treatment.

The Heath Mastoid Operation.—Dr. M. M. Cullom, of Nashville, Tennessee, speaking on this subject, said the operation was safer than the radical operation. There was less danger of intercranial involvement following the operation. There was practically no danger of injuring the facial nerve. There was no injury to the hearing, and the operation was often followed by marked improvement in hearing power. Suppuration diminished rapidly, and postoperative healing took place sooner than after the radical operation. It could be easily converted into the radical operation, if desired.

Inguinal Hernia.—Dr. John Smyth, of New Orleans, related some experiences in operating on cases of inguinal hernia. After reporting three cases he drew the following conclusions: 1. The

sac in one case was probably a variety of the pantaloon sac reported by Dr. Eisendrath and others. This kind of sac might account for some of the failures to cure hernia by operation. 2. The condition in another case was an artificial one, and was evidently the result of a failure to securely close the neck of the sac in the previous operation, and it showed the necessity of extreme caution in operating in cases which had already been subjected to operation. 3. The condition in another case was the result of an effort at reduction of the hernia, in which the position of the testis was lost sight of or ignored. The truss applied at that time caused sufficient traumatism to produce adhesions which imprisoned the testicle in the upward reflection of the sac, and the enterocele, or hernia proper, recurred in the lower peritoneal pouch, possibly another case of pantaloon sac.

Dr. DUNCAN EVE, of Nashville, said that the success of all operations for the relief of hernia depended upon obliteration or removal of the sac, and the transformation of the cord to the new bed or canal. Without these two principles, no hernia that was operated on could be regarded as cured.

Dr. C. W. ALLEN, of New Orleans, said that the first important step in hernia was the manner of dealing with the neck of the sack. Formerly surgeons ligated the neck of the sac, frequently transfixing it, but this was unsafe.

Dr. JERE L. CROOK, of Jackson, Tennessee, stated that the reason we did not operate more frequently than we did for hernia was due to the fact that we were perhaps negligent in pointing out to patients the necessity of it. Men wore trusses for years when a simple operation (which had a very low mortality) would make them practically perfect men physically. The operation for hernia was one of the most important we should urge upon patients, and if we made it a routine measure when we had occasion to come across a man who wore a truss in examining him for life insurance, to urge upon him the importance of an operation for the radical cure, we would undoubtedly do this operation oftener, and in doing so would add much to the comfort of these patients.

Dr. ROBERT CALDWELL, of Nashville, thought we were all pretty well agreed as to the treatment of the sac nowadays, and it was not so much the removal of the sac *in toto* as it was the treatment of the exudate about the neck of the sac. He said we were going to have recurrences whether we used the Bassini, the Ferguson, or the Macewen method, because we had to deal with different conditions. He did not see why in routine work we should still go to the Bassini operation.

Dr. WILLIS C. CAMPBELL, of Memphis, said he did not know very much about the technique of the operation, but he had noticed that in all cases at the New York Hospital for Ruptured and Crippled, a plaster spica was applied after the operation which immobilized the parts absolutely and gave opportunity for quicker healing and left practically no dead spaces.

Dr. CHARLES A. ROBERTSON, of Nashville, said there was one question in connection with hernia that had been brought to his attention and given him some degree of wonderment, namely, why physicians were not more frequently called upon to operate on hernia. The reason for it lay in the fact that fitting trusses was largely in the hands of instrument dealers and druggists, who made false assertions in regard to the permanent or curative value of the truss.

Dr. W. D. SUMPTER, of Nashville, said this subject appealed to him because of his belief that hernia was an operation that could be done under local anæsthesia, with comparatively little pain. He had done many of these operations under local anæsthesia in the last four years. He thought if local anæsthesia were resorted to more frequently, more men would be operated upon for the relief of this condition who now feared a general anæsthetic.

Dr. PAUL DEWITT, of Nashville, agreed with Dr. Sumpter in reference to local anæsthesia. There was not doubt but that the operation for the radical cure of hernia could be performed just as completely under local as under general anæsthesia. He had operated in several cases under local anæsthesia and he had yet to find a case that suffered any amount of pain during the operation.

The Operative Treatment of Fractures of the Long Bones.—Dr. JERE L. CROOK, of Jackson Tennessee, reported four recent cases of fracture of both tibia and fibula on which he had operated, in all of which he secured good results, and in none of which could he have done so without operation.

Operative Treatment of Fractures.—This paper was read by Dr. C. W. ALLEN, of New Orleans, who said that a general anæsthetic was demanded for the proper reduction of all fractures except the simplest. All fractures after reduction should be subjected to the x ray, and it was often found that what was thought to be a well reduced fracture, proved to be far from satisfactory. In many cases reduction was possible, but could not be maintained owing to the obliquity of the line of fracture. When reduction was impossible operation should unhesitatingly be performed, and one frequently found upon operating on such patients that the interposition of soft material would have made reduction impossible by any other than operative means. The time for operation called for some judgment. In cases seen early, within the first twenty-four hours, when there was not much injury to the soft parts, operation had best be done at once. Where there was extensive injury to the soft parts, or where several days had elapsed before the patient was first seen, delay should be advised until the local inflammation subsided, sometimes about the second week, when there would be less danger of infection. He thought far too many limbs were needlessly amputated. With a little hard work and some ingenuity on the part of the surgeon many badly mangled limbs could be saved. So long as the blood supply was sufficient to keep alive the peripheral parts, there was a chance. It was better that such patients spend six months in a hospital and walk out sound and able to make a living than to be discharged after three weeks with the loss of a limb; and spend the rest of their lives as hopeless cripples or helpless charges upon the community.

Dr. W. P. MCADORY, of Birmingham, said that a number of years ago he had a negro patient who was shot through the middle of the femur. He did

not know the bullet was lodged between the end of the bone at the time he put the limb in extension. He kept the limb in extension for five weeks, at the end of which time he took it down to find that he had an ununited fracture. He prepared the patient for operation. He cut down on the seat of the fracture and found the bullet, which was very large, had flattened out making a piece of metal about the size of a quarter of a dollar interposed between the ends of the bone. He resected both ends of the bone, wired the fragments, and succeeded in giving this man a useful limb.

Dr. H. A. ELKOURIE, of Birmingham, felt in regard to compound fractures that he would rather cut down upon the bone and fix or wire the fragments together than trust to hypothesis and get bad results.

Dr. A. G. PAYNE, of Greenville, Mississippi, stated that so far as the treatment of compound fractures was concerned, to his mind there was only one method, and that was to operate at once. The wound should be opened up and the bone thoroughly exposed, and any mechanical device which one might see fit to use to hold the fragments in position would work if one was clean about it.

Dr. MICHAEL HOKE, of Atlanta, said that as an orthopædic surgeon he was called upon to correct many deformities the result of badly united fractures, and in this connection he desired to say that there was no reliable book written on the mechanics of the joints and on fractures, consequently we could not expect the general practitioner to treat these cases and get good results every time. For instance, if a practitioner put up a fractured elbow joint in the position of flexion and did not incorporate the shoulder, he could not control the upper fragment, the shaft of the humerus.

Dr. JOHN SMYTH, of New Orleans, differed with those gentlemen who wanted to operate in every case. He thought this would be a mistake. He had under treatment the case of a young girl who sustained a fracture of the humerus about an inch and a half above the elbow joint, where the upper fragment went backward and the lower fragment was tilted forward. These fractures were put in flexion, with a weight on the elbow joint after the suggestion of Lovett and Stimson. After repeated examinations with the x ray apposition was very good, and after eleven days the splint was taken off, and the arm massaged a little, and a light plaster splint reapplied. The girl would not only have a good functional result, but an excellent cosmetic one.

Dr. ROBERT CALDWELL, of Nashville, believed that the operative treatment of compound fractures should be the rule and the nonoperative treatment should be the exception. Of course, much would depend upon the character of the fracture the surgeon had to deal with. If he had a transverse fracture, it was known that if it was reduced, it was comparatively easy to maintain it in position and one could secure good results by nonoperative treatment, but if one had an oblique fracture, or a spiral fracture, to deal with, although he secured reduction, it was difficult to maintain it; consequently knowing the comparative rarity of a true transverse fracture, he would say that the operative treatment should be the rule and the nonoperative treatment the exception.

Dr. A. B. COOKE, of Nashville, said that if under aseptic precautions the open treatment of compound fractures was practised as a routine measure, the question would arise, what possible harm could be done the patient? This was the main point to decide. If the operation could result in no harm to the patient, if properly done, he could not conceive that it would do anything but good for the patient, because it would leave in every individual case upon which this method was practised an element of certainty which was important to the physician as well as to the individual welfare of the patient.

Dr. DUNCAN EVE, of Nashville, stated that until recently surgeons were very well satisfied with firm union. He did not think much about the question of permanent results, but since their ideal had been raised by the x ray the surgeon not only insisted upon a good functional result, but a cosmetic one. He was afraid the x ray had raised the standard a little too high. While he was not opposed to the operative plan of treatment of compound fractures, he was not modern enough yet to suggest that all closed fractures should be treated by the open method. In compound fractures this method was all right because one had an open wound to deal with. Operation was all right for those fractures one was not able to reduce, or when reduced, would not remain in coaptation or apposition, but the time had not arrived when surgeons would generally accept the open method as an every day plan for the treatment of closed fractures.

Dr. E. DENEDRE MARTIN, of New Orleans, said that when it came to the question of fractures, the first and most important thing was to know the character of the fracture, and above all the anatomical structures involved. If one had a simple transverse fracture, he was a poor surgeon if he could not reduce it and hold it in position. If the surgeon had an oblique fracture, which was due to torsion, he knew he was dealing with contraction of certain muscles and he would have trouble in holding the fragments in apposition and he must overcome the action of the muscles if he would get good results.

Gonococcic Vaccine.—Dr. GEORGE R. LIVERMORE, of Memphis, read this paper. He remarked that as far as a case of either acute or chronic anterior or posterior gonorrhœa was concerned, his experience had convinced him that gonococcic vaccine, as a cure, was absolutely worthless. He had used it in all doses and at varying intervals, and in no case did he effect a cure or see other than a modicum of improvement. This statement coincided with statements of prominent genitourinary men in New York who had also experimented extensively with gonococcic vaccine. On the other hand, some of the complications of both acute and chronic gonorrhœa sometimes yielded promptly and satisfactorily to the administration of the vaccine. The complications in which the vaccine had given the best results in his hands were epididymoorchitis, arthritis, and prostatitis.

In the treatment of gonorrhœa in women he had several times noted cases that seemed to be benefitted by the use of the vaccine. Whether this improvement was a coincidence or not, he was unable

say, as other means of treatment was used at the me time, and he did not believe the question would settled until vaccine therapy was placed on a more tional basis.

Dr. RAYMOND WALLACE, of Chattanooga, stated at he had had some experience with gonococcic ccine, and it tallied with that of the author of the per. He had had the best results in cases of gonrhœal rheumatism. He recalled four cases in hich three or four injections effected a cure.

Dr. W. W. CRAWFORD, of Hattiesburg, Mississip-, recalled to mind a woman upon whom he did a sterectomy. She had old pus tubes, and he ought the organisms were dead. He thought he d a sterile condition to deal with from the length time she had the inflammatory reaction in the pels, but after he had operated he discovered she had recent infection superimposed on the old gonorœal infection of some four or five years previous, hich occurred at the birth of a child. He confintly believed that if it were not for the use of ccines in large doses, giving fifty million the first se, and he thought one hundred millions each day r two or three days, this woman would have died; t as an additional reaction was set up by the use the vaccine she recovered.

(To be concluded.)

...DICAL ASSOCIATION OF THE CITY OF NEW YORK.

Meeting of November 21, 1910.

The President, Dr. REYNOLD WELLES, in the Chair.

(Concluded from page 98.)

A Few Neglected Points Concerning the Treatent of Fractures, with Special Reference to ose of the Leg. — Dr. CARL BECK read this per (see page 53 January 14, 1911). In connecn with the paper Dr. Beck presented boy with a pracondylar fracture of the right arm. It was cessary to cut down on the seat of injury in order effect reduction and retain the fragments in posin. To accomplish this he had expected to have resort to wiring, but wiring proved to be unnecsary, and a satisfactory result was secured with- t this.

Dr. CARL E. PFISTER reported two cases. One is a compound fracture of the tibia and fibula. first he thought amputation would be required. t as the x ray showed something lodged between fragments, he decided to cut down on the seat fracture before resorting to this. He found porns of periosteum between the fragments, and, ving removed these, he was able to reduce the ture and get a good result. The other case was fracture of the elbow in a boy, and here also the ray afforded valuable assistance. It would be ry satisfactory, he thought, if all such cases could treated in hospitals, but as this was impossible, portable x ray apparatus was much to be desired.

Dr. KINGMAN B. PAGE said that traction, in the rm of Buck's extension, was a matter which had en too much neglected by the average surgeon. he use of plaster of Paris dressings, without this, counted largely for the shortening and other defective results so often observed. Great credit was due to Dr. Walker, he thought, for the admirable results he had reported in high fractures of the femur.

Dr. BENJAMIN T. TILTON said that fractures of the lower leg had certain peculiarities which made them of special clinical interest and often presented certain difficulties in obtaining a good result. Incomplete fractures in the tibia were not at all uncommon in adults, as well as children. Such fractures might easily be overlooked, as most of the symptoms of fracture were absent. Linear tenderness and a slight "rocking" of the fragments might be all that pointed to fracture. The x ray was of great help in these cases. Another peculiarity of fractures of the tibia was the tendency to pseudarthrosis. This was most likely to occur when there was overriding of the fragments, as in the oblique and spiral fractures which were so common here. Neuralgia was also a frequent symptom following badly united fractures in this region. Hence it was desirable to secure and maintain a complete reduction in these fractures. For this purpose Buck's extension, modified for this region, might be advantageously used in the cases where overriding occurred easily. It was very exceptional, however, that an open operation was required to maintain approximation. Operative procedures should be limited to cases of badly united fragments and of interposed soft parts. This was not the case, however, in fractures near joints, where reduction might be difficult or impossible to maintain. Fractures of the upper part of the shaft of the femur were good examples of this. The x ray was, of course, very valuable in the diagnosis and in securing a good reduction, but it was often misleading in regard to the prognosis. Many fractures of the leg united with perfect function, and yet the x ray picture showed far from a satisfactory alignment of the fragments. This fact had to be taken into consideration in law suits, especially against a physician treating a fracture.

Dr. J. HECKMANN said that if in any case vicious union had occurred, it was necessary to cut down and suture the fragments. He thought, however, that in the neighborhood of joints it was inadvisable to use wire or any other foreign body.

Dr. WILLIAM DARRACH said the open treatment of fractures had recently attracted much attention. In the three hundred cases of Flint's silver wire was first employed to maintain apposition, next, bronze wire, then phosphobronze wire, and finally the metallic plate. The latter was made of steel, as used by Lane, or of sufficiently heavy aluminum. The question which now presented itself was, Should we treat fractures by the open or the closed method? Personally, he believed that in every case where the closed method could be employed satisfactorily it should be used, but that in every case where we could not obtain and retain satisfactory reduction the open method should be resorted to. Satisfactory reduction did not necessarily mean perfect reduction. Often there was interference with function, and to determine in any instance whether this was likely to occur required an immense amount of study of cases. Unless we were [illegible] much function was likely to be

interfered with, it was the best plan to tell the patient frankly just what the condition of affairs was. For operative work the ideal time was immediately after the injury, and the Lane procedure, he thought was an ideal method of treatment.

Dr. J. Herman Branth said that the use of the Lane bone plate was one of the greatest advances as yet made in bone surgery. By the Lane method the surgeon cut down to the seat of fracture, cleaned out the blood clots, removed loose splinters of bone, and dislodged tendons and muscle tissue when these have got between the fragments, placing them in proper position for future normal function. He then brought the fragments into accurate apposition, a matter by no means difficult, as the patient's muscles were relaxed by anæsthesia and the parts were in view. In all fractures, whether transverse or oblique, there was a serrated condition of the fracture surfaces, and this, by the interlocking, assisted in maintaining correct apposition. The periosteum was also drawn as far as possible over the fracture. The Lane plate was laid on parallel with the shaft of the bone, a hole drilled in one end of the fractured bone, and a screw inserted to hold that extremity of the plate in place. Then the plate was adjusted to overlap the other part of the fractured bone, and the limb was brought into normal position and held steady by assistants. A hole was drilled for the second screw, and the screw brought home, after which the soft parts were carefully adjusted, perhaps with the aid of sutures. All clots were removed, the wound was closed aseptically and covered with gauze, and the limb was bandaged with plaster rolls. It was remarkable what firmness was secured by such a simple apparatus. By the treatment described the fractured surfaces were brought into accurate apposition, and Nature had but little work to do in establishing repair. There was less spasm of the muscles, because less irritation, the parts being all in place, and there was little opportunity for shortening. Dr. Branth had been the guest of Mr. Lane in 1905 and again in 1906, and on one occasion the London surgeon showed him a patient who had been admitted to Guy's Hospital suffering from fracture of the femur, near the upper third, and also from delirium tremens. This man was walking in the wards with a cane five weeks after a Lane operation. His (Dr. Branth's) doubts as to the correctness of the statement made, in view of the fact that fracture of the thigh complicated by delirium tremens generally meant a fatal issue, were dispelled by the hospital records and by x ray examination, showing the plate in position. He made three examinations personally. Mr. Lane used a sterilized steel plate, two to three inches long, and wood screws. The latter had a long neck, and the screw end might reach through the bone wall into the marrow, in which case the neck of the screw would act like a nail or peg. Such a screw might slip and spoil the result. Dr. Branth had seen such a case, and verified the condition by measurement and x ray examination. He therefore suggested the employment of the machine screw, with the thread extending up to the head, as such a screw would hold more firmly in the bone than the wood screw. One might ask, he went on to say, what became of the metal plate. It remained where fixed, and callus would surround it, making the union only the firmer. Applied under proper conditions, it did not cause any trouble. Should an abscess and sinus form, and the plate be cast off, it was owing to a defect in asepsis or because some dead débris were left by the operator. The Lane method of treatment would therefore seem to be ideal. Of course, low vitality, as produced by preexisting conditions such as diabetes or Bright's disease, was a factor to be considered in the prospect of recovery.

Dr. Walker said that among the cases which he had treated by the Lane method there was none in which any untoward results had occurred or in which it had been necessary to remove the plate, nor had any of his plates ever come out.

(To be continued.)

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

The Diseases of China, including Formosa and Korea. By W. Hamilton Jefferys, A. M., M. D., University of Pennsylvania, Medical Missionary in China, Professor of Surgery, St. John's University, etc., and James L. Maxwell, M. D., London, Medical Missionary in Formosa, Chairman, Medical Missionary Association Research Committee. With Five Colored Plates, Eleven Nosogeographical Plates, and 360 Illustrations in the Text. Philadelphia: P Blakiston's Son & Co., 1910. Pp. xvi-716. (Price, $6.)

This is the first scientific work ever produced treating exclusively of the nosology of the great realm called the Empire of China. The subject is treated not only from the standpoint of the needs of the practitioner in that part of Asia but also from that of the student of pathology and parasitology. The authors, Dr. Jefferys, an American, a graduate of the University of Pennsylvania, and Dr. Maxwell, an Englishman and a graduate of the University of London, have both had extensive experience as teachers and clinicians in the Far East. Professor Jefferys is also well known as the editor of the *China Medical Journal*, the only medical journal published in China.

It is a very interesting book, and it treats the subject in twenty-four chapters. Chapter I speaks of the condition of practice in China, while in Chapter II we find a general review of the nosology and nosogeography of China, containing valuable meteorological observations and nosological reports of the diseases established, reported, and not yet reported of China. These two chapters may be taken as an introduction. With Chapter III begins the medical part of the book and here we find plague, dengue, Malta fever, typhoid fever, typhus fever, cholera, leprosy, beriberi, malaria, blackwater fever, kalaazar, relapsing fever, yaws; diseases caused by metazoal parasites, diseases of the alimentary canal, of the liver and spleen, and of children. As is only natural, the opium habit, China's major vice, has a special chapter, Chapter XI. Chapter XII treats of the diseases peculiar to China, while in Chapter XIII we find the review of the "undifferentiated" fever. Chapter XIV leads over to the next part and is entitled Asepsis and Antisepsis and Hospital Hygiene. This brings us to the third part, surgery.

containing two chapters. Chapter XVII gives the diseases of the skin; Chapter XVIII, tumors; Chapter XIX, diseases of the genitourinary tract; Chapter XX, syphilis and venereal diseases. In Chapter XXI we find gynæcology and obstetrical operations, while Chapter XXII gives the diseases of the eye and ear. In Chapter XXIII the authors speak of hygiene among the Chinese, and in Chapter XXIV of hospitals and hospital construction. From this short enumeration of the contents the reader will receive an idea of the thoroughness of the book. Valuable statistical tables and charts are added to nearly every chapter. The illustrations are well executed and interesting.

To select any special part of the book in this short review and to speak of it would be useless, as so many interesting subjects are treated. We hope that the publishers and the authors will receive due acknowledgment for their pains in bringing out such valuable addition to our medical library.

The Principles of Gynæcology. By W. Blair Bell, B. S., M. D., Lond., Assistant Gynæcological Surgeon, Royal Infirmary, Liverpool. With Six Colored Plates, and 357 [illegible] in the Text. London, New York, Bombay, and Calcutta: Longmans, Green & Co., 1910. Pp. xxvii-[illegible].

For the first time in the English language, within the knowledge of the reviewer, an attempt has been made by Dr. Bell to present a gynæcological textbook which is based upon consecutive scientific steps. The result is excellent: the student of gynæcology can begin at the beginning of things and is led, step by step, to the comprehension of the more complex principles of the art.

Beginning with a study of the comparative anatomy of the female genital organs, Bell next takes up the embryology of the mammalian, especially of the human, type. The anatomy of the organs falls naturally into the next chapter and is succeeded by a chapter on the physiology, including lactation and the menopause. The student is now prepared to study clinical phenomena and is first introduced to the derangements dependent upon congenital anatomical changes, next to those dependent upon injuries and displacements, and then to those springing from abnormal physiological conditions. It is unnecessary to follow further the author's classification, for we have shown how he has broken away from tradition and has established a scientific basis for further study by his reader.

In turn the infective diseases, the neoplasms, and the methods of operation are discussed, and there are two appendices, one on electrotherapeutics and one on the causes of certain symptoms, such as menorrhœa, hæmorrhage, pruritus vulvæ, etc.

We have literally no criticisms to offer on the subject matter of the volume. Above all, the author is conservative, and it is only in routine or technical matters in which he differs with other writers; but here he has given the sum of his own experience rather than the collated experiences of numerous writers, he is to be commended for his attitude. Old timber has been thrown aside and the modern views on the endometrium and on the malignant diseases of the uterus, are carefully emphasized. The aggregor's photomicrographs have replaced those of Hitschmann and Adler, and they convey the latter author's views admirably. There is an unusually good description of Wertheim's radical operation.

The illustrations, especially the embryological diagrams, the operative pictures, and the pathological photomicrographs, are most admirable, and add materially to the didactic value of the book.

In a word, this is a modern, unusually scientific, exceedingly practical work on gynæcology. The author relies upon his reader to follow out the scientific exposition of the principles he has laid down, and from this point of view the book is as valuable to the practitioner as to the student. We can give no higher commendation to Bell's work than to express the wish that every man who practises gynæcology should read it and study it.

Osteology and Syndesmology. By Howard A. Sutton, A. B., M. D., Assistant in the Department of Anatomy of the University of Pennsylvania, Lecturer in Anatomy, Pennsylvania Orthopædic Institute, etc., and Cecil K. Drinker, B. S. Philadelphia: P. Blakiston's Son & Co., 1910. Pp. xii-225.

The first subject the student of medicine will have to learn is anatomy, and in anatomy osteology. Can there be anything drier, more tedious, uninteresting, and discouraging than osteology? Students generally do not think so. The authors have tried to make this study at least plain. Summaries occur at the end of each section, thus facilitating learning by heart and reviewing. But in one thing the authors have not been successful, and that is in the nomenclature. Latin and English names are sadly mixed, and in the Latin names they follow their own selection, ignoring the *BNA*.

Psyche. A Concise and Easily Comprehensible Treatise on the Elements of Psychiatry and Psychology. For Students of Medicine and Law. By Dr. Max Talmey. New York: The Medico-legal Publishing Company, 1910. Pp. viii-282. (Price, $2.50.)

We most heartily agree with the author, in his preface, that no branch of medicine surpasses psychiatry in importance, and reiterate his criticism of modern educational curricula in this country, in which so much time is spent on the body and so little on the mind. The author has tried to supply a deficiency which exists, in that the general practitioner can gain, he thinks, from his work some help in the interpretation of mental disorders. He first discusses the general psychology and physiology of the mental functions. This lecture is rather loose and scrappy; there are twenty-eight pages and twelve chapters, and any one of the subjects discussed would require the whole twenty-eight pages to do it justice.

Pathology of Feeling is then taken up in seven more chapters and twelve pages. These chapters are almost incoherent; coprolalia we are told, for instance, is due to the "want of the feeling of shame." The Pathology of Ideation is dealt with in a further section. Hallucinations are dealt with as morbid alterations of ideation. They are usually thought of as disorders of perception. Delusions are also discussed under the same section. All delusions of grandeur are characteristic of maniacal excitation states we are told.

The author hazards a medical definition of the vast conglomerate of mental disorders under the old term insanity. He holds to the old terms mania

and melancholia; from his description his manias might be any kind of excitement and his melancholias any kind of depression.

A special chapter on hallucinatory insanity is given, but it is hard to tell what the author is trying to describe. He says, for instance: "A hallucinating patient may be taken for a maniac. But after a few days' observation it happens that the patient refuses to take food. The diagnosis of mania should then have a question mark."

Delirium is another psychosis, with a clinical picture; dementia another. The querulous insanities are treated with idiocy.

On page 233 we find the amusing statement: "F. H. v. Grashey never spoke of manic depressive insanity, and although the author follows him, yet he thinks he will speak about it." We venture the guess that neither Hippocrates nor Celsus mentioned it either, and without going any further back we doubt that even these authors would have written so badly on a subject about which it is desirable that the physician should be instructed. It is this kind of badly written, badly digested, and, at times, rubbishy psychiatry that constitutes a hindrance rather than a help.

Lectures on Cosmetic Treatment. A Manual for Practitioners. By Dr. EDMUND SAALFELD, of Berlin. Translated by J. F. HALLS DALLY, M. A., M. D., B. Sc., F. R. C. S. I., Surgeon for and Lecturer on Diseases of the Skin, West London Hospital and College, etc. New York: Paul B. Hoeber, 1910. Pp. xv-186. (Price, $1.75.)

The rapid exhaustion of the first edition of this very useful work has made it necessary to publish another edition, and advantage has been taken of this to add much new matter and to improve some of the illustration, so that the book possesses increased attractions for physicians who aim to keep themselves informed on the methods of treating the cutaneous disorders that are met with in general practice. It is unusually rich in formulæ for the treatment of bad complexion, callosities, corns, and warts; alopecia; anomalies of sweat secretion, and various special applications.

As a useful compendium of applied dermatology this series of articles on the cosmetic art can be confidently recommended to all interested.

Gynécologie opératoire. Par HENRI HARTMANN, professeur de médecine opératoire à la Faculté de médecine. Avec 422 figures dans le texte dont 80 en couleur. Paris: G. Steinheil, 1911. Pp. vi-498. (Price, 18 fr.)

This book offers considerably more than its title indicates. The first fifty-five pages are devoted to a consideration of the nonoperative phases of gynæcology, including a very excellent chapter on the pessaries and the methods of employing them. There are also chapters on the menopause and sterility which cover these fields admirably.

The remainder of the work is given over to a description of operative gynæcology. Hartmann goes into the minutest details of every operation and illustrates each step of each operation with carefully drawn illustrations or with photographs. Concerning each procedure, there is an historical sketch, the after treatment is minutely described, and possible complications are considered.

If there were any objection to be offered to the wealth of operative procedures given by Hartmann, it would be that the author does not limit himself by considering operations which, in his experience, have proved most useful; he quotes widely and liberally from all available sources—English, German, and American particularly. For example, he describes five operations for the correction of anteflexion. But, on the other hand, as it is quite likely that the book will find its way mainly into the hands of those whose judgment will permit them to choose wisely, this may prove to be a commendable generosity. Certainly, as a compendium of modern operative gynæcology, it is a veritable encyclopædia. It is a good book for the specialist to own and for any practitioner to study who performs gynæcological operations.

Des Haarschwunds Ursachen und Behandlung. Von Dr. S. JESSNER. Sechste Auflage. Würzburg: Curt Kabitzsch (A. Stuber's Verlag), 1910. Pp. 52

In this little brochure Jessner gives an eminently practical exposition of the causes and treatment of the various forms of alopecia. His classification, for convenience of description, is as follows:

Class I. Alopecia adnata, senilis, and præmatura. Class II. Alopecia seborrhoica. Class III. Alopecia areata. Class IV. Alopecia mycotica (ringworm and favus). Class V. Alopecia symptomatica.

He deals with each of these in a clear and concise manner, devoting—we think justly—a considerable space to seborrhoic alopecia. He epitomizes the work of Unna and Sabouraud in this disease and gives excellent formulæ for use in combating it. He handles the subject of alopecia areata in a practical manner, believing most cases to be of parasitic origin. The general practitioner will find this little volume of immense value.

The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School, and CHARLES L. MIX, A. M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume V. Obstetrics. Edited by JOSEPH B. DE LEE, A. M., M. D., Professor of Obstetrics, Northwestern University Medical School, with the Collaboration of HERBERT M. STOWE, M. D. Series 1910. Chicago: The Year Book Publishers, 1910. Pp. 230. (Price, $1.25.) Volume VII. Pædiatrics. Edited by ISAAC A. ABT, M. D., Clinical Professor of Pædiatrics, Northwestern University Medical School, with the Collaboration of MAY MICHAEL, M. D. Orthopædic Surgery. Edited by JOHN RIDLON, A. M., M. D., Professor of Orthopædic Surgery, Rush Medical College, with the Collaboration of CHARLES A. PARKER, M. D. Series 1910. Pp. 242. (Price, $1.25.) Volume IX. Skin and Venereal Diseases. Miscellaneous Topics. Edited by W. L. BAUM, M. D., and HAROLD N. MOYER, M. D. Series 1909. Pp. 245. (Price, $1.25.) Chicago: The Year Book Publishers, 1910.

The volume on obstetrics in this year's series covers an unusual amount of ground. It has been brought thoroughly up to date and offers, as usual, an excellent reference work to the world's literature. The portion dealing with operative obstetrics is especially full.

The literature and progress of pædiatrics and orthopædic surgery from July, 1909, to June, 1910, are reviewed in this the seventh volume of the series. Volume IX seems to take up the years 1909 and 1910, Dr. Baum reviews the literature on skin and venereal diseases ("606" on pp. 140 et seq.); while Dr. Moyer speaks of medical education, the

history of medicine, Darwinism and medicine, biography (Robert Koch, Florence Nightingale, William Meyer, and Ignaz Semmelweis), life insurance, medical jurisprudence, state control of medical practice, and vivisection. It seems that the editors have made a good selection of the papers and essays published. The field to harvest from is a large one indeed, and the general practitioner, for whose benefit the series is published, as well as the specialist, will find good instructions.

A Manual of Pharmacy for Physicians. By M. F. De Lorme, M. D., Ph. G., Lecturer on Pharmacy and Pharmacology, Long Island College Hospital, New York. Second Edition, with Nineteen Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. viii-199 (Price, $1.25.)

The new edition of this work shows some improvement over its predecessor, an extensive revision having been made. Considerable attention is given by the author to the Latinity of prescription writing, and the chapters on this are characterized by conciseness of statement, without, however, obscuring the meaning to any great extent. There are numerous instances of faulty Latinity, as where the author forms the genitive of *cataplasma,* a neuter noun, *cataplasmæ;* he also employs this incorrect genitive as a nominative (page 160). The same confusing form is found elsewhere, the genitive case being incorrectly employed in *mucilaginis acaciæ* (page 66), *syrupi rhei aromatici,* etc. Whi'e we are about it, we would ask Dr. De Lorme to decline and define the mysterious title, *"Tablettis orales,"* which appears on page 138. Why the author found it necessary to give a garbled version of the pharmacopœial formula for a preparation like spirit of nitrous ether, which few or no pharmacists make, and medical students never do, it is difficult to imagine.

[illegible]
By Charles Edward Walker, M. Sc., M. R. C. S., L. R. C. P., Director of Research in the Glasgow Cancer Hospital, formerly Assistant Director of Cancer Research in the University of Liverpool, etc. New York: [illegible] Pp. xii-239. (Price, $2.40.)

In a volume of less than 250 pages the author has succeeded in presenting in fascinating literary style, and in phraseology sufficiently untechnical to be understood by the ordinary cultured reader, the results of modern research into all phenomena having a bearing on the problem of hereditary characters. The divergence of views between the followers of Mendel and the biometricians is set forth and the effort to harmonize these views is made, with apparent success. The Mendelian law is admirably summarized and supplemented by a new theory of the author's in which he divides characters into individual and racial, suggesting at the same time a fresh hypothesis regarding the problem of sex. All in all, we regard this work as one of the most accurate and trustworthy of recent treatises on biological science. As remarked above, the author has avoided a too technical treatment of the subject, so that the volume, while distinctly scientific in its presentation of cytological facts and generalizations, is yet sufficiently attractive to engage the attention of any person of education and culture who has a mind to keep abreast with the progress of biological science.

MEDICOLITERARY NOTES.

The idea of utilizing the moving picture shows for the instruction of the public in the prevention and treatment of tuberculosis was, we believe, first advocated in this journal. A film called *The Red Cross Seal* is soon to be placed on exhibition and will show the actual surroundings of the start of tuberculosis, how the nurses help, what is accomplished by fresh air, the dangers of unventilated tenements, etc. Any of our colleagues who feel dramaturgical stirrings within them cannot do better than devise similar films.

* * *

The various medical societies of the United States are battling nobly with the quacks, but quackery itself is hydra headed and probably immortal. It responds to a universal craving of human nature for mystery and miracle, a manifestation of the same longing that makes rich the fortune tellers, cartomancers, and palmists. To the average individual his physiological processes and his anatomy are dark and impenetrable secrets, different probably from the "innards" of other people, and properly to be understood and healed only by the possessor of lore inaccessible to the commonplace doctor who talks so plainly and unlearnedly. We have heard sermons admirable in their lucidity of thought and clarity of diction condemned as childish by an outraged congregation who desired to hear from the pulpit polysyllables and involved rhetoric which they could not grasp. In the same way, the physician who tries to explain to a patient in simple language the pathological conditions he has discovered will, for his pains, have upon his hands a disillusioned and disgruntled individual, ill disposed to pay a fee for the treatment of so uncomplicated and easily understood a disorder. The quack makes no such technical mistake. Each of his clients has a unique and baffling symptom complex, to be seized only by the wizard leech himself, and to be treated only by remedies brought from remote Thibet or from the mountains near the source of the Amazon. Obviously, a physician and a gentleman cannot descend to that sort of thing, which will continue to make a certain sort of practitioner rich till universal education, of a kind somewhat superior to that now in vogue, deprives him of a clientèle.

* * *

Miss Valerie West, the artist model heroine of The Common Law, Robert W. Chambers's serial in the *Cosmopolitan,* continues to improve in health and appearance. She breakfasted recently on African melon and plovers' eggs, but up to the February installment her virtue was still intact; we fear that this is due largely to the passive virtues of a rather wooden hero. The series of stories, The Bacteriological Detective, by Arthur B. Reeve, is very clever and of especial interest to medical men.

* * *

Two writers, whom we believe to be at least graduates in medicine whether they practise or not, are among the most eagerly read contributors to *The Popular Magazine;* they are Dr. Henry C. Rowland and Dr. Rupert Hughes. The latter is the author of *Two Women,* a severely criticised but popular drama in which Mrs. Leslie Carter is appearing.

Bucolic members of the Kansas legislature were greatly perplexed recently by the introduction of a bill into that chaste body forbidding any female to appear before the Kansas public in skirts that hung less than four inches below the patella. Considerable anxiety was manifested as to just where such skirts would terminate until the exact location of the harmless sesamoid bone was explained. One member is alleged to have stated subsequently that he thought patella was the same as fracas.

* * *

Jhundra, by Beatrix Demarest Lloyd, in the January *Ainslie's,* is a tale of suspended consciousness with ingenious accessories borrowed from the mystic lore of India. Dr. Ribot and his scientific colleagues of Paris desire to trephine the afflicted heroine, but Hindu magic and love combined forestall their efforts. The tales of *Ainslie's* have to do mainly with wealthy and well mannered people.

* * *

An amusing trifle is A New Year's Dinner for the Doctor, by Anne McQueen, in the New Year's number of *To-day's Magazine.* The dinner is indeed "fitten for a queen," as one of the village characters remarks. *To-day's* is an advocate and practitioner of the deformed spelling.

* * *

A subscriber to *Good Housekeeping* writes in the January issue of that magazine that she had been using witch hazel for her eyes, but found her vision to be steadily growing weaker. She learned that the preparation she was using was compounded with wood alcohol. Physicians should tell their patients whom they find to be using eye washes that "weak eyes" are almost invariably due to hyperopia or astigmatism or both, in youth, and to presbyopia at the climacteric, and that the sole remedy is properly fitting glasses. No amount of washing will have any effect on the eye other than to clean it.

* * *

Among the letters in the January *Good Housekeeping* is a most instructive and important one telling a second wife how to talk to her husband about his first helpmate. It would be useful when other topics fail. The Problem of the Day Nursery, by Mary Bronson Hartt, shows the abuses to which that well meant institution is subjected by cunning foreigners anxious to earn extra money yet escape the drudgery of housekeeping and feeding their offspring.

* * *

The Department of Commerce and Labor has issued a Physicians' Pocket Reference to the International List of Causes of Death with the hope of bringing our vital statistics up to the standard of European countries. The nomenclature has been very carefully edited and it is good to see the proper scientific spellings. It seems to us to be the duty of all American medical journals to adopt these spellings and to correct when necessary the titles of communications submitted to them to conform to this admirable onomatology.

* * *

Curious errors of medical fact creep into the daily journals sometimes. In the report of a suicide by taking twenty-one grains of morphine that appeared a few days ago in the New York papers, several of them stated that attention was first drawn to the tragedy by the landlady of the boarding house in which it occurred having noticed the smell of the morphine coming from the victim's room.

* * *

A surgeon on the S. S. *Uranium* performed a laparotomy for appendicular inflammation in a recent emergency during the homecoming of that vessel. To suture the abdominal wound he borrowed the E string of the captain's violin. That was clever emergent thinking. It is not generally known that catgut is, as a rule, the gut of the sheep, that useful animal whose skin furnishes us with much of our Russia leather and morocco. On the other hand, the sheep is said not to supply all our mutton, much of that meat coming, according to certain authorities, from the kid. To a hasty etymologist capers would seem to suit the latter animal better as a dressing.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon-general of the United States Public Health and Marine Hospital Service for the week ending January 13, 1911:

Place.	Date.	Cases.	Deaths.
Arabia—Muskat	Nov. [illegible]		3
Austria-Hungary—Hanga[illegible]	Nov. [illegible]		1
Austria-Hungary—Mara[illegible]	Oct. [illegible]		
Bulgaria—Varna	Nov. 29	2	
China—Ningpo	Aug. 1-Nov. 22		Present.
Italy—Asti (province)	Dec. 11-17	1	1
Italy—Catanzaro (province)	[illegible]	1	1
Italy—Genoa	[illegible]	2	1
Italy—Leece (province)	Dec. 11-17	2	1
Italy—Palermo (insane asylum)	Dec. 11-17	2	
Italy—Rome (province)	Dec. 11-17	1	
Italy—Salerno (province)	Dec. 11-17		
India—Bombay	Nov. 2-Dec. 6	5	
India—Calcutta	Nov. 13-19	28	
India—Madras	Nov. 27-Dec. 3	1	
Java—Batavia	Nov. 20	2	
Java—Samarang	Oct. 31-Nov. 6	1	1
Java—Soerabaya	Oct. 31-Nov. 6	1	
Straits—Penang	Nov. 5-Dec. 1	1	
Turkey—Beirut	Nov. 20	1	
Turkey—Salonika	Nov. 26	1	
Turkey in Asia—Smyrna	Nov. 2-Dec. 16	60	4
Plague.			
Brazil—Manaos	Dec. 1-7		1
Ecuador—Guayaquil	Dec. [illegible]	12	
Venezuela—Maracaibo	Nov. [illegible]		
Cholera.			
China—Canton	[illegible]	1	
India—Bombay	Nov. 1-Dec. 6		
India—Calcutta	[illegible]		
India—Kurrachee	Nov. 6-Dec. 3	1	
India—Rangoon	Nov. [illegible]		
Manchuria—Chang Chun	Dec. [illegible]		Present.
Manchuria—Kuan	Dec. [illegible]		Present.
Manchuria—Mukden	[illegible]		Present.
Philippine Islands	Sept. 3-Nov. 3	12	
Siam—Chantaboun	Nov. [illegible]		Present.
Straits—Christmas Island	[illegible]		
Straits—Singapore	Dec. [illegible]		Present.
Russia—Astrakhan Government	[illegible]		
Kargan, Sl.	Dec. [illegible]		
Saratov, Baku	Dec. [illegible]		
Russia—Batum	Dec. [illegible]		
Venezuela—Caracas	Nov. [illegible]		
Smallpox.			
Alabama—Montgomery	[illegible]		
Colorado—Adams County	[illegible]		
Colorado—Arapahoe County	[illegible]		
Colorado—Arkansas County	[illegible]		
Colorado—Boulder County	Dec. 1-31	8	
Colorado—Custer County	Dec. [illegible]		

Place.	Date.	Cases.	Deaths.
olorado—Denver County	Dec. 1-31	50	
orado—El Paso County	Dec. 1-31	1	
olorado—Fremont County	Dec. 1-31	3	
olorado—Grand County	Dec. 1-31	2	
olorado—Huerfano County	Dec. 1-31	3	
erado—Jefferson County	Dec. 1-31	5	
[illegible]—La Plata County	Dec. 1-31	6	
[illegible]—Las Animas County	Dec. 1-31	2	
olorado—Montezuma County	Dec. 1-31	1	
olorado—Morgan County	Dec. 1-31	1	
olorado—Pueblo County	Dec. 1-31	1	
olorado—Saguache County	Dec. 1-31	1	
lorida—Alachua County	Dec. 18-24	1	
lorida—Dade County	Dec. 25-31	1	
lorida—Gadsden County	Dec. 18-24	1	
lorida—Hillsboro County	Dec. 25-31	20	
lorida—Jackson County	Dec. 25-31	4	
[illegible]—Leon County	Dec. 18-31	12	
[illegible]—Madison County	Dec. 1-31	1	
lorida—Osceola County	Dec. 18-24	1	
lorida—Polk County	Dec. 18-31	2	
lorida—Walton County	Dec. 25-31	1	
ouisiana—New Orleans	Dec. 25-31	1	
issouri—St. Louis	Dec. 25-31	4	
ew Jersey—Bergen County	Dec. 1-31	1	
klahoma—Adair County	Nov. 1-30	1	
klahoma—Beckham County	Nov. 1-30	1	
klahoma—Blaine County	Nov. 1-30	1	
klahoma—Bryan County	Nov. 1-30	1	
[illegible]—Caddo County	Nov. 1-30	1	
klahoma—Canadian County	Nov. 1-30	1	
klahoma—Grady County	Nov. 1-30	2	1
klahoma—Greer County	Nov. 1-30	1	
klahoma—Hughes County	Nov. 1-30	1	
[illegible]—McIntosh County	Nov. 1-30	2	
klahoma—Marshall County	Nov. 1-30	1	
klahoma—Tulsa County	Nov. 1-30	1	
klahoma—Washita County	Nov. 1-30	1	
ennessee—Shelby County	Nov. 1-30	1	
rginia—Portsmouth	Dec. 25-31	1	
[illegible]—Chippewa County	[illegible]	1	
isconsin—Dunn County	Dec. 1-31	4	
isconsin—Iowa County	Dec. 1-31	1	
isconsin—Jefferson County	Dec. 1-31	6	
isconsin—Lafayette County	Dec. 1-31	1	
isconsin—La Crosse County	Dec. 1-31	1	
isconsin—Milwaukee County	Dec. 1-31	1	
isconsin—Oneida County	Dec. 1-31	1	
isconsin—St. Croix County	Dec. 1-31	1	
isconsin—Vilas County	Dec. 1-31	1	
isconsin—Washington County	Dec. 1-31	1	
[illegible]	[illegible]	1	
[illegible]—Maine	[illegible]	6	
[illegible]	[illegible]	1	
rgentina—Buenos Aires	Oct. 1-31		6
rgentina—Rosario	Oct. 1-31		5
[illegible]—Province of Cordoba	[illegible]	1	
[illegible]	18-24	1	
[illegible] New Brunswick	[illegible]	3	
castle	Dec. [illegible]	3	
nada—Nova Scotia, Louisburg	Dec. 5-31	4	
[illegible]	Dec. 5-31	2	
ile—Talcahuano	Nov. 27-Dec. [illegible]	4	
ina—Chungking	Nov. [illegible]		Plague.
[illegible]	Nov. [illegible]		Plague.
[illegible]	Nov. 20-Dec. [illegible]		[illegible]
[illegible]	Nov. [illegible]	1	
lombo—Ceylon	Nov. 20-26	5	1
[illegible]	Nov. [illegible]	1	
[illegible]	Dec. [illegible]	1	
[illegible]	Dec. [illegible]	1	
[illegible]	Dec. [illegible]	5	2
dia—Rangoon	Nov. 20-26		3
[illegible]	Dec. [illegible]	1	
[illegible]	Dec. [illegible]	21	
[illegible]	Dec. [illegible]	1	
[illegible]	Nov. [illegible]	1	
exico—San Luis Potosi	Nov. 13-Dec. 3	14	6
[illegible]	Dec. [illegible]	2	1
[illegible]	Dec. [illegible]	1	
[illegible]	Nov. [illegible]	29	
[illegible]	Dec. [illegible]	1	1
[illegible]	Nov. [illegible]	1	

ublic Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the United States ublic Health and Marine Hospital Service for the seven [illegible] January 11, 1911:

ERKOWITZ, M. E., Pharmacist. Granted seventeen days' leave of absence from February 6, 1911.

OFFEE, J. H., Acting Assistant Surgeon. Granted seven days' leave of absence from January 15, 1911, under paragraph 210, Service Regulations.

FOREST, C. M., Acting Assistant Surgeon. Granted thirty days' leave of absence from January 24, 1911, and a further period, without pay, of two months from February 25, 1911.

FRICKS, L. D., Passed Assistant Surgeon. Granted fourteen days' leave of absence from December 27, 1910.

GOODMAN, F. S., Pharmacist. Granted twenty days' leave of absence from January 1, 1911.

HAMILTON, H. J., Acting Assistant Surgeon. Granted five days' leave of absence from January 9, 1911, under paragraph 210, Service Regulations.

HERRING, R. A., Assistant Surgeon. Directed to proceed to Stapleton, N. Y., and report to chairman of board of medical examiners to determine his fitness for promotion to the grade of Passed Assistant Surgeon.

IRWIN, FAIRFAX, Surgeon. Granted one month and ten days' leave of absence from February 18, 1911.

KOLO, L., Assistant Surgeon. Granted three days' leave of absence from January 1, 1911, under paragraph 191, Service Regulations.

MACCAFFRY, W. B., Acting Assistant Surgeon. Granted six days' leave of absence from December 25, 1910, under paragraph 210, Service Regulations.

MONCURE, J. A., Acting Assistant Surgeon. Granted fourteen days' extension of leave of absence from December 17, 1910, on account of sickness.

PARKER, T. F., Acting Assistant Surgeon. Granted five days' leave of absence from January 1, 1911.

RIEMER, H. B. C., Acting Assistant Surgeon. Granted six days' leave of absence from December 24, 1910, under paragraph 210, Service Regulations.

RUCKER, W. C., Passed Assistant Surgeon. Detailed to join the "Mine Rescuing Car," and proceed to the several mines in West Virginia for special temporary duty. Granted three days' leave of absence en route.

RYDER, L. W., Pharmacist. Granted one day's leave of absence in December, 1910.

SCHUSTER, B. L., Acting Assistant Surgeon. Granted four days' leave of absence from January 7, 1911, under paragraph 210, Service Regulations.

STERNS, C. O., Pharmacist. Granted five days' leave of absence in December, 1910.

WHITE, J. H., Surgeon. Granted one month's leave of absence, without pay, from January 5, 1911.

WHITE, R. C., Acting Assistant Surgeon. Granted twenty-two days' extension of leave of absence from December 10, 1910, on account of sickness.

Boards Convened:

Board of medical officers convened to meet at the Marine Hospital, Baltimore, Md., January 16, 1911, to conduct a physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon W. P. McIntosh, chairman; Passed Assistant Surgeon M. K. Gwyn, recorder.

Board of medical officers convened to meet at the Marine Hospital, Port Townsend, Wash., February 6, 1911, to conduct physical examinations of officers of the Revenue Cutter Service. Detail for the board: Surgeon P. M. Carrington, chairman; Passed Assistant Surgeon B. H. Earle, recorder.

Board of medical officers convened to meet at the Marine Hospital, Stapleton, N. Y., January 16, 1911, for the examination of Assistant Surgeon R. A. Herring, to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Surgeon Hiram W. Austin, chairman; Passed Assistant Surgeon W. A. Korn; Passed Assistant Surgeon George L. Collins, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers [illegible] Medical Corps of the United States Army for the month ending January 31, 1911:

ARTHUR, WILLIAM H., Lieutenant Colonel, Medical Corps. Granted three months' leave of absence about April 20, 1911.

BIRMINGHAM, HENRY P., Lieutenant Colonel. Appointed a member of a board of officers to meet at the Army Medical Museum Building, Washington, D. C., for the examination of such officers of the Medical Corps as may be ordered before it for examination for promotion.

CHURCH, JAMES R., Major, Medical Corps. Sick leave of absence extended twenty days.

Crum, Wayne H., Lieutenant, Medical Corps. Granted twenty days' leave of absence to terminate at such time as will enable him to report at Fort McKinley, Me., for duty with troops to Philippine Islands.

Fisk, Owen C., Lieutenant, Medical Corps. Leave of absence extended ten days.

Kean, Jefferson R., Major, Medical Corps. Appointed a member of a board of officers to meet at the Army Medical Museum Building, Washington, D. C., for the examination of such officers of the Medical Corps as may be ordered before it for examination for promotion.

Lyon, William C., Lieutenant, Medical Reserve Corps. Resignation accepted by the President, to take effect on January 14th.

Lyster, William J. L., Major, Medical Corps. Upon expiration of leave, assigned to temporary duty as attending surgeon in Philadelphia, Pa., until June 1, 1911.

Miller, Albert L., Lieutenant, Medical Reserve Corps. Relieved from Fort Meade, S. D., about February 1, 1911, and ordered home; on expiration of leave of absence for one month, to take effect about February 1, 1911, will stand relieved from active duty in the Medical Reserve Corps.

Thearle, William H., Lieutenant, Medical Corps. Ordered to Jefferson Barracks, Mo., for temporary duty.

Van Horn, James B., Lieutenant, Medical Reserve Corps. Relieved from further treatment at the Army General Hospital, San Francisco, Cal., and ordered to the Army General Hospital, Fort Bayard, N. M., for observation and treatment.

Winter, Francis A., Major, Medical Corps. Appointed a member of a board of officers to meet at the Army Medical Museum Building, Washington, D. C., for the examination of such officers of the Medical Corps as may be ordered before it for examination for promotion; ordered to New York City on business connected with the purchase of medical supplies.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending January 14, 1911:

Dunbar, A. W., Surgeon. Detached from the naval dispensary, Washington, D. C., and ordered to continue other duties.

Field, J. G., Medical Inspector. Ordered to the navy yard, Norfolk, Va.

Fitzsimmons, P., Medical Director. Detached from duty as a member of the naval retiring board, navy yard, Washington, D. C., and ordered to continue other duties.

Guest, M. S., Surgeon. Transferred to the retired list from January 6, 1911.

Pickrell, G., Medical Inspector. Ordered to command the Naval Hospital, Annapolis, Md.

Strite, C. E., Passed Assistant Surgeon. Ordered to the Naval Medical School Hospital, Washington, D. C., for observation.

Von Wedeking, L. L., Surgeon. Detached from command of the naval hospital, Annapolis, Md., and ordered to special duty in connection with the marine recruiting rendezvous, Chicago, Ill.

Births, Marriages, and Deaths.

Born.

Ashburn.—In the United States Army General Hospital, Presidio, San Francisco, California, on Thursday, December 29th, to Major P. M. Ashburn, Medical Corps, United States Army, and Mrs. Ashburn, a daughter.

Married.

[illegible] January 2d, Dr. Paul Morgan Butterfield and Mrs. Bertha Snow Haynes.

Drake—LeBaron.—In Portsmouth, Ohio, on Tuesday, December 27th, Dr. George H Drake and Miss Edith H. LeBaron.

Reynolds—Hurd.—In Watkins, New York, on Monday, December 26th, Major Charles R. Reynolds, Medical Corps, United States Army, and Miss Jane Boyd Hurd.

Died.

Ash.—In Lansing, Michigan, on Saturday, January 7th, Dr. Harris L. Ash, aged sixty-eight years.

Atkins.—In Pine Beach, Virginia, on Monday, January 9th, Dr. R. A. Atkins, aged seventy-five years.

Blanton.—In Pleasure Ridge Park, on Monday, December 26th Dr. John W. Blanton, aged fifty-eight years.

Bradley.—In New Rochelle, New York, on Friday, December 30th, Dr. C. Cole Bradley, aged forty-eight years.

Bradshaw.—In New York, on Monday, January 9th, Dr. L. L. Bradshaw, aged fifty-nine years.

Cannon.—In Elizabeth, New Jersey, on Monday, January 9th, Dr. Henry Rutgers Cannon, aged eighty-nine years.

Crandell.—In Denver, Colorado, on Thursday, January 5th, Dr. F. L. Crandell, aged fifty years.

Creveling.—In West Portal, New Jersey, on Sunday, January 1st, Dr. W. S. Creveling, aged eighty-one years.

Ely.—In Rochester, New York, on Sunday, January 15th, Dr. William S. Ely.

Fleming.—In St. Louis, Missouri, on Friday, January 6th, Dr. J. B. Fleming, aged thirty-four years.

Flint.—In Boston, on Wednesday, January 11th, Passed Assistant Surgeon John Flint, United States Navy, aged thirty-four years.

Gibson.—In Staunton, Virginia, on Friday, January 6th, Dr. E. Lacy Gibson, aged forty-two years.

Gould.—In Newark, New Jersey, on Monday, January 16th, Dr. John Woodward Gould, aged seventy-one years.

Greenlee.—In Mayflower, Arkansas, on Wednesday, January 4th, Dr. D. R. B. Greenlee, aged eighty-five years.

Grier.—In Washington, D. C., on Wednesday, January 11th, Surgeon General William Grier, United States Navy, retired, aged ninety-four years.

Haworth.—In Claypool, Indiana, on Monday, January 2d, Dr. E. E. Haworth, aged forty-four years.

Hemsteger.—In Chicago, on Thursday, January 5th, Dr. John A. Hemsteger, aged fifty-six years.

Hennell.—In Asheville, North Carolina, on Sunday, January 8th, Dr. M. H. Hennell, aged forty-two years.

Hunsicker.—In Philadelphia, on Sunday, January 8th, Dr. C. H. Hunsicker, aged thirty-four years.

Hunt.—In Newton, New Jersey, on Sunday, January 15th, Dr. Joseph H. Hunt, aged seventy years.

Hutchinson.—In Enosburg Falls, Vermont, on Thursday, January 5th, Dr. Frederick S. Hutchinson, aged forty-nine years.

Jenkins.—In New York, on Sunday, January 15th, Dr. Edward P. Jenkins, aged forty-nine years.

Kipp.—In Newark, New Jersey, on Friday, January 13th, Dr. Charles J. Kipp, aged seventy-two years.

Lesem.—In New York, on Tuesday, January 10th, Dr. William W. Lesem, aged thirty-two years.

McFadden.—In Massena, New York, on Thursday, January 5th, Dr. Orrel McFadden, aged seventy-four years.

Paulding.—In Flushing, New York, on Tuesday, January 10th, Dr. Edward Paulding, aged forty-eight years.

Prince.—In Springfield, Illinois, on Sunday, January 1st, Dr. John A. Prince, aged forty-seven years.

Querner.—In Cincinnati, Ohio, on Sunday, January 8th, Dr. Louis A. Querner, aged sixty-five years.

Racoosin.—In Centreville, New York, on Saturday, December 31st, Dr. William Racoosin.

Rowe.—In Baltimore, Maryland, on Saturday, December 31st, Dr. Monmonier Rowe.

Shedd.—In Newark, New Jersey, on Monday, January 9th, Dr. Percy W. Shedd.

Shelmerdine.—In Philadelphia, on Tuesday, January 10th, Dr. Edward K. Shelmerdine, aged thirty-nine years.

Tilton.—In Carlisle, Kentucky, on Friday, January 6th, Dr. Robert J. R. Tilton, aged seventy-nine years.

Vittum.—In St. Paul, Minnesota, on Wednesday, January 4th, Dr. Willis H. Vittum, aged sixty-one years.

Wileman.—In Seneca, Kansas, on Tuesday, January 3d, Dr. Thomas H. Wileman, aged eighty-two years.

Wills.—In Camden, New Jersey, on Monday, January 16th, Dr. Joseph H. Wills.

Yeakel.—In Bally, Pennsylvania, on Thursday, December 29th, Dr. Isaac Bertolet Yeakel, aged seventy-one years.

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Original Communications.

A SERIES OF STUDIES OF NERVOUS AFFECTIONS IN RELATION TO THE ADJUSTMENTS OF THE EYES.

BY GEORGE T. STEVENS, M. D., Ph. D.,
New York.

FOURTH STUDY.

CHRONIC SPASMS OF THE NECK AND FACE.

Abnormal contractions of the muscles controlling the position of the head or of those governing the expressions of the face, like such contractions in other parts of the body, may be caused by habitual excessive stimuli directed to motor ganglion cells, stimuli not necessarily arising from pathological causes, but from a too continuous and too strenuous exercise of normal functions of muscular contraction.

Taking an example from another part of the body, there may result from too long continued exercise in walking violent spasms of the legs. Such spasms, though sometimes very severe, are usually of short duration. More permanent conditions of spasm may follow less active stimuli to the motor ganglia in case the exciting cause is more continuous.

It is proposed in this study to consider two forms of chronic spasm, one affecting the muscles of the neck, the other those of the face, which in their established and typical forms cannot be said to be subject to the influence of ordinary forms of medical treatment, and to which both surgical and electrotherapeutical treatment have been most frequently directed in vain.

I have, from time to time, called attention to the important relation which exists between the habitual pose of the body, as well as the muscular expression of the face, and the peculiarities in the adjustment of the eyes within the orbits. That, by those who have devoted scant attention to the subject, the proposition that such relation exists, might be regarded as fanciful, and that, in the view of such persons, even conceding the existence of such a relation, it would be of no practical consequence, may be a natural state of mind, yet this mental status does not dispose of the facts which any one can see who is willing to take the trouble to observe the principles which are spread in most liberal profusion before our eyes.

As a matter of abundant observation it may be noted that the habitual pose of the body may be, and often is, an important factor in the induction of a variety of affections, varying from those causing slight inconvenience to others of grave character. Also it is easy to show that many phases of bodily pose are, beyond reasonable doubt, controlled by the eye adjustments.

A study of the general subject of the bodily pose as influenced by contraction of selected groups of muscles to many forms of physical disturbance is well worth the attention of any serious student of disease.

It is proposed, however, to confine our special attention to two forms of chronic spasm, departing in some measure from the stated plan of this series of studies and illustrating our study by an example of each of these forms since our study really includes two affections which are so nearly related that they may well be studied together.

Of these two forms of chronic spasm one is the distressing and refractory condition known as *torticollis*, the other the equally unpleasant and, usually equally obstinate affection, *tonic and chronic spasm of the facial muscles.*

Reynolds (*System of Medicine*) says that: "When once established . . . torticollis is one of the most obstinate of maladies," and that even the rare cases which, under favorable conditions, yield temporarily to treatment "almost invariably recur"; that "the affection has proved capable of resisting all efforts made for its relief." Regarding the other form of chronic spasm to which our attention is to be directed, *tonic spasm of the facial muscles,* Erb (*Encyclopædia of the Practice of Medicine*) says: "The treatment is one of the most thankless problems in medical practice. However slight and free from danger the disease may appear, it still often bids defiance to all conceivable remedial measures." These opinions are shared by all responsible authorities who have, in recent times, written upon these subjects.

In choosing illustrative cases for the study of these two forms of chronic spasm, I propose to select one of each, which is not simply a nominal example of the malady in question, but a case which, for its extreme severity, its long continuance, and its absolute resistance to treatment under the direction of able practitioners, must be acknowledged to belong to the most extreme type of the form which it represents.

In respect to the causes of these disorders it will be easier to discuss them after the description of the cases, their treatment, and the result of that treatment.

A brief survey of the physical aspects of torticollis may properly precede the details of the case to be considered.

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In the very early stages only a balancing of the head backward and forward, the raising and lowering of the chin, may be observed, but as the malady progresses there is a rotating of the head to one side in a pronounced manner and a tilting of it to the opposite side, and this pose of the head becomes habitual or persistent. Except momentarily, the head cannot be brought to a position of equilibrium, and in pronounced cases this result cannot be attained even for a moment. The muscles of the neck, especially the sternocleidomastoid of the side opposite that to which the face is turned, are hard and contracted, sometimes standing out prominently from the general surface of the neck. The shoulder of the side toward which the face is turned is raised, the other lowered. The neck is so curved as, in severe cases, to carry the head far to the side opposite to that toward which the face is turned and the chin is often depressed, though in some cases it is much elevated.

The spasm of the affected muscles, which persists for months and for years when the patient survives so long, is in most cases, of both the tonic and clonic form, the former manifesting itself in the constant, steady rotating of the head, the latter in the successions of balancings of the head backward and forward, the rhythmical noddings usually occurring with much regularity, though to a certain extent these noddings are under the control of the will for a brief space of time. The noddings may occur from once or twice in a second to so rapid a succession as to appear more like a tremor than the usual balancing. In respect to the tonic form of the spasm the contraction may be so persistent that no effort of the will is sufficient to overcome it even for a single second, and in some cases any attempt to control the spasm serves only to increase the force of the tonic and the frequency of the clonic contractions. That in severe cases, continued for years, there should occur trophic disturbance of the muscles, rendering them incapable of extension even were the nervous stimulus completely removed is not surprising. Such inextensible shortening of the muscles is known as contracture. Occasionally the spasm of the muscles of the neck is accompanied by facial contractions complicating the case in a distressing manner.

A Case of Torticollis.

Case I. Mrs. D., aged forty-three, consulted me February 21, 1904. She was suffering from an extreme condition of torticollis.

As a girl and as a young woman she had been habitually subject to a great deal of pain in the back of the head and neck, and she was always inclined to carry the head toward one side. This was regarded only as a personal peculiarity. Seven years ago the permanent spasm of torticollis commenced and steadily increased in severity for a number of years. For about two years past the condition had remained more stationary than at any time before although actually becoming each year somewhat worse. She had been under various forms of medical and mechanical treatment directed by physicians of good repute; had made, under their advice, long trials of massage and electricity and recently, having failed under such treatment she had been under the care of an osteopath. However, all forms of treatment had been equally without avail even to afford temporary relief. Along over the course of the spinal column were large cicatricial areas, reminders of the repeated use of the actual cautery.

The face was turned to the left but the head as a whole was drawn forcibly far toward the right shoulder. The left shoulder was forcibly elevated, the right correspondingl depressed. By a strong effort she could bring the fac nearly to the plane of the body but it was impossible t bring it to an erect position. The chin was somewhat de pressed, the upper part of the face being thrown forwar

There was, in addition to the tonic contraction, a seri of clonic spasms causing the head to nod backward an forward, but this movement was less conspicuous than it shown in some cases of less severity.

There was, as might be expected, constant severe pain the shoulders, especially in the left, in the muscles of th right side of the neck and at the back of the head. The was little relaxation during the night, consequently nigl brought little rest.

There was no indication of any disease of the nervou centres or indeed of any important organ aside from th muscular contractions, though the patient was thin, wor and in a state of constant suffering.

Examination of the eyes showed astigmatism correcte be a positive cylinder of one and one half diopters wit less than 6/6 vision. There was no manifest heterophori The rotation up was 31°, down 45°, for each eye. It w believed at the time that the upward rotation would be i creased were the tensions induced by the declinations d creased. The record of declination varied from day to d during several days from, Right — 3°, Left + 8°, t Right — 4°, Left + 12°. It is probable that the positi declination of the left eye was in fact of as high degr or even higher than the highest record indicated and th the negative declination of the right eye was perhaps le than indicated, being influenced synergitically by the ex treme positive leaning of the left eye. The hope of bein able to correct the whole of so great a degree of declinatio by any process known to me is not of an assuring chara ter, yet a relief from a considerable degree of the fau might well lead to the expectation of marked improveme in the condition of the patient subject to a defect of great importance.

Operations for declination were done on the left eye an finding that the negative declination of the right eye w reduced only to 3° after a considerable correction of th left, operations were also done for the negative declinati on the right eye.

My record, September 22nd, reads that "a great chan had occurred since the last operations. The spasm of th neck, while not entirely relieved, was so much reduced th the difference was most noticeable. The head was near erect and she felt that a great relaxation had taken pla There was, compared to the former state, a very restful e pression of the face." The patient was delighted with h improvement and her appearance showed that there w abundant reason for her gratification.

Notwithstanding that several operations had been do for declination there remained manifest, Right — 3°, Le + 5°. With so high a degree of declination as was at fir shown the result was, perhaps, all that could have be hoped for up to that time, but somewhat later, other a tempts to extend the correction were made.

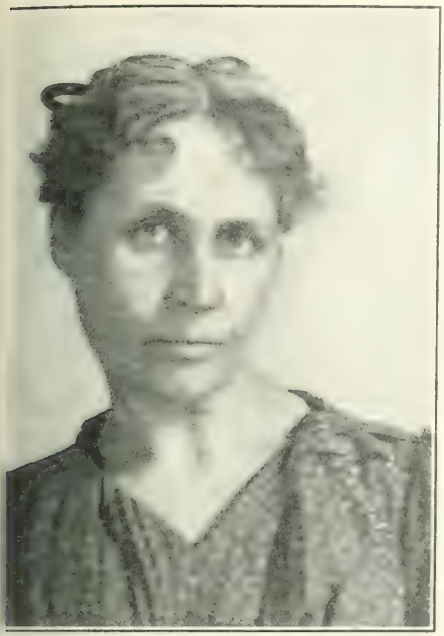
Before any further surgery was done, however, on Oct ber 18th, the record tells that "on Sunday last she walk eight miles and yesterday again she walked nearly as fa on both occasions without fatigue. She had not been ab to walk any considerable distance before for many years

Again, February 28, 1905, the record reads that "the po of the head was greatly improved and she could turn th head on the neck so that the face looked far to the rigl and she could reach her left hand to the back of her nec things which she had not been able to do for years past

Two operations were done after the middle of Octobe 1904, and up to October 23, 1905. On that day the recor states that "she had been very well all summer. The hea was much more erect though there was still a slight turn ing. She declared that she had not been nearly so well any time during the past seven or eight years."

Several notes of similar purport occur from time to tim as she came in at intervals of several months, the last o these being October 2, 1908, which was: "Had the be summer that she had seen in twenty years."

Notwithstanding this great improvement there is a ver moderate contracture, partly perhaps (probably) from tro phic changes which had occurred in the muscles themselv and partly due to a remaining declination for there wa manifest, January 7, 1909, declination, Right 0°, Left + 3



Case I. Showing the pose of the head and shoulders when the strongest effort to bring the face to the front and to hold the head in an erect position was made.

Leaving the discussion of the relation of the asm of the muscles of the neck to the adjustment the eyes for the moment we will pass to the ex- iple of:

A Case of Chronic Spasm of the Facial Muscles.

Case II. Doctor T. consulted me in September, 1904. : had been for three years and more a victim of extreme ism of the facial muscles associated with a moderate rticollis. The condition of the face had been of such a ture as to force him into absolute retirement from a very ive professional practice, to shut him out from society, d to seriously affect his general health. The account en below is condensed from that which he himself pre- red for my use and, in general, is in his own language.

The patient was of excellent heredity except that his ther and other members of her family were subjects of graine. This he had inherited and from early life was bject to frequent and severe attacks of this affection. [illegible] he had been a man of robust strength, strongly ilt, and of much physical force. He had established a ge and important professional practice and was able to end to his patients at all seasons of the year without convenience.

Notwithstanding his robust health he had always had some ficulty with his eyes, could never use them long at a ting without inducing pain and a severe burning. On that count, before his graduation, he was forced to abandon [illegible] lies for a year. Except the asthenopia, from which, [illegible]n of his active outdoor life as a general practition- he suffered less than he might have done otherwise, he s in remarkably vigorous health.

Rather more than three years ago, after a season of very rd work, in November the eyelids began to give unusual [illegible] a tendency to close in spite of his efforts to en them. The trouble became serious and an oculist was nsulted who, in view of the fact that the difficulty had come serious at the season when the doctor was making s calls mostly in a sleigh, made the diagnosis of snow blindness and prescribed dark glasses. However, the spasm continued and increased notwithstanding these and divers other glasses. Four months after the initial spasms, in order to see objects above the ground, he was forced to elevate the chin and hold the eyelids open with the fingers. In the early stage of the trouble he had better control of the eyes in the morning, but as the weeks passed the spasm became constant and often so severe that even by the help of the fingers he could not separate the lids.

It was thought that the trouble was a reflex from some nasal irritation and the middle turbinate bones were removed by cautery, without relief. Active practice had already been abandoned and the condition of the patient was deplorable. Distinguished counsel advised treatment for the general nervous state, consisting largely of hypodermics of strychnine and other tonics. Again other tissue was removed from the nasal passages and again without relief. By August the spasm had extended from the parts immediately surrounding the orbits to all the facial muscles. Any attempt to open the eyes induced a general spasm of these muscles and at length they came to be in a constant state of spasm. In order to see momentarily without greatly intensifying the spasm of the face he employed a large empty spectacle frame which helped to open the lids without a muscular effort. Later came trouble in swallowing. This became so serious that the food which he attempted to swallow was often thrown back into the posterior nares by the spasm of the throat muscles. At times it was impossible either to chew or to swallow food, and he was accustomed during several months to lie upon the back while food, mostly liquid, was administered to him by others. Walking became almost impossible because of the efforts to see, which intensified the facial and throat spasms. His appetite failed, his weight decreased, and mental depression followed the other conditions.

Examination at his first visit to me showed not only intense spasm of the orbicularis of both eyes but spasm also of the left sternocleidomastoid muscle as well as the muscles of the pharnyx and posterior nares, *the latter spasm preventing breathing when the eyes were forced open.*

There was astigmatism requiring cylinder + 1.50, axis 90°, with which vision was 6/6 +. Rotation of each eye, up 25°, down 45°. Esophoria 1½°, hyperphoria 0°. Declination, Right + 2½°, Left + 5°. Ophthalmoscope showed no lesion.

Without going into daily details of treatment I may con-



Case II. [illegible]

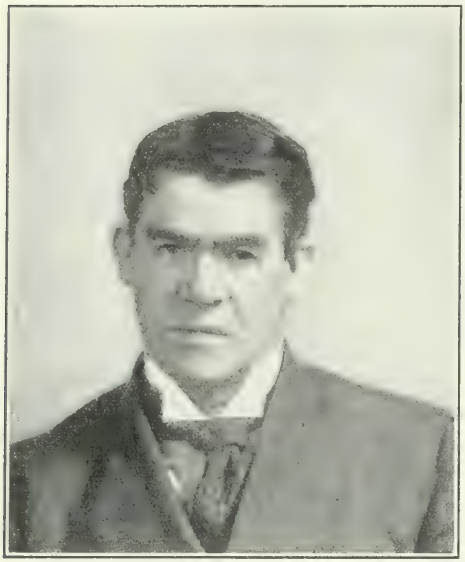


Fig. 3. Case II. Taken soon after the first series of operations.

dense the report into a few words. Operations for declination were done, one on the right and three on the left eye at intervals from September 9, 1904, to January 9, 1905. Immediately after the first operation there was a very marked relaxation of the spasm and with each succeeding operation there was further improvement. November 16th, rather more than two months after the first operation, the record shows that the face at times showed almost no muscular spasm and the head was very nearly erect, at other times there was some spasmodic action both of face and neck. He declared that he was in better condition than he had been for several years.

I have introduced copies of three photographs, Figs. 2, 3, and 4, which indicate the original state and the progress of relief. The progressive change in the position of the shoulders is especially worthy of notice. It will be seen that the spasms relaxed in proportion as the eye defects were corrected.

The doctor returned to his practice on the 1st of April following. His wife informed me, August 31st, that he was well and hard at work. April, 1907, he called upon me and assured me that he had not lost a day from work during the past two years and, in spite of very hard work, was perfectly well. There was no sign of torticollis and no suggestion of muscular spasm about the face. (See Fig. 4.) Examination of the eyes showed: Esophoria 1°; hyperphoria 0°; declination, R. 0°, L. + 1½°; rotation, up 35°, down 45°.

In a letter dated September 8, 1910, he tells me that he "was never better in his life and never worked harder."

I have combined the study of these two forms of spasm in order that the cause of both might be discussed together.

Nothing in medical experience could be more clear than that the notable relief in each case not only followed, but was the direct result of the more or less complete correction of the maladjustments of the eyes. It is reasonable then to attribute to the bad adjustments in both cases the extreme conditions of spasm. The question, how could such faulty conditions about the eyes induce spasms of the affected groups of muscles? does not at first glance appear to answer itself. Was it a reflex condition? Then why were these special groups of muscles affected while the general musculature of the body was unaffected? If not of a direct reflex nature, to what other cause, in which the eyes can play so important a rôle, can we attribute the spasms?

Without denying the influence of reflex disturbance to a certain extent I believe that such spasmodic conditions as these are, in a more direct sense, the result of habitual excessive tension of the affected groups of muscles, this excessive tension arising from certain habitual bodily poses or from certain facial expressions, all in the interest of compensation for, or correction of, the unfavorable adjustment of the eyes.

Let us consider first the case of extreme torticollis. The position of the head in all the cases of this class is only an exaggeration, though a fixed and unyielding exaggeration, of the position in which the head of the same person was habitually carried before the spasm occurred. We have only to observe the carriage of the heads of people who are in ordinary health to see that in a very large proportion of cases the head is habitually carried to one side. It is true that by strenuous effort a young and vigorous person may resist this tendency, but the task at length becomes difficult. The flexibility of youth may even conceal for a time the natural leanings of the eye meridians, but these at length become manifest. If we examine the eyes of persons with this carriage we shall find that the vertical meridians of the eyes lean, either one much more to one side than the other does to the opposite side, or that the meridians of both eyes lean in the



Fig. 4.—Case II. Indicating the muscular state of the face and neck after the final operations.

me direction. This last is the most frequent contion.

The head leans in the direction of the greatest aning of the meridians. Why this should be the se is a complicated question in optics to which ace does not permit a solution here, but the fact n be verified by any one who will make careful servations of the pose of the head and the direcn of the meridians, by the clinoscope.

We may then repeat that the position of the head torticollis is a fixed exaggeration of the habitual rriage of the person subject to the affection bere the spasm occurred. Granting this it is not fficult to see that as a result of habitual and perps fatiguing contractions of certain groups of uscles; especially under certain conditions, the bitual carriage of the head might well induce the asm of the group of muscles habitually overorked.

The fact also is that in all of these cases which ave examined, since the introduction of the clinope as an aid to the examination of the eyes, there extreme leaning of the meridians of the eyes. nother fact of equal importance is that in the prortion that the declination can be relieved can we pect that the spasm of torticollis will be relieved we make due allowance for the tissue changes hich sometimes occur after severe and long contued spasm.

The change in the pose of the head in the ordiry cases of its habitual tilting without spasm is constant a sequence to relief from declination t it may be said to follow invariably as a rule. e relief to the spasm in torticollis cases is therefore such as is gained by removal of the first cause the muscular contraction and also, perhaps, from improved physical condition which habitually ends a correction of declination.

Turning to the case of facial spasm we find here o a spasmodic condition of the group of facial uscles which is habitually overexerted. In most the cases in which an excessive declination exs, especially if there is a declination of each eye the temporal side, but in one eye much exceedr the other, we have, as a rule, excessive tension the facial muscles in the effort to aid the muscles thin the orbit in maintaining as nearly an erect sition as possible for the vertical meridians. An empt in this place to indicate the office of each uscle or group of muscles in the performance of s task would prolong this discussion unreasonly. Especially we may defer a discussion of the se of the spasms of the throat muscles until the ject of the pose of the parts of the body is taken . It is only here necessary to repeat that the sm is a sequence to habitual overexertion of the ected muscles before the spasm occurred, and a ief from the necessity of such excessive tension ds to the relief of the spasm.

long as the original cause remains it is not prising that the affection is absolutely intractable. To the general question of the relations of facial pression and bodily pose in relation to visual conions it may be profitable to devote a study exsively.

22 East Forty-sixth Street.

A CASE OF CARCINOMA OF THE ILEUM WITH UNUSUAL SYMPTOMS.

By Anthony Bassler, M. D.,
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According to reliable statistics, cancer of the large and small intestine occurs in about fourteen per cent. of all carcinoma cases. In these about eighty per cent. are primary in the rectum, fifteen per cent. in the large intestine, and five per cent. in the small. Of the latter, those of the ileum occur about twice as often as in the duodenum, while carcinoma of the jejunum is most rare.

The report of a recent case under our observation is of interest for the following reasons: 1. Whether an attack of typhoid fever (the ulceration in which is mostly in the ileum) may have had to do with the development of carcinoma at some local site of cicatrix formation of the healed typhoid ulcer; 2, the fact that there had been no vomiting in the course of the cancer growth, same being of possibly eighteen months' duration, this being particularly of interest when the degree of peristalsis present in the case so strongly suggested a marked stenosis in the small intestine, and the fact that the first vomiting spell was fæcal in type; 3, the marked degree of visible peristalsis which could be traced from the ileum up and which required the additional force of the stomach to drive the contents in the small intestine through the strictured ileum; the good condition of the general body, considering that the cancer was far advanced; and, 4, the operation of lateral anastomosis of the middle ileum (which is very movable) with the ascending colon (which is fixed) in such a way as to have an anchored receiving part of the union to which a very movable viscus (ileum) could accommodate itself as may be called for in its function, rather than to have joined the ileum to the sigmoid and have had two long mesenteries to the both parts of the union, which would have increased the danger of twists or kinks at the site of union and would have brought about an abnormal lay of the parts.

Case. H. G.; fifty-four years old; salesman; single. Patient first came under observation October 2, 1910. His father died of typhoid at forty-five; mother, as a result of a fracture of the neck of the femur which kept her in bed for three years, died at seventy-nine; had two brothers, one was an inmate of a home for incurables suffering from locomotor ataxia, the other was well; had one sister who died at forty-seven from cancer of the breast.

Patient was temperate in his habits, drank very little alcohol, smoked moderately, habits otherwise negative. During childhood patient had had pertussis, measles, and minor illnesses. At seventeen years of age he had typhoid fever and was very ill for six weeks. Ten years later had a two weeks illness which was diagnosticated as typhoid at the time. Nine years afterward had pneumonia, was in bed for three weeks when there were aspirated from his right chest sixteen ounces of purulent fluid, and one week later seventy-two ounces of purulent fluid and a portion of one rib were removed. Patient left the hospital three weeks after the operation and had a drainage tube in the wound for thirteen weeks, when the opening closed. In 1899 he had a cough of a chronic type, lost in weight, and went to the Adirondack Mountains for nine weeks, an annual cus-

tom he persisted in up to the present time. About two years ago had pains in the stomach and intestines of an indefinite type. Treatment at the time was for indigestion and diabetes. Two months following the onset of the pains, he passed a large portion of a tape worm while at stool one day. (Further sections were passed for six months, when, on taking medicine therefor, no further sections were noticed.) Since then (one and one half years ago), patient had more or less disturbance in the abdomen all of the time. This consisted of pains, rather irregular in type and location, and not referable to meals or quantity or quality of foods he ate although most of the times they were gastric in location. These pains had been getting more severe as time went on, and were somewhat of a colicky nature in the last months. Had much gases in the stomach and bowels. Went to stool daily, and the simplest purgative gave him diarrhœa. Began to lose weight one and one half years ago, lost slowly for the first year, and much faster in the last six months, until now was reduced from 172 to 129 pounds. Was on a diet of only a few foods since meats and the heavy vegetables distressed him in the way of increasing his abdominal pains.

Examination. Patient was pale in countenance and appearance of mucous membranes; somewhat emaciated and dullness in right lung at base and voice sounds muffled in



Fig. 1. Visible peristaltic movements of the stomach occurring at the end of peristalsis of the small intestine. The onset of the movements began in the right iliac fossa in a small elevation. This traveled upward on the right side of the abdomen for a short distance, coursed transversely and slightly upward in the ileum, then disappeared in the jejunum, deep and higher on the left side, the whole movement finally terminating in a peristalsis involving the entire stomach. Tracing the stomach movement, the slant from the left costal margin is seen with a peristaltic wave in the upper part of the body of the stomach just below it. Below this is a concave sulcus terminating in the peristaltic wave below, which wave can be traced around the umbilicus in the corresponding pyloric region. At the very height of gastric movement a loud gurgling was audible from the fluid coursing through the stricture in the ileum, and a severe pain was present. Arrow points to the right costal margin.

the same area (the empyema scar was just below it). Hæmic blows at the base of the heart were transmitted into the vessels of the neck. Abdomen distended and very tympanitic; loud stomach splash; percussion of the liver and spleen showed these to be normal in size; no mass or visible peristalsis noted. Patient said that he had no pain that morning, and that there was no tenderness on pressure in the different areas of the abdomen. Blood pressure, 124 millimetres of Hg.

Test meal (the following morning): Mixed meal at 6 a. m. and Ewald at 12 m.; extraction one hour after the ingestion of the latter. Amount, 130 c.c.; looked well digested; no evidence of remnants from the first meal on macroscopical examination but some meat fibres when examined by the microscope; free hydrochloric acid, 34 degrees, combined 16 degrees, total 50 degrees; total acidity 54 degrees; starch digestion, normal; enzymes, normal; mucus markedly increased; no blood, bile, or pus noted; fermentation gas result and the amounts of bacteria, low. Stool (the same morning): Hard masses of scybala; surface reaction, slightly acid; fermentation and putrefaction tests most positive; Gram positive bacteria increased; occult blood present in marked reactions. Urine, normal, excepting that the indican was increased, the sulphate partition being 3 conjugate to 10 preformed; a few casts were noted in the examination of the sediment.

Patient was requested to report again the next morning for x ray examination, but did not return. On inquiry Dr. Bassler learned that he had left the city and had gone on the road to sell some goods for his firm. On November 8th he came in for the x ray examination, and reported that he had been as far West as San Francisco selling goods but that the pains had become so severe that he had to give up his intended trip and come back. When he was placed on the table stripped to have the x ray taken, I noticed for the first time the visible peristalsis noted in the following picture, and which movements he said came on in intervals of about one or two hours, but which he had paid but little attention to.

After having been given twenty-five grammes of bismuth subcarbonate in buttermilk a plate of the stomach was made, which showed a slightly prolapsed and markedly dilated organ and a bismuth shadow at the pylorus strongly suggesting stenosis due to carcinoma. An x ray plate of the colon, taken after the instillation of seventy-five grammes of bismuth given per rectum, showed the colon half way up between the iliocæcal region and the hepatic flexure to be normal. But instead of the bismuth, which had been given the day before to map out the stomach, having reached the colon it was still in the coils of the small intestine—giving a diffuse area of lightness to the plate mostly on the left side of the median line of the abdomen—thereby strongly suggesting that the bismuth was meeting with some obstruction near the ileocæcal region preventing its entrance into the colon and demanding its retention in the small intestine. Another specimen of stool sent the same night showed the presence of occult blood as before. Patient was remanded for operation. A specimen of blood examined the same morning the x ray plates were made showed hæmoglobin, seventy-four per cent.; color index, 0.85; erythrocytes, 3,900,000; leucocytes, 7,200; morphology of the reds and the differential count of the whites normal.

(*Dr. Grant.*) The operation which was to have been performed at 3 p. m. the next day, was on account of fæcal vomiting performed at 11.30 in the evening. Although the operation was done at this time as an emergency, yet the patient had the benefit of two days preparatory treatment, such as sterilized food, sterilized eating utensils, having the teeth brushed and mouth cleansed every two hours with an antiseptic solution.

The field of operation was thoroughly cleansed, and an antiseptic dressing was applied some hours before operation. Under ether anæsthesia the abdomen was opened in the middle line below the umbilicus. Distended coils of small intestine at once presented themselves. The stomach was palpated and found to be greatly distended. The cæcum was collapsed. As Dr. Bassler's diagnosis was a tumor of the ileum, the ileum was next examined, and within two feet of the cæcum we came upon a mass in the intestine. This mass was about two inches in length, very hard, and not more than one inch in diameter. At this point the mesentery was short, and the growth pulled backward to within about one and one half inches of the vertebral column.

Immediately behind the growth was a mass of glands, hard and firmly matted together. This mass extended to, and seemed to be attached to the vertebral column. It was quite immovable. One of these glands was removed for microscopical examination. The mesentery was studded throughout with hard glands about the size of pigeon eggs. A chain of lumbar glands ran up the vertebral column to the pancreas. These were also hard and adherent.

It was at once obvious that the disease could not be completely eradicated. The patient's general condition was good, and he had only vomited once. Instead of simply relieving his condition by performing an enterostomy, we decided that we might safely do a lateral anastomosis. Accordingly, the ileum, about two feet above the growth, was united to the ascending colon. In the performance of the anastomosis, clamps were used, and a double row of con-

tous sutures of Pagenstecher linen were inserted. On moving the clamps the ileum almost at once poured some its contents into the colon. The abdomen was then ed.

The entire operation occupied about fifty-five minutes The patient was returned to bed, placed in the Fowler posi- n, and Murphy proctoclysis commenced.



2. Photomicrograph of gland situated at the root of the centery, showing hyperplasia of gland substance with carcinoma tration at the hylum. Cortex showed proliferation of lymph s, and there was a general proliferation of lymphoid tissue ughout the gland. *a*, masses of carcinoma cells; *b*, hyperplasia of

Subsequent course: At 3 a. m. patient's bowels moved ely, which also occurred several times during the next . Thirty-six hours after the operation he informed us t his only inconvenience was hunger, and that he was getting nearly enough nourishment. From this time he was allowed a fairly liberal supply of liquid nourment, and on the fourth day was put on a full soft diet. s highest temperature after operation was 99.8° F., and hest pulse rate 90.

The first dressing was done on the eighth day after opation, primary union throughout. Patient left the hosal the fifteenth day after operation. At this time he s quite strong, had been walking about his room and ough the corridors of the hospital for several days. His trition had greatly improved since operation, and he was periencing a general feeling of well being and freedom om the pains he had had before.

120 East Sixtieth Street.

ETARY STUDIES IN INSTITUTIONS FOR TUBERCULOUS PATIENTS IN THE STATE OF COLORADO.

*The National Swedish Sanatorium, Englewood, Colo.**
By C. D. Spivak, M.D.,
Denver, Colo.

Introduction.

Fresh air and wholesome food are the anchor cets in the treatment of tuberculosis. From a storical standpoint the use of fresh air as a thera-

*Read before the annual meeting of the Colorado State Medi- ... the Board of Colorado Springs, September 11 to 13, 1910.

peutic measure is but of recent origin, and yet so much has already been accomplished with it. The use of a proper diet, on the other hand—although mentioned by every writer from Hippocrates to our own day—has not yet begun. The reason for such a paradoxic state of affairs lies in the difference naturally existing between the two physiological factors, air and food, whereas the former can be prescribed according to the simple formula, use ad libitum, the latter must be ordered in accordance with greatly varying and complicated formulæ—age, sex, weight, occupation, habits, nationality, stage of disease, etc., each necessitating a modification in the quality and quantity of the individual dietary.

We must admit that the state of knowledge of clinical dietetics in general and in tuberculosis in particular is deplorable. In my opinion this condition of affairs is due to the fact that the subject of dietetics is studied from a wrong point of view, namely, that the food bears the same relation to the healthy as to the sick, that in both cases food merely supplies a physiological want. As long as this view prevails the progress of clinical dietetics will be slow. The right view of the matter is that just as disease is defined as being an increase, diminution, abolition, or perversion of a normal physiological function, so all physiological factors as light, air, food, etc., can be made to affect the organism in such a way as to increase, diminish, abolish, or pervert certain physiological functions. The therapeutic use of air is an example near at hand. To the healthy individual air is a physiological factor of vital importance. To the consumptive, however, the rarefied air of great altitudes, in addition to its physiological action, also becomes a therapeutic agent. The same holds good as regards food. In the healthy food is a physiological factor of vital importance; in disease it should be used qualitatively and quantitatively in such a way as to add to its physiological value also a therapeutic influence. This much to explain our imperfect knowledge of dietetics in general, in spite of the fact that so many dietary studies have been made.

The reason why we know even less about the proper diet for the tuberculous is to be found in the story of the snakes in Ireland—we have scarcely made any study at all of the subject. From available literature I can gather but few references to painstaking dietary studies made in institutions for tuberculous patients in this country, and I know of none made in Colorado. As far as I know, Dr. Herbert Maxon King[1] is the only man in the United States who published details of dietary studies made at the Loomis Sanatorium. Professor Irving Fisher, in his illuminating article on Diet in Tuberculosis,[2] presented tabulated data of the amounts of food consumed by tuberculous patients, which he obtained from ninety-five of the leading sanatoria of the world. Only nine out of the sixty-three sanatoria in the United States were able to furnish data concerning the quantity of food consumed by each patient, and I have a strong suspicion that even some of these institutions did more guessing and approxi-

[1] An Experimental Study of the Nutrition of the Tuberculous ... Part 2, p. 749.
[2] ... p. 664.

mating than actual weighing and measuring. Dr. C. F. Longworthy, expert in nutrition, office of experiment stations, United States Department of Agriculture, under whose directions numerous dietary studies have been made in homes, asylums, hospitals, almshouses, etc., in reply to a question of information, writes that not a single study has been made by the government in institutions for tuberculous patients.

I have, therefore, imposed upon myself the humble task of gathering materials which will, I hope, serve as a foundation for the study of dietetics of the tuberculous, and I beg to submit the first dietary study made in Colorado, that at the National Swedish Sanatorium.[3]

The material comprises a brief description of the sanatorium, the physical characteristics of the patients, tables of the kind and amount of food consumed, the amount of nutrients and fuel value of each article of food, and the menus of each day during the study period.

Description of the sanatorium. The National Swedish Sanatorium is situated on a knoll about half a mile from the car line in the southern suburb of Denver. The view is a magnificent one, unobstructed toward all the points of the compass. The patients are housed in canvas tents with shingled roofs, and but half a dozen beds are kept for the very advanced cases in a commodious screened porch, on the second floor of the administration building. The administration building consists of an office, dining room, kitchen, and living rooms for the employees. The water is obtained from an artesian well on the premises. The capacity is forty beds.

General characteristics of the patients. With exception of one patient, a native American lady, a graduate nurse, all the inmates were natives of Sweden, almost all of them speaking the English language quite well. During our study period there have been at the sanatorium eighteen males and thirteen females. The average age of the males was thirty-three, the youngest being nineteen and the oldest fifty-two years. The average age of the females was twenty-nine, the youngest being seventeen and the oldest fifty-six. The average weight of the males was one hundred twenty-nine pounds, and the females one hundred twenty-three pounds. The average height of the males was five feet eight inches, the tallest being five feet eleven and one half inches and the shortest five feet three inches. The average height of the females was five feet three inches, the tallest being five feet six and three quarter inches, the shortest four feet eleven inches. The average transverse diameter of the thorax, the tips of the calipers touching the axillary line on a level with the nipples, was in the male ten and one half inches and in the female nine and one half inches. The average of the antroposterior diameter of the chest, the tips of the calipers touching respectively the sternum and the spine of the vertebræ on a level of the nipples, was in the male seven and one fourth inches and in the females seven inches. The state of the teeth was found, in the males: Perfect, one; good, two; bad, five. The temperature was above 99.0° F. in seven patients. Clubbed nails have been found in seventeen patients out of twenty-five examined, the percentage of clubbed nails in the males being greater than in the females. The appetite was good in seventeen, fair in three, poor in five. The state of the bowels was: Constipation, six; diarrhœa, two; regular, seventeen. The color of the eyes in the males was: Blue, fifteen; brown, one; in the females, blue, seven; brown, two. The color of the hair in the males was: Light, eleven; brown, four; black, one; in the females, light, five; brown, four. As to the stage of the disease they were classified as follows: First stage, six; second stage, sixteen; third stage, ten; the advanced cases representing eighty-four per cent.

The patients did not receive, at that time, any specific treatment, the main reliance being placed upon fresh air, good food, and rest.

The employees. The employees consist of a manager, matron, nurse, cook, second cook, waitress, and laundry girl; all females except the manager. They eat in the same dining room, only at a separate table, and at a different hour of the day, the same food cooked in the same kitchen as that used for the patients.

Method of making the dietary study. The following method of procedure has been found to answer the purpose of a dietary study: In the afternoon of the day preceding the day of the study period all the patients are weighed and measured; the temperature and pulse is taken and a note made of the state of the appetite, bowels, and teeth, the shape of the nails and the color of the eyes and hair. The data as to the age and state of the disease is copied from the records of the sanatorium.

After supper of the same day every article of food found on the premises—store room, kitchen, cellar, and ice box—is carefully weighed and recorded. This we call the initial inventory.

All supplies purchased during the week are recorded as soon as they are received.

The following data are recorded for each meal: a. The number of patients who take their meals in the dining room; b, the number of patients who take their meals in bed; c, the number of employees; d, the number of guests; e, menu of each meal of the day; f, the state of the weather; and, g, the amount of waste removed from the dining room and the tents after each meal.

The study is continued for seven days. In the afternoon of the seventh day all the patients are weighed for the second time. In the evening of the seventh day the food materials found on hand in the store room, kitchen, cellar, and ice box are carefully weighed. This last step we call the final inventory. The calculation of the amount of food consumed during the study week is made by deducting the quantity of food found at the final inventory from the sum of the quantities of food found at the initial inventory plus the quantity purchased during the week. The composition of the food materials and fuel value of each article was then calculated from the various tables given in the government publications.[4]

Details of the dietary study. The study covered

[3] I wish to express my sincere gratitude to Dr. Charles A. Bundsen, medical director for granting me the privilege of carrying on the dietary studies, and to Miss Hildur Almquist, the matron; to Miss Emma M. Bergeson, the nurse, and Mr. Gustaf Nywall, the manager, for their hearty cooperation and valuable assistance during the entire study period.

[4] W. O. Atwater. Principles of Nutrition and Nutritive Value of Food, *Farmer's Bulletin* No. 142, United States Department of Agriculture, and other publications.

period of seven days, beginning Monday, May 2. d ending Sunday, May 8, 1910. The highest mber of patients at a meal was thirty-three and e lowest thirty-one. The average number of pants who took their meals in bed was three each y during the week. As all the food is prepared in e kitchen, and as I was not in a position to make study upon cooked foods, it was impossible to were derived from animal food and 140.30 from vegetable food. The amount of waste was insignificant, the greatest amount being eighteen pounds of cooked potatoes and a few pounds of cooked cereals, which would reduce the number of calories for each person each day by not more than ten. It was very gratifying to notice that there was almost no waste at all in bread, milk, and butter.

COST, NUTRIENTS, WEIGHT, AND FUEL VALUE OF FOOD CONSUMED AT THE NATIONAL JEWISH SANATORIUM, DENVER, COLO., DURING THE DIETARY STUDY WEEK BEGINNING MONDAY, MAY 2, AND ENDING SUNDAY, MAY 8, 1910.

Kind and quantity of food	Weight	Cost	Protein	Fat	Carbohydrates	Fuel value
ANIMAL FOOD:						
[illegible] and lamb: Beef, 128 lbs., $16.25; [illegible] $1.50; cooked, 3 lbs., $0.30; tongue (pickled), 12 lbs., $1.62; lamb (leg), 41 lbs., $4.67	189.00	$24.43	34.39	24.82		$162,862.00
ork, loin, 10 lbs., $1.50; ham, smoked, 30 lbs., $4.50; bacon, 4.5 lbs., $0.94; lard, 4.5 lbs., $0.90	49	7.84	5.88	17.41		81,038.00
ish, trout	16	2.75	1.47	0.81		5,947.80
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
IRY PRODUCTS: Butter, 32.50 lbs., $0.87; milk, 920 lbs., $18.40; buttermilk, 48 lbs., $0.60; cream, 2 lbs., $0.35; cheese, 1 lb., $0.25	1003.50	29.47	32.44	65.39	48.43	411,359.00
Total animal food	[illegible]	[illegible]	[illegible]	[illegible]	48.43	[illegible]

VEGETABLE FOOD:	Lbs.	Dollars	Lbs.	Lbs.	Lbs.	
our, cereals, etc.: Bread, white and Graham, 65 lbs., $3.25; hardtack, 12 lbs., $1.20; rusks, 9.50 lbs., $0.95; kringles, 2 lbs., $0.25; crackers, 16.50 lbs., $1.34; flour, 16 lbs., $0.58; cornmeal, 9.5 lbs., $0.02; ralston, 1.0 lb., $0.15; cream of wheat, 5.0 lbs., $0.40; rolled oats, 3.0 lb., $0.30;						
nacaroni, 2.0 lbs., $0.16; tapioca, 6.0 lbs., $0.94	139.00	9.64	14.38	[illegible]	85.37	202,835.80
gar and starch: Sugar, 60 lbs., $3.55; starch, 1 lb., $0.10.	61.	3.65			60.90	[illegible]
getables: Carrots, 5 lbs., $0.25; corn (canned), 1 lb., $0.09; cucumbers, 5 lbs., $0.30; onions, 13.50 lbs., $0.81; nions (green), 3 lbs., $0.30; parsnips, 3 lbs., $0.10; peas, 0 lbs., $1.17; potatoes, 220 lbs., $1.54; rhubarb, 9 lbs., $0.30; spinach, 3 lbs., $0.30; tomatoes (canned), 5 lbs., $0.45	227.50	5.61	7.57	1.08	41.96	94,507.80
uit: Apples, 60 lbs., $0.65; cherries (jelly), 1 lb., $0.25; rape jelly, 2 lbs., $0.30; lemons, 2 lbs., $0.25; peaches, resh, 10 lbs., $0.60; prunes, 4.5 lbs., $0.40	79.50	2.35	0.77	0.31	10.21	21,236.00
ndiments: Cacao, 0.5 lb., $0.19; pickles, 2 lbs., $0.12; atsup, 1 lb., $0.08	3.50	0.39	0.13	0.24	0.38	[illegible]
a, 0.40 lb., $0.25; vinegar, 2.0 lbs., $0.12; pepper, 0.60 b., $0.22; mustard, 0.20 lb., $0.08; salt, 7.0 lbs., $0.24	10.20	0.91				
Total vegetable food	570.70	22.65	22.85	6.90	198.82	431,418.
Total food	[illegible]	[illegible]	107.64	122.86	[illegible]	1,142,254.20
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

determine the amount of food consumed by the patients and by the employees separately. All my calculations are made from the amount of raw materials on the basis of the number of meals served during the study week. These meals were served as follows: To patients six hundred sixty-one meals; to employees one hundred ninety-seven meals; and to guests eight meals; total meals served, one hundred eighty-six. The quantity[5] of food consumed by each person each day, counted by weight (excluding water taken pure and used in coffee, soup, etc.), was 6.4 pounds. The number of calories each day for each person was 2,746, out of which the protein calories were 662.18, fat calories 1,676.60, and carbohydrate calories 1,521.52. Of the 662.48 protein calories 522.18

The number of meals served each day was three, and but few of the patients took lunches consisting of milk and crackers. All the foods cooked and otherwise were of the same quality and quantity as used generally in public institutions and private homes in the United States, with the exception of the bread stuffs which were characteristic. There is always to be found on the table the following Swedish bread stuffs: *Skorpor*, or what is known as Holland rusks; *kringel*, a kind of sweet pretzel; and *knackebröd*, or hardtack; the latter is prepared from rye flour with or without yeast and resembles very much, in appearance as well as in taste, the unleavened bread called matzos, used by the Jews on Passover.

The weather during the week was as follows: May 2d, snow and later in the day rain; May 3d, cloudy; May 4th, 5th, and 6th, fair; May 7th, p. m., rain; May 8th, fair.

[illegible]

[5] Carbohydrates represents in round numbers 1,820 calories per pound and each pound of fat 4,040 calories.

At the end of the week the weighing of the patients showed that ten males gained twenty pounds and four males lost five pounds; six females gained ten pounds and two females lost three pounds. The net gain in weight for all the inmates of the sanatorium was twenty-two pounds in twenty-three patients who were weighed before and after the study week.

As all the inmates and employees are Swedes, these data give a composite picture of the type of patients treated in the sanatorium and of their dietary which, besides the clinical value, should also be of some importance from an ethnic standpoint.

In conclusion I wish to say that I abstain advisedly from drawing any conclusions or from entering into any discussions as to my findings. I will reserve this privilege for a time when I will have obtained additional data from other institutions and will have repeated the dietary studies in the same institutions[6] under other conditions and at another season of the year. I intend that this report should serve merely as a stimulus to other sanatoria throughout the country to take up the study of diets in a systematic and scientific way for the purpose of being able to draw their own conclusions as to the best diet for their tuberculous inmates. It is high time that in the treatment of tuberculosis the kitchen should be placed, if not superior to, at least on the same level as the pharmacy.

MENU FOR THE WEEK.

Monday, May 2, 1910. Weather, snow.

Breakfast: Ralston breakfast food, pancakes (wheat), syrup.

Dinner. Weather, rain and snow. Vegetable soup, beefsteak with onions, potatoes (boiled), onions (fresh), tapioca pudding.

Supper. Weather, cloudy. Dried beef, fried potatoes, sliced peaches.

Tuesday, May 3. Weather, cloudy.

Breakfast: Cream of wheat, fried liver and bacon.

Dinner. Weather, cloudy. Vegetable soup, meat balls, boiled potatoes, spinach, custard.

Supper. Weather, cloudy. Baked hash, dried peaches.

Wednesday, May 4. Weather, fair.

Breakfast: Oatmeal, eggs,

Dinner. Weather, fair. Bouillon, roast beef, boiled potatoes, stewed peas, pudding.

Supper. Weather, fair. Cold boiled ham, creamed potatoes.

Thursday, May 5. Weather, fair.

Breakfast: Cream of wheat, scrambled eggs, bacon.

Dinner. Weather, fair. Vegetable soup, pork (loin), browned potatoes.

Supper. Weather, fair. Cold roast beef, baked potatoes, stewed prunes.

Friday, May 6. Weather, fair.

Breakfast: Ralston's, eggs, graham muffins.

Dinner. Weather, fair. Vegetable soup, mashed potatoes, baked fish, apple dumpling, pickles.

Supper. Weather, fair. Chipped beef in cream maccaroni and cheese, stewed rhubarb.

Saturday, May 7. Weather, fair.

Breakfast: Cream of wheat, poached eggs on toast.

Dinner. Weather, fair. Vegetable soup, roast beef, boiled potatoes, pork and beans, rice pudding

Supper. Weather, rain. Cold sliced beef, fried potatoes, baked apples.

Sunday, May 8. Weather, fair.

Breakfast: Oatmeal, eggs.

Dinner. Weather, fair. Vegetable soup, roast leg of lamb, mashed potatoes, gravy brown, sliced cucumbers, spinach, peach frappe with preserved cherries.

Supper. Weather, fair. Cold sliced tongue, baked potatoes, catsup, canned pears.

Graham and white bread, hardtack and rusks, butter and milk are served with each meal. Coffee is served at breakfast, tea and cocoa at supper. Sugar salt, pepper, mustard, and vinegar are ever present on the table.

240-242 METROPOLITAN BUILDING.

[6] Several dietary studies have been made at the Sanatorium of the Jewish Consumptive's Relief Society (capacity 110 beds), at Edgewater, Colo., which will be tabulated and published in due time. Dr. John E. White, superintendent of the Sanatorium of the Modern Woodmen of America (capacity 180 beds), located near Colorado Springs, has cheerfully consented to make a dietary study. I hope to obtain permission from the authorities of other institutions to study the dietaries.

THE TREATMENT OF SEPTIC ENDOMETRITIS: AN EFFORT TO SOLVE THE PROBLEM OF POSTINFLAMMATORY PELVIC ADHESIONS.

BY HENRY WEIL, M. D.,
New York.

Of the many factors involved in a case of acute endometritis whether specific or septic, simple or puerperal, there is none so important as the pelvic exudates that form in the course of the infection and so often remain after all active inflammation has subsided, to the detriment of the unfortunate woman's future health. Yet it is a well known fact that under certain favorable conditions particularly following puerperal sepsis or septic abortion one observes a freely movable uterus with apparently normal menstruation and even subsequent pregnancy; and this in spite of the fact that during the acute stage the pelvic organs were involved in an almost solid mass of inflammatory adhesions.

On the other hand, these pelvic exudates by no means always undergo absorption and disappear rather to the contrary, for they are present in nearly every case of pyosalpinx and in fact in every other pelvic inflammation that has not undergone spontaneous cure or which has not been subjected to adequate surgical treatment, so that while we observe more or less exudation in all cases, we note that under certain conditions they disappear spontaneously under others, following surgical treatment, and under still others they persist in spite of all treatment. Since inflammatory conditions and their sequelæ form so large a percentage of our gynæcological operations and since these operations are usually of so grave and mutilative a character it is of much importance to determine, if possible, the conditions under which these various states of affairs exist with a view if possible to recognize the favorable conditions and apply them as far as possible in all cases.

Nature of Exudates in General.

During the early period of abdominal surgery when the use of nonabsorbable ligatures was in vogue, it was noted that these ligatures became encapsulated with plastic exudates and became more or less adherent to the surrounding structures. It was to avoid this state of affairs that absorable material was introduced and is now used almost exclusively. With absorbable ligatures it is now found that the ligature is rapidly invested in exudate from which the leucocytes by phagocytosis absorb the ligature in question, and that this exudate remains until every vestige of the ligature is absorbed. If the absorption is rapid the exudate soon disappears, if the nature of the ligature makes absorption slow, the exudates are equally slow to disappear, and if the ligature or any part is unabsorbable the exudates invariably undergo complete organization and remain permanent. These facts are beyond dispute for they are noted when necessary to open the abdomen at various stages following operations and at post mortem examinations.

This will be readily explained if one considers the close analogy between the leucocytosis and other inflammatory manifestations, which are associated with other tissues, and the exudates and adhesions that occur in inflammation of serous membranes. Both are caused by similar conditions such as irritation, foreign bodies; both have similar objects, that is to arrest, isolate, or protect the system from further damage or invasion. Thus allowing for variations in irritability of the various tissues, one sees slight injuries of the skin and rough handling of the peritoneum causing reaction, in the one case a slight local congestion, in the other an exudation of lymph. One sees foreign bodies in the skin such as splinters or pellets isolated on the one hand and ligatures encapsulated on the other hand, and infection of the skin or subcutaneous tissue results in pus formation and which is a marked area of leucocytosis and infiltration, whereas in the peritonæum the infected area is isolated by adhesions which wall off the pus and forms in this locality and protects the general peritoneal cavity from invasion. If these similar phenomena occur as result of similar conditions and with similar object and are the result of the same physiological processes such as capillary dilatation, leucocytosis, etc., it is only reasonable to assume that they would disappear under similar conditions.

If under aseptic conditions one was to bury an absorbable body in the tissues, this body would be gradually invested as a result of irritation, encapsulation would invariably result, and as long as that body remained in the tissues the fibrous investment would remain. If now, after a reasonable time that ligature were to be removed absorption of the fibrous capsule would take place. If one buries some slowly absorbable body the same capsulation takes place, but in this case the latter disappears once the process of absorption is complete. Thus, it is observed that when the invader is disposed of the inflammatory reaction and its results disappear whereas when the invader cannot be disposed of, as for example a bullet in muscular tissue or an unabsorbable ligature in the peritonæum, the exudation organizes and becomes permanent. Now if this analogy still holds [illegible] we should look for pelvic adhesions to disappear only when the irritant, be it active bacteria, sterile pus, or ligature, is absorbed or removed, and inversely the very presence of adhesions would indicate that the original irritant in some form or other, perhaps by this time perfectly benign but as yet unabsorbed, were still present.

In order to apply this theory to pelvic inflammatory disease it is desirable to classify these cases according to their clinical manifestations. Speaking generally, septic endometritis takes on two forms: either a salpingitis results as is usually seen in the gonococci infections or a lymphangeitis results from the spread of the infection in the case of the pathogenic bacteria. In either case, in anticipation of invasion of the peritoneal cavity, there occurs an effusion of lymph which rapidly organizes into delicate adhesions so that in the pyogenic type of infection the uterus, tubes, ovaries, and other pelvic contents are soon involved in a mass of adhesions, whereas in the gonorrhœal form the fimbriated ends are sealed by the same process. This is purely a defensive process designed to protect the peritonæum from general infection, and has associated with it other phenomena such as intestinal paralysis, which puts the parts at rest and favors the formation of adhesions, and tympanites which by choking the pelvis forces the various pelvic contents into close contact thus limiting the spread of the infection. However, all acute infections of the endometrium by no means lead to peritoneal infection, on the contrary, many cases subside without further damage in which case the peritoneal adhesions created by nature in anticipation of germ invasion being of no further use are absorbed. Examples of this are seen in every case of acute puerperal infection which undergoes spontaneous cure without abscess formations. On the other hand in the more severe cases more or less peritoneal or tubal involvement does take place and almost invariably results in pus formation, and while in these later cases the original uterine infection may clear up and all active inflammatory manifestations subside and while the bacteria in the pus cavity may have spent themselves and died, and the pus be sterile—yet as long as that pus or any remnant of it remains the adhesions will remain. In a case of this kind the pus acts in a manner similar to a nonabsorbable ligature or bullet; that is as a benign foreign body.

In the early days of abdominal surgery when drainage was the rule, it often was observed that sinuses persisted until the discharge of a ligature took place when the sinus would close. Obviously in these cases Nature maintained the sinuses for the purpose of ridding herself of these foreign bodies, since she closes it promptly once her object is accomplished. Again it is observed in the cases of abscess that there is a tendency toward opening to the surface, which opening once secured the condition rapidly undergoes complete cure and all inflammatory manifestations disappear. It would, therefore, appear that if we can create and maintain adequate drainage in these cases of pelvic inflammatory disease the abscesses and their associated adhesions will also disappear. Clinically, this is exactly what occurs.

Thus, if we are to avoid the destructive changes that so often follow septic endometritis, our efforts

must be (1) to prevent the infection from spreading to the peritonæum if possible, and (2) in case of peritoneal infection, to establish good and efficient drainage. In the first case the adhesions being of no further use will undergo absorption just as the congestion and cell infiltration from a slight burn on the skin rapidly disappears; in the second case if our drainage is thorough and complete we dispose of the pus, etc., and the adhesions having no further function undergo absorption just as the inflammatory reaction surrounding a boil disappears with the disposal of the infecting agent.

It has been found convenient to classify septic endometritis into two groups dependent upon their secondary characteristics; thus, this infection leads either to a salpingitis or a lymphangeitis and this is dependent upon the nature of the infecting bacteria. Exhausive investigation by numerous writers tends to show that the gonococci is almost invariably responsible for primary pyosalpinx, that is pyosalpinx not secondary to pelvic abscess, and that lymphangeitis and its consequent pelvic abscess to be the result of any of the ordinary pus germs, but not the gonococcus. The physical characteristics of the gonococcus, such as their peculiar affinity for epithelial tissue, their impotency when injected into the deeper tissues, their lack of mobility, and their low vitality are ample to explain this fact, particularly when considered in connection with the characteristics of the pus germs in general; for taking the streptococci as the commonest of these later we note their impotency when implanted upon healthy epithelial tissue, their activity when injected into deep tissues, their mobility, and their remarkable vitality. These statements if true have considerable bearing upon the treatment of these cases.

Streptococci and pus germs generally have no effect upon normal epithelial tissue. It follows that any septic infection (non specific) of the endometrium must be the result of a breach of continuity of the endometrium such as would occur as result of intrauterine instrumentation or as a result of abortion or labor at term. Taking up first the nonpuerperal cases, it is but a few years ago that currettage was considered almost a specific, but more experience and mature consideration together with a clearer appreciation of the various factors involved in these cases questions the value of this operation, for it seems that if normal epithelial tissue is immune to this type of infection it would be folly to remove it and thus expose tissue that is not immune, thus converting a small infected area into a large one; particularly since by no amount of curretting can we hope to dispose of the infecting germs.

Nature's one effort in the presence of infection is to provide drainage, and one might well take its cue from this particularly since the normal uterus, not being a secretory organ provides but scant drainage. It is probable that this latter factor is important ætiologically. The uterus in a well contracted state exhibits remarkable resistance to germ invasion, otherwise we should see a much greater percentage of infection following labor. Bumm found streptococci present in the lochia of from thirty per cent. to sixty per cent. of cases at various periods following labor, and yet infection following labor is at present comparatively rare. If the puerperal uterus with its enormous raw surface is able to resist bacteria to this extent one would expect the small involuted organ with its protecting layer of epithelial cells to be more resistant so that it is difficult to conceive an infection of this type making any headway except in the absence of drainage, and inversely the treatment would thus be to establish early and persistent drainage by thoroughly dilating the cervix and maintaining it so. Cases of this type are at present rare but should not be confounded with sepsis occurring during early pregnancy.

Taking up next the sepsis following abortion or labor at term we have here an entirely different state of affairs, since the possible presence of retained fœtal products is a factor and because of the extensive alteration of the intrauterine surface at the placental site. The contraindication for curettage does not hold good in these puerperal cases. The very possibility of retained tissues within the uterine cavity makes some sort of intrauterine exploration imperative for even the most conservative must concede that an empty uterus is imperatively indicated. Whether this procedure is done with finger or curette is immaterial, the chief aim being to carry it out with as little traumatism as possible. In this connection the relative virtues of the finger and curette are still a matter of dispute. Again, the altered intrauterine surface in these puerperal cases is in no sense inhibitory to the usual pus germs, quite the contrary, so that the danger of converting a resistant surface to a nonresistant one, such as exists in the nonpuerperal cases, is in these cases absent.

Once the uterus is emptied the subsequent treatment will depend upon the further character of the disease. If the infection takes on the inflammatory or lymphangetic type as it usually will following early abortion, little can be done locally except to maintain drainage by dilatation, irrigation and posture until such a time as the infection localizes itself in pelvic abscess, when this should be carefully and thoroughly drained through the vaginal vault. If on the other hand the disease assumes a toxæmic or septichæmic type, and it will usually do this after late abortion or labor at term, then steps must be taken to prevent toxine absorption from the uterine cavity, for I have pointed out (*New York Medical Journal*, January 9 and June 12, 1909) (1) the toxine laden and toxic nature of the lochia, (2) the absorptive power of the puerperal uterus, (3) the influence of absorption from this source in puerperal sepsis, and (4) the favorable results of frequent or continuous irrigations in checking this absorption. It is not to be understood from this conclusion that irrigations are advocated in all cases of sepsis, for it must be remembered that, as a rule, the curettage will of itself be sufficient to control the infection in the great majority of cases, but when for some reason or other this curettage fails it is then and only then that the irrigation treatment is recommended. Further than this we can do but little except in the way of general medication until such a time as the infection localizes itself in pelvic abscess, when if the abscess is promptly and thoroughly opened through the vaginal vault the pus will disappear and with it the associated adhesions, resulting in a complete symptomatic and functional cure in almost every case.

Objectors to the irrigation treatment will, among ·her things, urge that it is impractical since it in·lves continuous work both day and night. But it ıst be remembered that it is a heroic procedure ed in desperate cases only, and that a woman's le is at stake, under which circumstances no effort ould be too great. Or it may be urged that the ntinual presence of the physician is necessary, but s is not true for the irrigations may be safely in·usted to an intelligent nurse. Or it may be argued ıt some of the bacteria have by this time pene· ted deeply into the tissues or even into the blood eam and are consequently far beyond the reach of · irrigations. Replying to this I desire to point : that the bacteria which lie in the tissues and ves· s are in constant combat with the leucocytes and re is ample evidence that unhandicapped, the locytes are fully able to cope with them, for un· · no other hypothesis can we explain the fact that presence of pathogenic bacteria in the blood eam in these septic cases does not necessarily in· nce the prognosis. Again, the pelvic suppura· n which takes place in almost all cases of true sis except the rapidly fatal types bears ample dence of the ability of the leucocytes to contend h the germs that find their way into the phatics. On account of this same objection it ght be contended that the stomach tube was use· s in narcotic poisoning because some of the son had found its way into the bowel and was sequently beyond the reach of gastric lavage.

Taking up next the gonorrhœal form of endo· ritis it is desirable to make a comparison between s disease and the same infection as seen in the e. Gonorrhœa in the male is self limited and ds toward uncomplicated and spontaneous re· ery in almost all cases. That cystitis and epi· dymitis do not occur is because of the good pas· drainage that exists by virtue of the patulous· s of the meatus together with the frequent irri· ions (active drainage) which the flow of urine ses. Exceptionally when either cystitis or epi· dymitis does occur it is the result of some local nipulation such as instrumentation or injections n with undue force, or from stricture (Lydson) is interference with free drainage. Bearing in d the analogy between the ejaculatory ducts and Falloppian tubes; it would appear that acute norrhœal endometritis would in the presence of d drainage such as occurs in the male urethra lso self limited, and that salpingitis would be as as epididymitis.

hat such drainage is not present is very evident while the cervix is somewhat softened in these s yet drainage is by no means as free as it is in male urethra because of the comparatively larger ning at the meatus, and because of the more pro· discharge from the uterus due to the more ex· sive surface infected. Again, active drainage h as the flow of urine in urethritis is entirely ting in endometritis. The results of irrigation he male urethra might well be equally valuable ndometritis and particularly since these irriga· is would if properly carried out act in a man· similar to the urine, that is as a forced or active nage.

he treatment of these cases as now advocated by most authorities consists in rest, ice bag, and vaginal douches. No steps are taken to aid Nature by promoting drainage to prevent tubal infection and once pyosalpingitis occurs there is no hope except in excision. That the treatment of this condition is inadequate is evident from the fact that various gynæcologists estimate that from thirty to sixty per cent. of their laparotomies are the result of this infection. From this the importance of this matter to womankind may be estimated. In acute specific endometritis of the nonpuerperal form the gonococcus will always be found in the uterine discharges. They are readily recognized by the fact that they stain easily with any of the aniline dyes, and that they refuse to stain by the Gram method. In treating these cases one's efforts might well be in the direction of creating conditions such as are present in specific urethritis in the male, to that end it would be advisable to obtain complete dilatation of the cervical canal at the earliest possible time. This at the first sitting requires an anæsthetic, but is subsequently maintained by the occasional light application of the uterine dilator without anæsthetic. These patients are of course kept in bed during the acute stage of the disease, and with the head elevated to favor passive drainage. In addition to this and with a view to creating conditions such as the urine causes in the male form of the disease (active drainage) one might well apply intrauterine irrigations in the following manner. A small soft rubber double current catheter is carefully passed within the cervical canal toward the fundus. This tube extends beyond the vulva and is held in place by a light vaginal pack and through one of these tubes the irrigations are given at frequent intervals by coupling a douche bag, the latter being placed in a low position so that the force of the fluid is barely sufficient to cause it to flow. Three or four of these irrigations are given daily, consisting of some mild antiseptic such as potassium permanganate solution or a weak solution of one of the silver salts.

This treatment creates, to a great extent, conditions similar to those that exist in urethritis, i. e., adequate passive and occasional active drainage. It involves more than an ordinary amount of work on the part of the physician and attendants but it gives a small percentage of tube infections as compared with the ice bag and douche treatment. I do not curette these women, for while at first thought it might appear that if we can remove the endometrium, the gonococci having no affinity for the deeper layers would disappear. As a matter of fact it is well nigh impossible to completely remove that membrane, and the persistence of even a slight portion is sufficient to reinfect the new endometrium that so rapidly forms, also, the manipulation necessary in curetting is extremely likely to force the infection into the tube.

If for one reason or another the infection spreads to the tubes, it causes violent reaction with symptoms of localized peritonitis such as abdominal rigidity, pain, bowel paralysis and tympanites. There is a decided flow of lymph to the peritonæum around the tubes and the whole pelvic contents soon become fixed in a bed of adhesions. The infected tube soon swells and fills up with pus. It is certain that in many cases the uterine end of the tube does not

close at this time and it is probable that if it ever does close so early it is only exceptionally. What more likely occurs is that the uterine end finds its calibre inadequate for proper drainage since this portion of the tube is very small and the nature of the lining membrane of the tube is such as to offer extended surface for infection with a large quantity of pus formation.

Now, if it is true that under good, active, and positive drainage, gonorrhœa tends toward spontaneous cure, and if it is a fact that in the absence of infection, pus, or other irritants, adhesions tend to undergo absorption, it would seem that if we could create this desirable drainage from the tubes, the infection would sooner or later subside without pyosalpinx formation, just as it subsides without urethritis, under which circumstances the adhesions which formed in anticipation of peritoneal invasion being of no further service would undergo absorption, thus restoring to health and usefulness a tube that otherwise would be a source of considerable trouble, which would be functionally useless and which would eventually have to be removed.

There are three ways by which drainage of the tube can be carried out: (1) To open up the fimbriated end of the tube through abdominal incision; (2) to incise the tube either by laparotomy or vaginal section; and (3) by maintaining the uterine end of the tube in a patulous condition. Bearing in mind that we are dealing with an acute active infection and that Nature early closes the fimbriated end of tube in order to prevent peritoneal infection, it will be observed that reopening this tube at the fimbriated end would be acting contrary to Nature in her effort to dispose or limit the infection. Again gynæcologists have long since learned the futility and dangers of laparotomy in acute pelvic disease. Finally, a procedure of this sort would almost invariably result in peritoneal infection necessitating drainage with unavoidable consequences. Incising the tube also involves peritoneal contamination and infection, and while this can usually be readily done through the vaginal vault from which point drainage is good, the operation of itself mutilates the tube, which can never be restored to normal, and finally it is found from experience that vaginal drainage in acute gonorrhœal pelvic disease is for some reason or other not nearly as successful as the same operation in other pelvic infections. Dudley states (*Gynæcology*, fourth edition, p. 304): "The prognosis after incision and drainage is better for hydrosalpinx than pyosalpinx and best for cellular abscess."

The problem of approaching a pus tube through the uterine cavity is not a new one. It is mentioned in the *American Textbook on Gynæcology* (1898) but only to be condemned as impractical and impossible. It is undoubtedly a difficult proposition but of much value if it can be successfully carried out, for it is evident that if the tubal approach to the uterine cavity can be maintained in a patulous state, the tube will drain and no tubal abscess or retention cyst is possible. There is, of course, complete tubal connection between the uterus and the Falloppian tube, but it must be admitted that its calibre is small, still, however small it may be, it is still large enough to allow the passage of pus. There is evidence that it possesses dilating power in as much as every structure within the body of that nature by virtue of its very makeup possesses elasticity, and there is much evidence that extrauterine pregnancy often becomes uterine by passage through the uterine end of the tube (Kelly, *Operative Gynæcology*, p. 441), which of course it could not do without dilation. We have evidence of the ability of this duct to drain in the cases of intermittent discharge from pyosalpinx due to intratubal pressure which discharge relieves the tension for the time (hydrops tubæ profluens). Again the treatment of pus tube by massage while not recommended is occasionally successful in forcing the pus into the uterus. Often after salpingectomy as a result of faulty technique a fistulous opening through the uterine remnant of the tube remains and is the source of a sometimes obscure leucorrhœa.

Thus it is seen that a passage exists between the uterine cavity and these acute tubal abscesses and that this passage is capable of transferring pus and is even dilatable. Of course, if this passage always existed in a patulous state no pus collection would be possible, but it is not difficult to conceive that as a result of inflammation and its consequent congestion this tubule, whose calibre according to Dudley is only large enough to admit a fair sized hog's bristle, would close, thus allowing the pus to collect in the tube. Upon comparison with the lacrimal duct it will be found that the Falloppian tube is a little over half the calibre of the former, from which it would appear that a probe one half the size of a lacrimal probe would be necessary, this is by no means beyond manufacturing. But it must be remembered that the lacrimal duct will accommodate a probe of much greater size than its normal calibre would indicate, due to its elasticity. Since the Falloppian tube also possesses considerable elasticity it is only reasonable to assume that it also will accommodate a probe in excess of its normal calibre.

If it is physically possible to probe the tubes, the problem is by no means solved, for it still remains for us to devise a means to guide the probe into the tube through the uterine cavity. For this purpose I have now under construction what I have seen fit to call a tube probing uterine endoscope. This instrument will possess features similar to the Tilden Brown or Burgher cystoscope, such as telescopic lenses for magnified vision, irrigating facilities for asepsis and for cleansing the field, illumination, and a probe guiding arrangement. With this instrument together with a uterine tractor of original design it is hoped to simplify the procedure and perhaps make it practical. As to other technical difficulties, including cervical dilatation, pain, embarrassment from blood and pus, and uterine rigidity, these are details that my experience with even crude instruments convinces me can be readily overcome.

Assuming for the sake of argument that we can open up these tubes. What results are to be expected? Tubal drainage principally, and with tubal drainage no pus collection within the tube is possible. If the tendency of gonorrhœal tubal infection is toward spontaneous cure in the presence of good drainage, such as it is in urethritis in the male, it is then no more than reasonable to expect the acute

symptoms to subside and eventually the tube to rid itself of the infection entirely, just as occurs in the male, in which case, if it is true that adhesions are absorbed once the infection or irritant is removed we might hope to see these tubes restored to their normal state and to functional usefulness.

Gonococci are often found in cases of puerperal sepsis and are apparently the infecting agent in these cases in as much as they are the only bacteria that we are able to identify; however, in this connection there is one fact worthy of mention and that is the lack of affinity of the gonococci for tissue other than epithelial. Whether the gonococci are the only infecting agent or not, in cases of this type, is an open question, but independent of this question the fact exists; this type of infection is usually mild and the indications for treatment are in no manner different from other puerperal infections; that is, to remove any retained fœtal remnants as early as possible and to maintain good drainage.

41 West One Hundred and First Street.

DIRECT LAVAGE OF THE DUODENUM.

By Maurice H. Gross, M. D.,
New York.

The lavage of the duodenum I am going to describe is called "direct," because it is not effected by the intermediary of the stomach, but by immediate application of the irrigating fluid through the duodenal tube I have devised.[1]

As a matter of course, the duodenum may be reached nearly equally well through the stomach in an indirect way by administering the fluid per os, relatively assuming that through the gastric digestive mechanism it will in due course reach the duodenum: a kind of natural lavage. For this purpose the fluid (Karlsbad waters) is ingested in large quantities into the empty stomach, in acute and infected duodenitis to irrigate the irritated and infected duodenal mucosa. This, of course, does not constitute an ideal process of washing out the duodenum, because, 1, the fluid undergoes a chemical change in its passage through the stomach; 2, the mechanical effect is absent which is otherwise produced by the pressure occasioned by the introduction of the fluid into the duodenum direct; and it is just this mechanical effect that may be exceedingly desirable in chronic processes of the duodenal mucosa; and, 3, we depend upon the propulsive contractions of the stomach.

As long, however, as the duodenum was inaccessible, we had to rely upon intermediate irrigation, and the results were by no means unsatisfactory, but since it has become possible to reach the duodenum direct, the idea readily suggested itself to subject this part of the digestive tract to direct lavage—*if indicated*. We know full well that even at this time the indications for gastric lavage are by no means firmly established, nor is this to be wondered at, because this otherwise exceedingly important and indispensable part of our therapeutic procedure is absolutely dependent upon the existing pathological process, its nature and stage, so that the selection of the correct treatment must be left to the sound judgment of the experienced physician. Strict indications, or a routine procedure, for lavage of the stomach can therefore not be established. Perhaps it is for this very reason that nowadays there is too much washing out—or too little. Much less is it possible, therefore, to determine the indications for irrigation of the duodenum—at least not yet. Time may teach us.

As I examined the duodenal contents in a number of cases by means of the duodenal tube, there were frequent opportunities, from reasons to be explained later, to apply to the duodenum fluids of various chemical composition. While conducting these investigations, I was preeminently impressed with the possibility of *free* lavage of the duodenum; they also taught me in part the functional mechanism of the duodenum and furnished certain hints as to intelligent therapeutic procedure.

Method.—The patient swallows the duodenal tube weighted at the end by a carefully protected small silver ball to the mark of 45 cm. (ultracardial); the patient having now assumed a recumbent position on his right side, the small ball tends to, and does, gravitate toward the pylorus, drawing the tube with it, which it is allowed to do to the mark of 60 cm. (pylorus). Next the tube is carefully pushed on, practically yielding to the gentle traction of the ball, until the mark, 75 or 80 cm., has been reached. After from twenty to thirty minutes the first aspiration is made which will often yield gastric contents mixed with duodenal contents of acid reaction (Congo), but sometimes, even at this distance, pure characteristic alkaline duodenal contents.

The tube being safely lodged in the duodenum, the desired lavage can be effected with the patient in a sitting or recumbent posture by simply pouring the fluid (as is done in gastric lavage) into a glass funnel attached to the outer end of the tube which is wide enough for this purpose; or by direct filling of the glass ball, the "receptacle." The latter method is indicated if the fluid does not flow off rapidly enough, in which case light blowing through the "mouth piece" will ensure the desired result.

Great deviations from the conditions observed with indirect irrigation *via* the stomach were in a large measure only found in the course of the investigations which followed. The liquid may be allowed to flow out, as in gastric lavage, by simply lowering the funnel or the "glass receptacle"; this is especially done when there is interruption of the outflow which may be remedied by light aspiration. Another way is to allow the injected liquid to remain in the duodenum, leaving the functional mechanism of the latter to carry it to the jejunum.

The liquid introduced into the duodenum does not, as might be supposed, flow at once into the jejunum, but, on the contrary, remains for about two or five minutes, according to the quantity used, stationary in the duodenum, in order, apparently, to be conveyed to the jejunum in jerks (duodenal peristalsis). Furthermore, the injected liquid effects a direct stimulation of the duodenal mucosa, exciting secretion. This can be easily demonstrated by aspiration which, after the liquid has been al-

lowed to escape, brings up fresh quantities of pure duodenal juice.

The following interesting experiment was made: Fifteen grammes of a 0.1 normal hydrochloric acid solution were introduced into the duodenum, aspirated after one minute, and found to have undergone partial neutralization; after two minutes there was alkaline reaction (litmus). In this way it would be possible to measure the alkalinity of the duodenal secretion. So far as appearances go, the alkaline strength of the intestinal juice—the power of neutralizing acids—seems to be enormous.

But what indications, if any, will be established in time for lavage of the duodenum, cannot yet be determined at this juncture. Up to the present we have resorted to occasional lavage in ulcus ventriculi with bismuth solutions in chronic duodenal catarrh with Karlsbad waters, also in diabetes (pancreas?); furthermore, in cholelithiasis and pronounced persistent icterus, the object being to liberate both duodenum and common duct from inflammatory infectious products.

Finally, I wish to add a few data on the functional mechanism of the duodenum, in so far as the investigations made warrant conclusions.

The fact that in the first part of the duodenum (pars horizontalis superior), and perhaps even a little lower down, the duodenal contents are nearly always mixed with gastric contents, together with the further fact that the liquids introduced into the duodenum remain there stationary for a time and are then conveyed to the jejunum seem to justify the conclusion that the duodenum is by no means a mere instrument of passage, but that at this part of the digestive canal, notably in its upper portion, there occurs a kind of sifting and mixing of the acid gastric with the alkaline duodenal contents, the pylorus being closed; a kind of shaking apparatus, in which the neutralized contents are being conveyed in regular jerks to the jejunum, followed possibly by an extra alkaline wave excited by the direct stimulation of the contents. The time occupied to effect this complete process of mixing will probably depend upon the degree of acidity and the quantity of the gastric contents.

The duodenum seems to be a transition organ of great importance in the economy of digestion. I am inclined to compare the work of the duodenum with the habit of experienced connoisseurs of wines, who allow the latter to come in contact with all parts of the buccal mucosa before swallowing them.

315 Second Avenue.

WHEN SEDATIVES ARE TONIC.

By William Francis Waugh, A. M., M. D.,
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The indurated view of very many physicians is that sedatives are debilitating agents, and their administration is always attended by a reduction of the patient's strength and power of resisting the noxious influence of disease. Hence, I have heard men in good standing assert that they do not use drugs except tonics; believing that disease is essentially weakening, and that when a person is ai ing he necessarily requires strengthening treatmen While this is true, it is only so in a general sens and to comprehend the question we must go muc more deeply into its merits. Disease is always con plex, never so simple and primary as his view woul indicate.

In the *Clinical Journal* for April 2, 1909, Bonne calls attention to an illustration of this principle Women attending the gynæcological clinics nearl always complain of "weakness." Men with simi lar complaints respond favorably to strychnine, a acid, and a bitter stomachic. The result of treat ment along this line in gynæcological cases is in variably disappointing; the patient does not im prove, or becomes distinctly worse. But when th bromides are substituted, the patient invariably de clares that she feels herself much stronger. Dr Bonney attributes the sense of weakness here t excessive irritability of the nervous system, th steadying of which by the bromides immediatel produces a sense of "feeling stronger."

Many times I have made the same observation but in most cases the relief followed much smalle doses of bromide than are usually employed. Thes patients are frequently drenched with these debilitating agents until they are veritable drug fiends their nervous system never being allowed to react from the sedation. Five grains of sodium bromid repeated hourly for three doses, but no more, and not that if relief comes with two doses, or one, give finer results than excessive bromism.

The "deranged physiology" here presents the clinical picture of erethism. I purposely employ this term instead of pathology, because I wish to emphasize the need of studying such cases from the standpoint of deranged vital function rather than from the hopeless one of the autopsy findings.

In this hyperæsthetic condition we denominate erethism, the morbid impressibility is such that comparatively slight irritations will induce a discharge of nerve force, and the patient is never able to accumulate a store of forces. She is always exhausted, always prostrated, always ready to go off into a paroxysm of excitement at the slightest excuse. There is a leakage of nerve force somewhere along the line.

Here we must do justice to the work of Gould, who has stated in his graphic manner, with the emphasis that attracts attention and carries conviction, the immediate part played in such cases by eye strain. The human eye is compelled to do thousands of times more duty than when the man was in a state of nature, and the effects of any defect in the ocular apparatus are correspondingly multiplied. But the eye is only one part of the body, and is influenced by the condition of every other part; while defects of other apparatus as well as of the eye may induce the nerve leakage. I have "cured" erethism by removing foreign bodies from the ear, sebaceous cysts from the scalp, hopelessly diseased tonsils, nasopharyngeal adenoids, tight prepuces, dilating spastic anal sphincters, removing carious teeth and corns, and by many other little attentions to blemishes that could by no means be traced as the direct causes of the ailments.

There is another matter too vital to be ignored—

sexual sphere fills with woman a very much
er share of her life than with men, or that men
usually aware of. When Byron said:—

Man's love is of man's life a thing apart:—
'Tis woman's whole existence,"

gave utterance to a truth whose physiological
ificance he probably did not begin to appreciate.
man's instincts, her physical and moral nature,
er in maternity. Perfect contentment is dis-
ed by the mother whose babe nurses at her
st while she feels absolutely secure in the care
protection of her chosen mate. Here we see a
ity indeed holy to every right minded man. But
mating is not thus perfect, and we find if we
re closely that some women are irritated and
ied by the too frequent calls of their mates, or
he unfortunate results of mismating, which
s a bodily function excited to activity and un-
ed. In such instances the effects of moderate
ide medication are gratifying, and the saving
ital expenditure allows the accumulation of
forces.

fortunately our tendency to specialize is such
hose of us who begin to realize the importance
is matter are quite as apt as the ophthalmolo-
to see nothing else. Very probably we who
so strenuously urged the importance of fæcal
nia as reacting on local maladies, may be
ed to fall into the same error. We surely have
ason to arrogate infallibility to ourselves—but
be content in believing that if we must be fad-
there is no other fad as yet advanced that is
ll worth our devotion.

8-1362 FULTON STREET.

TGEN RAY THERAPY AND ITS PRACTICAL PPLICATION IN MALIGNANT LESIONS

BY DR. RUDIS-JICINSKY,
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ry Röntgenologist knows that after several
s and exposures of epitheliomata, cylindrical
carcinomata, carcinomata simplex, and flat
carcinomata changes take place in the lesions
with various metamorphoses or degenera-
pointing to the fact that the Röntgen rays,
the selective power for diseased cells espe-
in some individual cases, are of objective
utical value, and if nothing more used prop-
d in proper doses will give subjective results
y malignant case whether they are combined
erative procedures or not, because they at
ve the suffering of the patient and pro-
ie. In some cases when the Röntgen rays
nistered over a sufficient length of time, the
e very promising, and we have many cases
. of epithelioma especially, in which the
after five or six years, are still
ell, and even patients with inoperable deep
and those of carcinoma mammæ under
eatment progressed well and no metastases
tointoxications took place, the prognosis be-
nparatively good. And strange to say, as

you all certainly have observed in your practice, these promising conditions happen in all those lesions rayed, in which the electrochemical action of the rays is complete and the intercellular tissue in the lesions exposed becomes so abundant as to nearly obliterate the cellular elements, the hard portions of these carcinomata becoming softer or even liquefied and show honeylike discharge, or an exudate demonstrates itself at all the points of the sloughing, the tissues undergoing spontaneous cure, perhaps, in this way. In that respect we have all the same experience, I am sure, even in fibrocarcinomata, but not so in carcinoma molle. And again we seem to have better changes in deeper colloid carcinoma, myxomatodes, and melanocarcinomata. Having in mind the honeylike substance in nearly all the open lesions, which progressed favorably, and reading the reports of others on the same subject, I have carried out a number of experiments to see if I could cause a certain reaction or hasten the process of absorption under the Röntgen rays with the help of this seemingly healthy exudate which has some very active properties.

First, I implanted under the skin this honeylike exudate from the human cancerous lesions into the tissues of rabbits and guineapigs. Relatively large quantities of this substance were planted under the skin into healthy tissues of these animals without causing any symptoms of reaction, and only in three cases out of twenty I had local infection, which did not amount to very much; but if a very small quantity of such a substance of cancer of a rabbit was inoculated into the tissues of old rabbits or those suffering with any wasting disease or injury, very definite symptoms were produced. The temperature rose from one to two degrees F. at once, and this rise was accompanied locally by inflammation. This process was observed for a length of time carefully, and microscopical examinations were made. The basement substance of various layers of connective tissue, and especially the walls of the bloodvessels, became swollen and thickened by their conversion into a translucent, firm, glassy, yellowish material, albuminous in character. The parts of the lesion felt harder than normal and had a peculiar, dull shining appearance. Some direct transformation of the tissues progressed rapidly, the parenchyma cells undergoing atrophy, as the result of pressure from the swollen, degenerated tissue. Around each localized lesion produced was an area, more or less marked, of heat and redness, and with the increasing congestion, we had later a casting off of pieces of necrotic tissue, forming of a tumor, the cells of which, advancing in the periphery, made their way through the lymph spaces and formed new foci. In some cases metastasis followed in the distant part of the body, or general, and another tumor was formed. And these secondary tumors being similar in structure to the primary foci differed in vascularity, abundance of stroma, and shape of the cells, but nearly all of them seemed to be rapid in growth, if irritated in any way.

When this condition was recognized the Röntgen rays were employed at once, and the animals were exposed individually first for fifteen minutes every day for two weeks, and then three times a week, and following the reaction we finally healed all the

primary lesions produced; but the lesions of secondary character, of the epithelium of the part in which they occurred, varying much in this and other respects in every case, did not behave in the same way. We operated in quite a few of these lesions once or twice, as the cases required, continuing the use of the Röntgen rays, but the final results were not satisfactory at all, although the animals did not seem to suffer much pain. As a last resort, knowing that phagocytes were disseminated after an irritation in these lesions, we applied the honeylike exudate, produced in the primary lesions direct to the malignant tumors of secondary character, or reinoculation of the disease in the same animal, and to our astonishment found that the sloughing progressed more rapidly and with better results, the effect of our raying being more promising with every exposure.

This discovery was made use of in human beings as soon as possible, and the secondary lesions of malignant character studied side by side with those which seemed to be primary.

Fortunately, in spite of all our precautions, the honeylike exudate was employed in some of the cases of animals without regard to proper dosage and strength, and the results were nothing short of disaster, the guineapigs especially dying quickly, in spite of all the treatments with Röntgen rays and absolute cleanliness of the lesions proper. I say fortunately, because the first trial in man could be arranged more scientifically. The honeylike material taken directly from a carcinoma mammæ was introduced into an open and healthy wound near the radial artery at the wrist of the right hand of the experimenter himself, and the actual progress was watched carefully. The condition being otherwise very good, no specific reaction was caused in the beginning of the introduction of the material in the wound produced. Simple infection followed, and with the increased knowledge of the behavior of similar primary lesions in rabbits, I waited for some secondary demonstrations later on, perhaps.

All the symptoms of infection manifested themselves, but not a cancer, the swelling of the whole hand was marked, and suffering with all the pain possible could be traced, especially to the enlarged glands in the axilla. The conditions were not very promising, and many of my colleagues spoke of possible amputation of the arm, etc. Now certainly, beside the suffering of the body came also the suffering of mind, the results and expectation being difficult to prophesy. After an elapse of ten days some exudate and pus material formed in the wound, which I had kept not only clean but open, and was removed and collected in a special vessel, the pain being relieved every day with the exposure of the original wound to the Röntgen rays, which seemed to raise the resistance of the body against the infection. With the relief of pain the swelling went down comparatively soon, the wound healed, and the human pus and exudate were used for experiment to see if I could produce more disturbance of secondary character in those rabbits still alive suffering with primary lesion. And strange to say, all the rabbits so treated gave no reaction, but suffered with very virulent local lesions, if the cancer was irritated, and died later, giving us a comple microscopical study of fatty, colloid, mucous, ar amyloid degenerations with ulcerations, hæmo rhage, and all the symptoms of prolonged irritatio and this followed by inflammation. In two cas we also had enlarged remote lymph nodes, and t lesion proper healed, the prolonged nodules remai ing for months. In my case the original loc wound healed, but the nodules in the axilla and ov the pectoralis muscles on both sides still rema after a period of five years. Whether this con tion is due to the constant exposure to the Röntg rays in my laboratory, or to the actual treatme during the most dangerous inflammatory manifest tions of the infection described, I am not able state; but one thing is sure, that the honeylike ex date in cases of carcinoma I am using up to t present time is a very simple way for the produ tion of more necrosis and more rapid sloughing a destruction of the diseased tissue of low vitality the same carcinoma. I do not wash this materi away, but take a clean brush and apply the hone like exudate from one portion of the lesion of t patient to all the portions of his cancer which not degenerate quickly enough and, raying t whole without fear for a little longer time, if nec sary depending on the electrochemical action of t rays at rest in the tumor and slight penetration b yond.

The amount of this exudate to be applied to t other parts of the same malignant lesion to hast the resolution, absorption, and sloughing, varies a cording to the individuality of the lesion, the ag personal characteristics, and general condition the patient, the type of carcinoma, whether prima or secondary, its duration, extent, and the severi of systemic infection. Something may be acco plished by this local treatment with the patien own exudate and general Röntgenization arou the lesion, but to use and transfer the exudate others is not satisfactory. This way the whole v ume of blood of the patient with an otherwi strong body and with plenty of resistance as far yet, if we start in time, dilutes the toxic stimulan and more is required to cause the increase and p duction of those fighting particles and corpusc as they are floating in the serous fluid previou mentioned. The corpuscles seem to be identi with the white corpuscles of the blood; they app to be derived chiefly from the blood by a mort migration of its white corpuscles, although it is al very probable that some of them are derived fr a later proliferation of the connective tissues other changes in the cells during the inflammato process. If we examine carefully the exudate will find that it is a fluid produced as one of t consequences of repair in inflammation. And ta ing the history of an original irritation in near every case and its results of malignant charact into consideration, the alkalinity of the exudate, being rich in potash, its serum albumin, fibrinopla tic material, casein, myosin, lecithin, cholester leucin, etc., we at once will grasp the opportuni for a better chance for repair at the focus of i fection, as the blood, being charged with its ow fighting material and circulating under the Röntg

ys more freely will give us a better local action, e charged cells eliminating themselves after a cer- in time, and definite cicatrization occurs.

I do not profess any priority in this study of mine, it would like to state that nearly all the patients malignant lesions who came under my observa- n, some of them even after operative procedures, ogressed very favorably under the Röntgen rays, ith proper dressing locally as suggested, the exu- te being one of the aiding principles.

Observing the cells and watching the progress of e degeneration of the lesions microscopically, I ve not found any evidence of parasites and, com- ring the results with similar results in the veg- ible cells of perfectly healthy cherry trees at the me age, same quality and same sort as planted in r own garden, may say with others that there re neither any signs of bacteria. After a period four years of constant irritation to the lower por- ns of the trunks of these trees done unintен- nally with the lawn mower, I observed new owths on all the trunks and made slides for mi- scopical examinations. The proliferation of the ls was identical with that produced by irritation human tissues and the changes at the site of the ion were of the same character as the inflamma- y process in human tissues, and to make the ob- t still more interesting, the process of repair med to be just the same, Nature trying to help ng in these peculiar tumors of the trees with an udate yellowish and perhaps only of a little dif- ent composition. Trees without this exudate ply succumbed. My own favorable impression the influence of this exudate has been principally med by noticing how rarely the disease seemed progress by the usual exacerbations and relapses patients who tolerated progressively increasing es of the Röntgen rays, producing more or less the exudate in the lesions attacked, and in watch- very weak and cachectic patients who were ning slowly but steadily in a downward course, spite of all the treatments. I do not say that s exudate, carbon dioxide snow, in some super- al lesions, or our Röntgen rays, and even in ne cases the radium introduced right into the m itself, are the specifics found for the cure of cer. I do not profess to have discovered some- ng altogether new, but I do state, according to own experimentation, research, and the actual ults of treatment of hundreds and hundreds of cinomata and other malignant lesions, that if ne life was saved and all the other patients ot suffer the excruciating, shooting pains of cer proper on account of our treatment and r life was prolonged for the benefit of their milies, and sometimes the whole of society, even blic welfare, I should be content as we all may in thus working on and on toward the progress our knowledge, science, and art of healing.

n the other hand, if we transplanted very tiny of skin from embryo rabbits under the skin wenty other rabbits selected, and after an elapse two weeks implanted under the skin of each of se healthy rabbits this cancer exudate or direct fts, cancer never developed. It was the same [illegible] rabbits when the blood was mixed in the healthy rabbits and red blood corpuscles, not serum, injected. The inoculation of grafting with cancer was impossible as in the case of a guineapig, where the healthy spleen was removed and a little piece of the same introduced right under the skin of the same animal. We cannot assert that by the use of these and similar methods we can cure carcinoma, but these methods tend to support the theory that it can be prevented.

CONCLUSIONS.

Carcinoma, of whatever character or form, any malignant process in animal (or vegetable) tissues is not due to any parasite or any bacteria, but is a special inflammatory process due to constant or certain irritation of the cells of different tissues, which by this irritation or from other causes are then of low vitality, being weakened and the circulation of the blood in them impaired. It cannot be transplanted from one species to another, is not hereditary, and can be prevented.

Röntgen rays have selective power for such irritated and weakened cells especially, and in some individual cases, when given in time, will give us objective and subjective results. They will prepare the field of infiltration for operation, in every case of malignant character, relieve suffering and prolong life, and in the most desperate cases not only the pain, but also the odor of the discharge are checked right from the start, and the patients are comfortable, even able, to some extent, to attend to their social duties. The electrochemical action of the rays produces a yellowish, honeylike exudate in the open lesions proper and the treatment has robbed death from cancer of its horrible, painful, and offensive elements.

To ray before the operation and after to prevent recurrence is the safest procedure, because the infiltrated lymph channels and glands will be converted into fibrous cords and knots, which become the safeguards against systemic infection during the operation and after.

Primary lesions, or those of early stages, with surgical removal, if necessary, give the best satisfaction, best chances of permanent cure at least for five years, and more if Röntgenotherapy is adopted in time both before and after operation. In secondary lesions we are not certain of success, but even here we get the subjective results as mentioned.

By actual tests and experimentation it is proved beyond doubt, that the Röntgen ray treatment does not, and according to the absorptive and local action of electrochemical character cannot cause metastases and internal involvement, but on the contrary prevents them, having most promising effect upon the tissue cells suffering from the special malignant inflammation.

Even in inoperative cases, in an advanced stage, and deep lesions, if the resistance of the patient is good, the Röntgen rays may give us comparatively good results.

The sloughing in an open lesion will progress more rapidly and with better results, the effect of our raying being more promising in the most terrible case if the exudate of the lesion is applied to those portions of the same, where the fighting ma-

terial for repair of the cells is most needed for obliteration of the diseased cellular element, liquefaction of the same or absorption and degeneration occurring.

Every case has to be watched individually; the susceptibility of the patient, the type of carcinoma, whether primary or secondary, its duration, extent, and severity of systemic infection must all be taken into consideration.

REPORT OF A CASE OF TYPHOID FEVER COMPLICATED BY DOUBLE PAROTIDITIS.*

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Case. Augusta O.; age thirteen; school child; birthplace, United States; was admitted on November 23, 1909, to the Norwegian Hospital, Surgical Division.

Family history, negative.

Previous history: Present illness dated back two or three weeks ago when patient noticed indefinite pains in abdomen. These pains were of a dull, aching character and not continuous. Patient felt tired all the time, and the pain kept growing worse till she was compelled to remain in bed. Later, pain became localized in the right iliac region and surgical advice was sought.

Prompt removal to hospital was followed by immediate operation.

Incision in right abdomen showed many adhesions present with appendix firmly bound down by same. Observation showed mesenteric glands very large and swollen. With the belief that conservative measures would best conserve the interests of the patient the incision was promptly closed and the wound dressed in the usual manner.

The temperature for the next four days ranged from 100.4° to 103.4° F., the same being continuous in character. Pulse ranged from 100 to 132, rapid in character at all times. The respirations ranged from 24 to 40, the average being about 30.

On November 28, 1909, patient was transferred to the medical division with the diagnosis of typhoid fever. Widal reaction was positive. Tongue was tremulous, dry, brown coated except tip and edges. Abdominal examination showed slight tympanites. No rose spots. Spleen was slightly enlarged. Marked pallor and cachexia. Skin was dry. No skin eruption anywhere. Site of recent operation showed wound to be healing slowly. Temperature, from 102° to 103.2° F.; pulse, 110 to 120, in character regular, small and of low tension; respirations ranged from 28 to 35. Bowel movements loosely formed and brown in color. Occasional cough was present with signs of a simple bronchitis. Uranalysis. Color, amber. Odor, urinous. Reaction, acid. Specific gravity, 1.030. No sugar. No albumin. Uric acid crystals with urates and epithelium present.

Hæmanalysis.—December 3, 1909. Leucocytes, 11,800; polymorphonuclear leucocytes, seventy-eight per cent; lymphocytes, sixteen per cent; large mononuclears, four per cent; eosinophiles, two per cent.

December 1, 1909. Temperature, 103° F.; pulse, 118; respirations, 32. General condition unchanged. Brown fluid dejections. Patient complained for the first time of slight pain and tenderness on left side of face and neck, just under and above the angle of lower jaw.

Swelling in neck had increased by December 2d, so that mastication became almost impossible because of pain. Other symptoms were unchanged. A diagnosis of left sided parotiditis complicating typhoid fever was made. There was also moderate pain all over abdomen. At 12:30 a. m., or one hour from the onset of pain in abdomen, an intestinal hæmorrhage occurred. Dark blood with many clots was passed through the night. Temperature, 104.4° F.; pulse, 120; respirations, 35, the latter were shallow in character.

December 3d. Pain in abdomen continued. Swelling of left side of face and jaw was extreme. There was also beginning swelling of right parotid gland. Temperature, 103.4° F.; pulse, 118; respirations, 32.

December 5th. Another intestinal hæmorrhage occurred today, which was slight in amount. In consequence the temperature dropped two degrees. No pain was complained of to-day. Left parotid decreased in size while the right parotid gland became larger.

December 8th. Both parotids decreased in size with no tendency to suppuration. Temperature varied to-day from 100° to 103° F. General condition was improved. Pulse rate ranged from 96 to 112 and was stronger in quality. No tympanites. Tongue showed a tendency to become clean.

December 10th. Decided improvement. Temperature, rectal, 102° F.; pulse, 134; respirations, 28. Appetite began to improve at this point in the disease. Both parotids were found to be almost normal in size to-day. Abdominal wound was dressed and healing was found to be rather slow.

December 13th. Temperature per rectum was found normal; pulse, 115; respirations, 24. Appetite was fairly good. Tongue was clean. Pulse was stronger. Sleep was better.

December 15th. Much abdominal pain was complained of and patient later vomited a brownish fluid. Temperature, rectal, 98.4° F.; pulse, 108; respirations, 25.

December 16th. Improvement in every way. Vomiting discontinued. Temperature, normal; pulse, 100; respirations, 22.

December 22d. Temperature, 98.4° F.; pulse, 98; respirations, 25. Patient slept well and appetite was good. Eggs were added to diet.

December 26th. Patient was very comfortable and complained of nothing. Scraped beef was added to diet. Temperature, normal; pulse, 96; respirations, 24.

December 31st. Patient apparently recovering gradually. Temperature, 99.2° F.; pulse, 100; respirations, 24. Dejections were brown in color and formed.

January 2, 1910. Temperature, 101.8° F.; pulse, 118, respiration, 32. Patient was put back on typhoid diet because of rise in temperature.

January 5th. Temperature, 101.4° F.; pulse, 116; respirations, 30. Patient was given the syrup of the iodide of iron with hypophosphites and soft diet instituted again.

January 10th. Temperature, 103.4° F.; pulse, 120; respirations, 35. Patient appeared to be improved in spite of the rise in temperature.

January 18th. Temperature, 99.8° F.; pulse, 100; respirations, 28. Patient said she felt very well. Appetite was good.

January 26th. Temperature, 99° F.; pulse, 96; respirations, 24. Patient was put on a full diet and allowed to sit up in bed.

February 1st. Patient was allowed to get out of bed Temperature normal; pulse, 90; respirations, 26.

February 15th. Strength regained to a marked extent, appetite also improved.

February 25th. Patient had improved in every respect Marked gain in weight.

February 27, 1910. Patient was discharged in very good condition.

During the course of the disease the highest temperature was 104.6° F., rectal; the lowest was 98°: the average temperature was 101° F. The highest pulse rate was 132; the lowest pulse rate was 60; the average pulse rate was about 100. The respiration was highest the day after admission, namely, 40. After this time it varied from 20 to 32 a minute. The length of the disease was ninety-seven days. The treatment was purely symptomatic and expectant. Prepared milk with barley was the main article of food.

To recapitulate. The points of interest in this case would appear to be the following:

First, there was a child, thirteen years of age, presenting all the signs and symptoms of acute appendicitis.

Second, an exploratory operation showed the ap

*Read in part before the Long Island Medical Society at its regular meeting.

endix firmly bound down by adhesions with the esenteric glands so swollen and enlarged as to iggest either typhoid fever or peritoneal tuberculosis.

Third, the development of single and later double arotiditis, which by a few authors is regarded as very unfavorable symptom when occurring in the ourse of any acute general disease because of the robability of severe infection.

Fourth, the fact that the parotiditis was double stead of single, which is the common type when companying any general disease.

Fifth, that the double parotiditis cleared up without suppuration, which is rather unusual when arotiditis is a complication.

Sixth, the typical typhoid course of the disease we see it in adults accompanied by repeated emorrhages, which are uncommon in children.

Finally, the complete recovery of our patient ter a protracted course covering ninety-seven ys.

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ABUSE OF URETHRAL INSTRUMENTATION

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With the advance of urinary surgery, so many w instruments have been placed at the command the profession, that each physician adds daily to s armamentarium of instruments. While this is nducive to progress, it may carry the zealous and mbitious far beyond the limit of safety. I have t only in mind the latest urethral instruments, ch as dilators, urethroscopes, and cystoscopes, but e older instruments, such as sounds.

When a physician introduces an instrument, even catheter, into the urethra, he should have a thorugh working knowledge of its application and its dications; and above all, he should have a definte object in view. While an instrument may have beneficial effect when judiciously and opportunely plied, it will be deleterious when injudiciously ed. A good deal of our success depends on a rrect diagnosis, and this can be reached only after thorough and painstaking history and examination the patient.

Another important point to bear in mind is the portance of asepsis and antisepsis, which is just necessary for the success of urethral surgery as is in general surgery, for after treating the pant for a length of time without a distinct imovement, the physician is often disappointed with sults. It is, in fact, surprising that results of inermittent instrumentation are not more disastus; this, however, can be accounted for by the ndness of Nature and the resistance of the pant. Instruments often carry infection from one atient to the other, if not properly sterilized, and om one part of the urethra and its annexa to anher.

There prevails, in the profession, a prejudice gainst irrigation in the treatment of gonorrhœa, which is supported by the occurrence of epididymitis, but, to my mind, this prejudice is not well founded. When an irrigation is given under gentle pressure, using sterile water, after disinfecting the head of the penis and foreskin, and irrigating only the anterior urethra in acute urethritis, there is no reason why an epididymitis should occur, unless it is in a severe, very acute case. In such cases the physician must use a great deal of judgment in instituting the irrigation treatment. With a very sensitive inflamed posterior urethra, giving rise to spasm of the compressor urethræ muscle, there is a tendency to raise the pressure of the fluid; if this is the case, an epididymitis will often follow, and the physician alone is responsible for this complication. Then again, the urethra may be damaged by ordinary injections if too irritating.

For the production of epididymitis, two conditions are necessary; first of all, traumatism of the posterior urethra or prostate; and, secondly, infection. The infection may be due to the gonococcus, to the tubercle bacillus, or to nonpathogenic organisms that are normally present on the foreskin and in the urethra. That the latter organisms are capable of producing an epididymitis is proved by attacks occurring in patients who never had any venereal disease, and it only occurs after severe and careless urethral instrumentation, trauma being an essential exciting factor. Abrasion within the urethra serves as a portal for infection of the prostate, seminal vesicles, epididymis, and testicles. It is possible also to insult the annexa per rectum, especially after an excessive massage of the prostate and seminal vesicles.

But besides these evils consequent on urethral instrumentation, others follow within the urethra itself, such as false passages with their complications, strictures, laceration of the urethral mucosa, periurethral abscesses, etc. When the urethra is severely damaged in the course of instrumentation, as evidenced by a large amount of bleeding from the meatus, urethral fever is apt to set in, particularly in the aged, cachectic, and nephritic patients.

Before going into details of the mode of introduction of instruments into the urethra, mention should be made of asepsis and antisepsis as a part of genitourinary therapeutics.

With a gonorrhœal patient, we must bear in mind the presence of microorganisms on the foreskin and in the anterior urethra, and guard against their spreading into the deeper organs. How should this be accomplished? Cleanse the external genitals by means of soap and sterile water; wash the soapsuds off with sterile water, then with a mixture of one part of alcohol and three parts of water; now apply a mild antiseptic solution such as corrosive sublimate, 1 in 10.000, or potassium permanganate, 1 in 2.000, by means of a saturated strip of gauze applied to the parts. The second step is to sterilize the anterior urethra, and in order to do this it is not only necessary that the solution used be made up of sterile water, but the receptacle, as well as the percolator (irrigator), or hand syringe, must be sterile, and we must then proceed [illegible] our instrumentation.

The next question is: When, in the course of gonorrhœa, are we to interfere, and what instru-

ments are we to use, how are they to be used, and how often?

To begin with, let us take the simplest instrument, the soft rubber or silk catheter. This should be used only when the posterior urethra is to be treated, provided all acute symptoms have subsided, and barring of course acute retention of urine. The sterile catheter should be lubricated with sterile mucilage of tragacanth after the preliminary steps are taken and the hands of the operator washed. Often it is impossible to sterilize the hands carefully; it is then best to use a thumb forceps, previously boiled, for introducing the catheter. The indication for a catheter is a persistent posterior urethritis or a cystitis.

The next instrument of importance is the urethral sound and the various dilators, such as Kollman's, Oberlander's, and others. They all have their usefulness when appropriately applied. The ordinary sounds have various curves to be adapted to the deep urethra, but the Van Buren sounds are generally used. Recently a so called irrigating sound invented by Strauss found some popularity.

Sounds restore the calibre of a strictured urethra by aiding absorption of the infiltrate, hence a sound is indicated in chronic infiltrations of the urethral glands and the circumglandular structures and strictures.

Should the sound be introduced intravesically in every case? This depends entirely on the location of the lesion. If the anterior urethra alone is infected, anterior to the bulbomembranous junction, the sound should be passed only to the bulb and kept in there for ten or fifteen minutes, gently massaging the urethra upon the sound. For this purpose, straight sounds answer admirably, or a Kollman's dilator, using the straight blade. When the infiltration is soft and recent, then the dilator is better suited for the purpose than the sound and vice versa. A chronic posterior urethritis is not a sufficient indication for the application of a sound intravesically, unless there exists a stricture at the bulbomembranous junction, or in the membranous urethra itself; but the chronic inflammation cannot be influenced by the pressure of a sound, owing to the disproportion of the distending capacity of the prostatic urethra, the anterior urethra, and the meatus. In such cases, the dilator would be indicated, but then again a good deal of traumatism results from its use and infection of the prostate, if it does not yet exist, is bound to supervene, thus adding to the gravity of the case. If again, a chronic posterior urethritis is associated with a chronic prostatitis and possibly seminal vesiculitis, a sound in the deep urethra is worse than useless. A curved Kollman's dilator is also very useful in any stricture of the urethra where the meatus is too small to admit of full sized sounds, for instance, if the meatus admits a 24° sound and does not stretch very readily, it is not advisable to enlarge the opening, owing to the inconvenience of the patient experienced during urination, the stream splashes and sputters in all directions. When the meatus is smaller than 24°, then a meatotomy should by all means be done, both for drainage, if that be indicated, and for the introduction of larger instruments, endoscopes, etc.

Resolution in such cases may be brought about by massage of the prostate through the rectum, two or three times weekly; secondly, by the rectal psychrophore, through which a current of hot water is allowed to circulate for one half an hour, thereby influencing the prostatic circulation more powerfully than by any other method.

Another instrument which ought to be used with greater frequency is the prostatic psychrophore. It is shaped like a metal catheter with a recurrent flow and a blind end through which either cold or hot water may be circulated in the neighborhood of the deep urethra. I prefer hot water, however. This is continued for from twenty to thirty minutes; it relieves pain and inflammatory symptoms.

The urethroscope, of which there are various models, with straight and curved tubes; the straight being used for the anterior urethra is by far the most useful instrument, the curved being reserved for the posterior urethra only.

For the examination of the anterior urethra, the largest size tube should be used, while for the posterior urethra, the smallest size, such as 22°, in order to less damage the urethra.

The endoscope is indicated only when all other methods of treatment have failed. The lesions in the anterior urethra are more favorably influenced by the endoscopic treatment than those in the posterior urethra.

When there is a persistent anterior urethritis, not being prolonged by a posterior urethritis or prostatitis and seminal vesiculitis, and which is not deriving benefit from the usual modes of treatment, then should we alter our treatment and examine the anterior urethra, from the bulb to the meatus urinarius, for any localized patches of inflammation, infiltrations of the glands of Morgagni, the circumglandular structures, glandular cysts and abscesses, polypi, etc. Polypi are more frequent in the urethra than are commonly supposed, and the only symptom may be a persistent watery discharge after all symptoms of gonorrhœa are relieved. There may be a little painful urination and at times a bifurcated stream. I found them most commonly in the first two inches of the anterior urethra, usually in the navicular fossa, although I have found some as far back as the bulb. The polypi are best attacked by means of curette and the case is cauterized with ten or twenty per cent. solution of silver nitrate.

Some physicians condemn the use of an endoscope for therapeutic purposes, and use it only as a diagnostic agent, and their failure to benefit the patient is usually due to using too mild or too strong remedies to the localized patches, and possibly at too frequent intervals.

If the posterior urethra is affected, then the curved endoscope should very gently be used, more for diagnostic purposes than for treatment, in order to be able to exclude possible errors from the presence of foreign growths, such as papillomata and hypertrophied veru montanum. The urethra may be treated (especially, if it is a gonorrhœal inflammation), with a strong solution of silver nitrate, from one to ten per cent. through a Keyes-Ultzman's instillator, or better still, with less damage to the urethra, by means of a Bangs's instillating sound. It

ne inflammation, however, is nongonorrhœal, or is ue to an enlarged veru montanum, it is best treated y a curved endoscope, being careful to avoid pro- use bleeding. This latter can be obviated, to a ertain extent, by gently introducing the smallest ize tube and wiping off any blood that may ac- umulate in the tube and then applying the treat- ient. If, on the other hand, there is too much leeding, even with the most gentle manipulation, ien the endoscope should be discarded and the langs's instillator resorted to.

In some sexual neurasthenics there is a tendency or the veru montanum to hypertrophy, thus bring- ig about a reflex irritation of the entire genito- rinary tract, causing radiating pains in all direc- ons to the testicle, hypogastrium, lumbar region, tc., with variable manifestations such as frequent icturition. The veru montanum stands out promi- ently and looks spongy. It is best treated directly rough the endoscope.

This brings me to the most complicated instru- ient, the cystoscope. Of these, we have indirect nd direct cystoscopes, giving inverted and upright nages respectively; and of these we have the diag- ostic cystoscope, of which Otis's is a type, and the atheterizing cystoscope, of which Cabot's is an- ther.

The indications for use of the cystoscope are too ell known to everybody for me to discuss them, ith one or two possible exceptions. I would, per- aps, more profitably enumerate some of the con- raindications for its use.

In the first place, no cystoscope should be used efore some tolerance has been established for ure- hral instrumentation, by means of a few sounds assed for a week or two prior to the cystoscope. ts introduction should be preceded for about a eek by the administration of hexamethylenamine, o grains, three times a day, then after its intro- luction, 10 grains of quinine should be given in one lose to prevent urethral chills and the hexamethy- enamine continued for another few days. This is articularly the case in elderly people with diseased idneys. In order to make the operation tolerable, t is well to anæsthetize the urethra with a five per ent. aqueous solution of quinine urea hydrochloride *reshly prepared*. The manipulation should be done nder the most rigid asepsis and antisepsis, using saturated solution of boric acid for distending the ladder.

The cystoscope is used more for diagnostic than for therapeutic purposes, with a few exceptions, nd the physician should not be tempted to use the nstrument as a toy in order to satisfy his curiosity, as it may result in irreparable damage to the blad- der, urethra, and kidneys; particularly is this true of the catheterizing cystoscope.

If the cystoscope is ever to be used in the course of gonorrhœa, where there are no cystitis or symp- toms referable to this viscus, it should be only on very rare occasions.

When in a gonorrhœal patient there exists in all three glasses, a urine with traces of pus for an in- definite length of time, but with little or no dis- charge from the urethra and no prostatic involve- ment, or not sufficient to account for the pus in the urine, then, and only then, should the cystoscope be used to determine whether or not a gonorrhœal in- fection has ascended to the kidneys. Such cases may be treated locally by injecting about twenty- five per cent. argyrol solution into the affected kid- ney through the cystoscopic catheter. This is par- ticularly true if both kidneys are affected, since sur- gical interference is out of the question when the parenchyma of both organs is involved.

To recapitulate: Be conservative, and let Nature bear the burden of responsibility; assist Nature only when she refuses to work; if you do assist her, do it thoroughly, conscientiously, and gently.

[illegible] SECOND WINNER.

Our Readers' Discussions.

[illegible] *decided upon, the further questions are as follows:*

CVI.—How do you treat obesity? (Closed January 16, [illegible])

CVII.—How do you treat acute otitis media? (Answers [illegible])

CVIII.—How do you treat [illegible]? (Answers [illegible] later than March 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. [illegible] *cussion.*

The prize of $25 for the best essay submitted in answer to question CV has been awarded to Dr. J. G. Walker, of [illegible]

PRIZE QUESTION CV

[illegible] FOR PERFORMING CIRCUMCISION.

[illegible], M.D.

Circumcision is best performed upon children under a general anæsthetic. In youth and adult life local anæsthesia is preferable inasmuch as it eliminates the risk and disagreeableness of chloroform or ether inhalation. The technique of the operation is the same regardless of the age of the patient or the method of anæsthesia.

First sterilize the penis with gauze sponges, tincture of green soap, and sterile warm water. Follow this with a liberal use of a one per cent. carbolic acid or saturated boric acid solution, thoroughly cleansing glans and mucous surface of the prepuce and the entire penis. Finally apply an alcohol compress about the penis, which is to be left for three minutes.

If local anæsthesia is to be used, apply a fairly tight band of sterilized rubber at the root of the penis. This procedure numbs the part and by increasing the amount of blood at the parts for a time

promotes the after healing and increases the resistance to infection, controls hæmorrhage, and prevents systemic absorption of cocaine. For infiltration a two per cent. solution of cocaine is used to which is added five minims to the ounce of adrenalin chloride. 1 in 1,000. The addition of adrenalin makes the cocaine more effective and prevents capillary oozing and the tendency to excessive œdema of the cut edges. A complete œdematous ring is thus produced just posterior to the corona by infiltrating under the skin with the cocaine solution, making three or four punctures and passing the needle full length, expressing a little fluid as the needle is introduced to render insertion painless, and injecting freely as the needle is withdrawn. This completed, further antiseptic toilet of the glans and prepuce is carried out. In an easily retracted foreskin this second cleansing is not required, but is always imperative in cases of tight phimosis or adherent prepuce, and, if possible, adhesions are overcome and the glans completely exposed and cleansed.

The penis is then drawn through a slit in a sterile towel or gauze and the thighs and pubic region covered with sterile materials to protect the field of operation. The prepuce is then drawn well forward over the glans, but not too tightly, and clasped by the thumb and forefinger or a long slender clamp.

In cutting away the redundant tissue apply the scissors between the glans and the fingers or clamp and hug the latter closely cutting from the dorsal surface obliquely forward and downward. Care should be taken not to draw the foreskin forward too tightly, since when released, if too much has been removed, one may be chagrined to see the skin retract almost to the root. If on the contrary too little is removed it is an easy matter to trim the stump to the desired length. The skin should contract to a neat ring just behind the corona when properly trimmed. The mucous membrane should then be slit with scissors on the dorsal surface to within one sixth of an inch of the coronal sulcus and the membrane trimmed to this margin in the entire circumference except at the frenum, where both membrane and skin should be cut slightly farther back to avoid wounding the frenal artery. In case the artery is severed it should be picked up with forceps and ligated with fine chromicized catgut, as should all other bleeding vessels. The coaptation sutures for children should be fine chromicized catgut, for adults silk or silkworm gut is used. Horse hair has insufficient tensile strength if violent priapism occur, and catgut when weakened by absorption is objectionable for the same reason. The number of sutures varies and should be sufficient to neatly coapt the edges of skin and membrane. The first suture is inserted at the frenum, the second at the middorsum. Then either segment, between these points, should be coapted by inserting from one to three sutures, according to the space intervening. One suture on either side should be left untied and the rubber band removed and the penis massaged forward to encourage bleeding to relieve of excessive œdema and the elimination of as much of the infiltration solution as possible. The remaining sutures are then tied and if the glans is abraded from the breaking of adhesions it is covered with boric ointment. The line of suture is covered with an inch strip of sterile gauze wet in a solution of phenol, one per cent.; glycerin, from fifteen to twenty per cent.; and sterile water. A sterile bandage, one inch wide, is begun above the meatus, so as to allow for urination, and extended to the root of the penis, and the line of sutures kept continuously moist with the phenol glycerin solution applied cool or at ordinary temperature. The scrotum is held up by a suspensory and the penis elevated against the pubis by a bandage around the body or adhesive strip over the dressing.

The sutures are removed in six days. The bowels are kept active and the patient on an unstimulating diet. Priapism is avoided as far as possible by a dose of bromide or hyoscyamine at night, and the patient should maintain the recumbent position for a couple of days. This is especially necessary in cases where the glans is much lacerated from the solution of adhesions. The moist dressing should be changed the following day and thereafter only when soiled. Powders may be used before the moist dressing is applied, but are superfluous. A moist dressing is the only one to be considered. The one per cent. phenol is slightly anodyne and the glycerin keeps the dressing from drying out and sticking to the sutures as in the case of a powder and dry dressing, and therefore the tendency to priapism is avoided. The dressing is antiseptic and takes up secretions promptly, preventing infection and promoting prompt healing with the most comfort to the patient.

Dr. J. S. Risser, of Blackwell, Oklahoma, remarks:

The method employed depends upon whether the patient is a child or an adult. In the latter general anæsthesia is not justifiable save as circumcision is done in connection with some other operation.

In the case of infants and children my method is as follows: The penis and its environs are carefully but gently cleansed with sterile warm water and green soap. A sterile cloth, perforated, is thrown over the penis to exclude all other parts from the field. When anæsthesia is obtained, a grooved director is passed into the preputial cavity dorsal to the glans, and with a sharp bistoury or scissors the prepuce is divided smoothly as far as the corona. All adhesions between the inner layer of the prepuce and the glans penis are then separated and any collections of inspissated smegma present are removed. With a thumb forceps grasping the angle made by the anterior edge of the prepuce and the incision, each lateral half is gently put upon the stretch, and beginning on the dorsum, is divided with sharp scissors on a level with the corona. The result is to leave the frenal margin of the prepuce slightly longer than the dorsal. Also the margins of the two layers of the prepuce are in close apposition just posterior to the corona glandis. In infants and many older children nothing further is needed except the dressing. To apply this, make gentle traction upon the head of the penis and snugly wrap about the organ a few layers of sterile gauze, allowing the margin to extend about halfway between corona and meatus.

If there should be hæmorrhage or imperfect approximation of the preputial margins a few sutures of small, plain catgut are inserted and tied loosely. Seldom are more than three or four required. The ends may be left long and tied loosely over the dressing to retain it in place. Three or four days later this dressing may be replaced by a similar one or the parts simply dusted with sterile boric acid powder.

In adults and tractable children local anæsthesia is the rule. Preference is given either to cocaine with adrenalin or quinine and urea hydrochloride. The prepuce, after thorough cleansing of the parts, is infiltrated at the level of the coronary sulcus, one must be especially careful to anæsthetize the frenal region. A still better way is to employ the nerve blocking method by infiltrating a ring about the base of the penis.

If there is phimosis, the method of dorsal division upon the grooved director may be employed, but the clamp method is my choice. The prepuce is drawn well forward and a phimosis or other forceps applied parallel to the corona and at such a level that, on retracting, the margin of the prepuce will coincide with the corona. A little judgment and experience will tell where to place the clamp. Then with sharp scissors, or preferably a knife, the portion of prepuce anterior to the forceps is removed. The forceps is unclamped and the mucous layer of the prepuce divided as far as the corona. The resulting triangular flaps are then removed by incisions extending from the dorsal edge along the corona to the frenum. The four cardinal sutures are then placed (dorsal, lateral, and phrenal), and others if needed to stop all hæmorrhage. The sutures are of fine catgut or Pagenstecher linen and the ends are left long. A few layers of sterile gauze are then wrapped snugly about the penis and the ends of the cardinal sutures tied over it. After three or four days the sutures, if of linen, are removed, the dressing is changed, and the patient discharged.

Dr. Eric C. Beck, of New York, states:

Every physician is familiar with the conditions of the penis, or rather of the glans and prepuce, which necessitate the operation of circumcision. Then let us proceed to the operation itself.

In infants I make it a rule to give the patient a few drops of chloroform to insure his quiet and to prevent involuntary interference with the operation on his part. The less I am hindered the more quickly I will have finished.

Two artery clamps are introduced on either side of the median line, holding the prepuce on the stretch. With straight, blunt pointed scissors I cut through the foreskin anteriorly until I am able to fold the lateral portions aside and backward, and in turn expose the glans completely. All adhesions are wiped away with a gauze compress, and any smegma or dirt present removed in like manner. The collar of preputial skin and mucous membrane is now cut away with the same scissors, care being [illegible] enough tissue to [illegible] as little surface as possible. There should be no ragged edges, but both wound margins must be so formed [illegible] approximated perfectly.

I find that the manner of placing the sutures and of applying the dressing is a very important point in preventing interference with primary union.

The first suture is placed at the frenulum, picking up the mucous membrane from within and then passing out through the skin. I use a curved needle with sharp edges for this purpose. Be sure to catch the dorsalis penis artery to control the bleeding. Tie the suture and leave the ends about two inches long. The second suture is placed at a point directly opposite on the under side of the glans, and the third and fourth sutures laterally and midway between the anterior and posterior ones. In each the ends are left long. These ends perform the duty of holding the dressing in place, the *only* dressing that is necessary, a strip of iodoform gauze. It is tied over the sutures and held in place by the long ends which are knotted about it, and when completed the dressing fits the glans like a turban. It stays in place, protects the sewed surfaces, and does not interfere with micturition. I usually advise the mother of the patient to keep the dressing moist with a 1 in 5,000 solution of bichloride of mercury. The dressing will in most cases come off by itself about the tenth day.

In the adult the method of procedure remains the same, with the exception that it may be done under local anæsthesia. For this purpose I use beta eucaine. Sometimes the bleeding from the penis of the adult is profuse and it becomes necessary to add a few extra sutures. The method of applying the dressing always remains the same. But in the adult we are liable to experience later trouble from nocturnal erections which not only cause the patient great discomfort, but may tear some of the sutures. By keeping the patient's bowels open, giving him an unstimulating diet, and administering potassium bromide once or twice a day, we are able to control this disturbing element.

Dr. Samuel Robbinovitz, of Brooklyn, N. Y., writes:

Prior to the operation I advise to give the patient a full bath both for the purpose of cleanliness and asepsis, which is so essential in this as in any other operation even of less significance, and also because we must bear in mind that the circumcised patient will be deprived of a bath for the next three or four days after the operation—as such are my instructions to the nurse or those in whose care the patient is placed—in order to prevent infection, which in many cases becomes inevitable if such precautions are not taken; a similar case to serve as an example is the umbilical cord of a newly born baby whose cut end of the cord is liable to be infected if the child is bathed before it falls off. The upper part of the thighs, lower abdomen, the pubes, the scrotum, and penis should be thoroughly washed and cleansed by means of green soap or its tincture, a flesh brush, and hot water. The prepuce should be separately and carefully disinfected. All the instruments to be used during the course of the operation should be put into a vessel comprising either a carbolic acid solution, 1 in 500, or a solution of lysol and boiled water.

In my estimation, the *simplest operation* is the most desirable one, hence I prefer, in my practice, to resort to the method as practised by the Jews,

and which is performed as follows: After thorough sterilization I draw the prepuce well forward, trying as much as possible to exclude any part of the glans penis, and retain it either with a clamp or with the thumb and index finger of the left hand. Then I cut the projecting end of prepuce off with a sharp, fine steel knife right in front of the glans, the cutaneous sheath I allow to retract; and grasp the injured part of the mucous membrane at the point where it was severed topmost between the thumbs and index fingers of both hands and split it into the two equal halves which it divides usually by such manipulation right down to the projecting ring of the corona. By doing so I avoid any suturing of any kind, but I simply sponge off the blood very quickly and wrap around the entire penis a narrow strip of iodoform gauze or styptic cotton up to the top, leaving out only about one quarter inch of the glans on top to allow the free passage of urine. After twenty-four hours I remove this dressing, or earlier if there should be any excessive bleeding, and redress it in the same manner for the next days till the skin is well healed up, when I permit patient to be bathed, and everything is well in a short time.

But, under such circumstances as an adherent prepuce or any venereal or other diseases of the penis in a patient, where this method is not applicable, I put a very thin probe between the glans and the prepuce through the preputial orifice for the purpose of separating one from the other as good as I can, then draw the prepuce well forward and clip the same with a polypus forceps in front of the glans, cut the projecting end off, allow the cutaneous sheath to retract, and slit the mucous membrane along the dorsum as far as its attachment. I then cut each half away following the line of the corona and leaving the frenum just sufficient to hold a few sutures. I use catgut for suturing, then dry the wound, and cover same with an iodoform gauze dressing, which, under such treatment, may remain on until the skin has united. It is evident to all how much more complicated this technique is than the former.

Dr. R. A. Bachmann, of Newport, R. I., observes:

The performance of circumcision should produce the following results:

1. A neat amputation of foreskin in which neither too little remaining tissue interferes with proper function of the organ or too great an amount causes the formation of a secondary "collar" usually about the frenum.

2. Retention of function of frenum.

The method employed should be rapid, anatomical, simple—not requiring special instruments rarely at hand, and as bloodless as is consistent with good results.

The procedure to be described seems to fulfill all these requirements and its practicability I can vouchsafe through the experience of many cases.

Have parts cleaned and prepared as for any other operation, paying special attention to fold between glans and reflected mucous membrane. Employ local anæsthesia, preferably novocaine with adrenalin. Inject in a ring of wheals around middle of penis. With tissue forceps grasp the upper edge of prepuce at middle point and put on stretch. Apply two long jawed hæmostats, along median line, so that their points correspond to the limit of amputation and their apposed edges to the median line. Cut between forceps with scissors. Grasp edge of lower lip at middle point, stretch frenum out smoothly. Apply two hæmostats so that their points come well up on the frenum (too much tissue left here results in a secondary thickening of this region) and their edges almost touch. Cut between. The prepuce is now split in a right and left half. No bleeding. With curved scissors trim off left half from point of upper forceps to point of lower forceps following the curve of corona of glans. Stop oozing with hot sponges.

It is best not to encircle the penis with elastic ligature previously. If the unrestricted oozing, which is slight, is stopped, there is no danger from a subsequent hæmotoma.

Insert six or seven silk, interrupted stitches, putting one beside the point of each remaining forceps and leaving the ends long. The cut skin and mucous membrane are accurately joined and easily stitched by stretching the cut edges between the remaining forceps. Trim the right half same as the left, using the two long sutures to put cut edges on a stretch. Complete operation. There should be a line of interrupted silk sutures, about twelve in number, parallel to the corona and just behind it, and no redundant tissue about frenum. Dress with gauze dressing, leaving small opening for meatus, the edges of which are sealed to the glans by collodion.

Dr. B. F. Jenners, of Portsmouth, N. H., says:

The patient is catheterized and the penis scrubbed and wrapped in antiseptic towels. Under conditions of strict asepsis a soft rubber catheter is drawn around the penis at its base and clamped with a hæmostat. Two per cent. cocaine is injected at a point in the middorsal line of the penis just distal to the turniquet. After introducing the needle it is partially withdrawn and reintroduced in such manner as to distribute the cocaine in a fan shaped area along the dorsum, thereby reaching the dorsal nerve and its branches. The penis is allowed to fall into a natural position, when the prepuce is grasped with a thin bladed hæmostat at a point in the middorsal line, and at another opposite the frenum. The hæmostats are now held by an assistant, in such a manner as to lengthen, but not stretch the prepuce. The penis is grasped in the operator's left hand, and while the lengthened prepuce is held it is removed with curved scissors, by one cut from frenum to dorsum, the scissors entering and leaving at points just beneath the hæmostats. The dorsal and frenal veins are tied. The frenal artery is tied if severed. The turniquet is removed. Four sutures of No. 1 catgut are introduced uniting skin and mucous membrane at middorsal line, midlateral lines, and at the frenum. The sutures are tied and left long. These sutures bring the skin and mucous membrane in apposition throughout the circumference of the severed prepuce. An assistant holds two of the guy sutures taut, and interrupted catgut sutures are introduced between the guy lines at intervals of one half inch. All four quadrants are sutured between guy lines in the same manner. All sutures are left long.

A strip of gauze is made into a loose roll about

three quarter inch in diameter. The roll is placed around the penis, covering the suture line, and between the long suture ends, which were left after closing the wound. The dorsal suture is tied around the centre of the roll, the other sutures are tied in turn over the gauze. When the suture at the frenum is reached the gauze is cut so that the ends will overlap beneath the frenal suture. This suture is then tied, securing both ends of the gauze. No other dressing than the gauze roll is required, although a bandage can be applied covering this dressing and the entire penis.

Therapeutical Notes.

Preparations of Sulphur.—As bearing on the note published in the preceding number on The Advantages of Sulphur as an Intestinal Antiseptic (see page 130) it may be of interest to enumerate the different preparations of sulphur used internally. They are as follows:

Compound powder of glycyrrhiza, U. S. P.; dose, one heaping teaspoonful.

Confection of sulphur, B. P.; dose, one to two teaspoonfuls.

Sulphoalkaline powder, Bellevue Formulary; dose, one level tablespoonful.

Confection of senna and sulphur, British Pharmaceutical Codex; dose, one to two teaspoonfuls.

Compound sulphur pastil, British Pharmaceutical Codex.

Sulphur lozenge, B. P.—each lozenge contains five grains of precipitated sulphur. Dose, one to six lozenges.

Compound powder of sulphur, Berlin Formulary.

Sulphur lozenge, French Codex.

Compound confection of guaiacum (Chelsea pensioner), London Hospital Pharmacopœia. Dose, one to two drachms.

The Treatment of Acne.—*La Clinique* for January 6, cites a note on the treatment of acne by Charles Fouquet in the *Journal de médecine interne*. In acne rosacea, after spraying with hot water, or a 1 in 100 solution of resorcin in water, the following mixture is applied at night:

℞ Precipitated sulphur, ...3i;
Pulverized talcum, ...gr. xxx;
Glycerin, ...3ss;
Rose water, ...3iv;
Tincture of quillaja, ...3iiss.
M.

In acne atrophica it is recommended, after spraying with hot water, to apply an ointment of salicylic acid of the following composition:

℞ Precipitated sulphur, ...gr. lxxv;
Salicylic acid, ...3ss;
Petrolatum, ...3x.
M. ft. unguent.

When the scalp is involved Sabouraud recommends the use of the following ointment:

℞ Precipitated sulphur, ...gr. lxxv;
Red mercuric sulphide, ...gr. xv;
Oil of cade, ...3iiss;
Oil of theobroma, ...3iiss;
White petrolatum, ...3v.
M. ft. unguent.

Ideal Ointment Basis.—In the practice of Dr. John A. Fordyce, New York, a mixture of the wool fat of the United States Pharmacopœia and ointment of rose water (cold cream) has been found to yield an ideal ointment basis. The proportions of each ingredient may be varied to suit individual cases, but a mixture of one part of wool fat to three parts of cold cream would seem to be one that might be employed generally.

Balsam of Peru as a Nasal Antiseptic.—After reviewing the value of the various applications used to keep the nasal passages free from contagion during epidemics of grippe, meningitis, and for disinfecting the same parts in measles, scarlet fever and grippe, Bourgeois (*Le progrés médical;* through *Bulletin général de thérapeutique* for December 8, 1910) recommends the application of the following ointment:

℞ Balsam of Peru, ...gr. xii;
Wool fat, ...gr. lxxx;
Petrolatum, ...3iiss.
M. Sig.: To be used morning and evening. Put up in a collapsible tin tube.

This ointment, applied at the outset, will, the author says, often abort an attack of coryza. It may be used in simple chronic coryza and in ozæna.

Cough Mixtures from the Roosevelt Hospital Formulary.—The following combinations are kept as stock mixtures in the Dispensary of the Roosevelt Hospital, New York:

COUGH MIXTURE NO. I.

℞ Morphine sulphate, ...gr. i;
Ammonium chloride, ...gr. xl;
Syrup of tolu, ...3ss;
Water, sufficient to make, ...3iv.
M. et Sig.: Two teaspoonfuls as needed.

COUGH MIXTURE NO. II.

℞ Potassium cyanide, ...gr. ss;
Morphine sulphate, ...gr. ss;
Fluid extract of wild cherry, ...3iss;
Syrup, compound, to make, ...3iv.
M. et Sig.: Two teaspoonfuls as needed.

CHILDREN'S COUGH MIXTURE.

℞ Ammonium chloride, ...gr. xxx;
Camphorated tincture of opium, ...3ii mxl;
Syrup of squill, ...3ii mxl;
Syrup of tolu, sufficient to make, ...3ii.
M. et Sig.: One teaspoonful as needed.

HYDROCYANIC COUGH MIXTURE.

℞ Codeine sulphate, ...gr. iv;
Ammonium chloride, ...gr. xlviii;
Diluted hydrocyanic acid, ...mxlviii;
Syrup of wild cherry, ...3v;
Water, sufficient to make, ...3ii.
M. et Sig.: One teaspoonful as needed.

IPECAC COUGH MIXTURE.

℞ Ammonium chloride, ...gr. lxxx;
Wine of ipecac, ...mlxxx;
Camphor water, sufficient to make, ...3iv.
M. et Sig.: Two teaspoonfuls as needed.

SANGUINARIA COUGH MIXTURE.

℞ Ammonium carbonate, ...gr. lxxx;
Tincture of sanguinaria, ...mlxxx;
Syrup of wild cherry, sufficient to make, ...3ii.
M. et Sig.: One teaspoonful as needed.

SQUILL COUGH MIXTURE.

℞ Tincture of squill, ...mlxxx;
Wine of ipecac, ...3i;
Syrup of tolu, ...3v;
Water, sufficient to make, ...3iv.
M. et Sig.: One teaspoonful as needed.

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IS FEVER BENEFICIAL?

It has often been suggested that the febrile process was in some way salutary. Dr. R. Lépine, who has recently gone over the subject rather carefully (*Lyon médical*, November 27th), reminds us that Sydenham taught that fever was curative, serving to separate impurities from the blood. There can be little doubt that the notion of the beneficence of fever has maintained a certain hold upon the profession down to the present time. Early in the nineteenth century that view was upheld by Fages in a Montpellier thesis.

The old Vitalists, represented by Van Helmont, says M. Lépine, looked upon fever as a process of reaction. This conception appears too narrow, for before the period of reaction sets in there is a time in which the morbid cause is at work, though the two may overlap, reaction setting in before the action of the cause of the disease has ceased. It is arbitrary therefore to limit the term fever to the reactive process. When clinical thermometry came into use it was shown that high temperatures in febrile diseases involved gravity of prognosis, so that there arose direct opposition between the Vitalists and the modern school of medicine. It is well to call hyperthermia fever, whatever its cause may be.

But fever is a complex process. Many physicians have fallen into the error of seeing in it only an abnormal augmentation of temperature; yet, save in cases of very high temperature, the thermic element is not the gravest feature of fever. Fever may be defined as a complex morbid state, with impaired nutrition, in which hyperthermia plays an important but not the essential part. In fact, as has been shown by Vallin, Potain, Teissier, and others, there are cases of pyrexia without hyperthermia, though the term athermic pyrexia, while preferable to apyretic pyrexia, leaves something to be desired.

Since fever is generally a very complex condition, it is important to analyze it biologically. Among the constituent processes, we may distinguish, first, that which is primary, the immediate result of excitation of the nervous centres by the causative agent, which in the great majority of cases appears to be a toxine. It is clear that this element in the production of fever cannot be curative. The second process is that of reaction, which is itself complex, for the reactionary process in an infectious fever leads, on the one hand, to the formation of antibodies and almost always, on the other hand, provokes hyperthermia by deranging the temperature regulating mechanism. Theoretically, the formation of antibodies is eminently favorable, but it may readily be understood that, as happens often enough in the case of reaction, it goes beyond a desirable limit.

As for the thermic reaction, it is in itself rather harmful, for an elevation of the central temperature, if somewhat decided, is a cause of impaired nutrition. If it is excessive, it is even dangerous to the more delicate elements of the organism. But we must not exaggerate this fact, as has been done before now. Moderate hyperthermia, even of considerable duration, is not of itself very injurious. Potain has cited cases in which the central temperature has remained above normal during convalescence from typhoid fever without injury to the patients, for they had adapted themselves to it. Temperatures as high as 102° F., provided they do not last long and are not the result of infection, do not seriously affect the economy. Contrary to what might have been supposed, the carbohydrates are not sensibly modified.

Moderate hyperthermia has no other ill effect than that of slightly impairing nutrition. As regards its playing a useful part, it has been thought to contribute to the destruction of poisons. This hypothesis is legitimate, for combustion is favored by an elevation of temperature. It is admitted also that it augments phagocytosis, the curative value of which is sometimes very great. Hyperthermia due to external heat and that which results from puncture of the brain appear to favor the formation of antibodies. It has been supposed that hyperthermia may facilitate the union of a toxine with an antibody, but this is pure hypothesis. We may conclude, however, that hyperthermia of itself may, along with its injurious action on the economy, ex-

rt indirectly an equally destructive action on t
nes, and thus prove favorable to the patients.

It may be said in general that fever is not curative, but it is incontestable that certain of its elements are curative while others are injurious, so that the question still remains as to whether or not we should treat fever. M. Lépine would answer this question in the affirmative, though he recognizes certain limitations founded on experience. Thus, in the cases of many persons attacked with what is vaguely called influenza, a name that covers such various conditions, one would not treat the hyperthermia, but rather favor it by hot drinks and reclusion in an atmosphere of elevated temperature. In typhoid patients, on the contrary, we should treat the hyperthermia, but in a methodical way, not by continuous refrigeration, but by cold baths at intervals of three hours, which serve to provoke reaction. In pneumonia one would not generally combat the hyperthermia. In certain other febrile diseases it will be well, on the other hand, to employ such antipyretics as antipyrine, which seem to reduce the temperature without hindering the formation of antibodies. In certain fevers, of course, such as the malarial, we have specifics at our disposal.

THE TRANSMISSION OF POLIOMYELITIS.

The Public Health and Marine Hospital Service has lately issued a valuable pamphlet entitled The Field Investigation of Epidemic Poliomyelitis (What the Health Officer Can Do toward Solving a National Problem), prepared by Passed Assistant Surgeon W. H. Frost. In his summary Dr. Frost remarks that in the light of our present knowledge epidemic poliomyelitis must be regarded as most probably transmissible by direct contact. Though its spread does not exactly follow the routes and the laws which we should expect in the case of a disease transmitted by direct contagion, it is to be remembered that infection of the human body with any microorganism is a fairly complex biological phenomenon into which there may enter many elements besides the mere bringing together of the body and the germ.

We must consider, first, that the infecting organism is not something fixed and unchanging, like a stable chemical compound, but something far more complex and probably very variable—a living organism reacting to all kinds of external conditions. Realizing the complexity of conditions in its environment, together with our inability even to analyze these conditions and still less to appreciate their effect upon an ultramicroscopic body, we must be prepared to find the organism deviating at times from the course which with our very limited knowledge we should have laid down for it.

Then, too, the element of susceptibility to the infection may be assumed to be extremely variable. There are some facts which indicate that only a certain proportion of persons exposed to the disease—usually a small proportion—are readily susceptible to the infection. In general it has been found to be operative upon only one member of a family or at most upon only a few. If we assume that the disease is contagious, the other members of the family have certainly been exposed to the infection, and their failure to be attacked with the disease would seem to be due to a lack of susceptibility. Moreover, even if we assume that the disease is not contagious and that infection is contracted from some other source in the environment, it is certainly probable that in general the members of a family, especially the small children, are likely to be exposed to the same conditions of environment. Therefore, whether we regard the disease as contagious or not, the rarity of multiple cases in a family seems best explained by individual variations in susceptibility. The occurrence of abortive cases, Dr. Frost thinks, is another indication in the same direction. Of course the conditions giving rise to susceptibility are unknown except in a broad, general way. Children are more susceptible than adults, males, especially in later life, more than females, and the white races more than the negro.

THE THERAPEUTICS OF DIGITALIS.

Recent investigations by Cushny and Mackenzie have shed considerable light on the therapeutics of digitalis, and incidentally have shattered some deeply rooted therapeutic heresies based on experiments on lower animals and on insufficient clinical observation. At the present day it is doubtful if any drug is more abused in the treatment of heart disease than digitalis. At Mackenzie's clinic careful graphic records are made of all the cases, and conclusions drawn from a consideration of these cases have, therefore, much more value than those from cases where this is not done. Treatment always begins with the expectant method, i. e., the patient is put to bed in order to see what rest alone will accomplish. After a period of varying length, active treatment is begun. In studying the therapeutic action of digitalis it was found that there were two large groups of cardiac cases, namely, hearts in which the original rhythm remained, i. e., the rhythm originated in the pacemaker, and hearts in which the pacemaker had abdicated its function, i. e., hearts with a new rhythm. While in the

first group of cases digitalis often causes considerable improvement (relief of dyspnœa, increase of urine, and relief of dropsy), the improvement is not at all a regular effect, and not nearly so marked as it is in the second group of cases.

When the pacemaker loses its supremacy there results a loss of coordination between the action of the auricles and that of the ventricles. A complete breakdown of the pacemaker produces the condition known as fibrillary contraction, or auricular fibrillation. Irregular impulses pass to the ventricle, which responds with very rapid action and very irregular rhythm. This makes a perpetual irregular pulse, and it is in these cases, which comprise from fifty to sixty per cent. of all serious heart cases, that digitalis does its best work. Curiously, too, it does not appear to act on the underlying cause, for the auricular fibrillation continues, but the ventricular action becomes more regular. Moreover, the other symptoms also disappear. The patients continue well under digitalis for a long time, and can often cut the dose down after treatment has been continued for some time. It would seem as though the beneficial effect in these cases consisted in saving the ventricle from too frequent impulses from the auricle.

According to Cushny (in a recent Harvey Lecture), digitalis is almost always given in far too small doses. The best results, he says, are got from the largest dose the patient can stand. He gives from a drachm to a drachm and a half a day, and continues these doses for long periods. There is no cumulative effect, and the patient will himself stop taking the drug when it begins to produce nausea. Of the other drugs which have been used in place of digitalis, only strophanthus and squill should be considered, and both these must be given in larger doses than digitalis, e. g., from one and a half to two drachms a day. Possibly squill and strophanthus are somewhat less likely to produce headache, but on the other hand both are more likely to produce diarrhœa. A persistent fallacy is to regard digitalis as producing increased systolic blood pressure. In the lower animals this is the case, but in none of the cases studied by Cushny and Mackenzie was any rise in pressure produced. The difference between the effect in man and the lower animals is probably due to the less perfect vasomotor mechanism possessed by the latter.

SOME LIGHT IN PARALYSIS AGITANS.

For centuries paralysis agitans has been a most acute problem. Galen gave an exquisite description of its tremor: Sylvius separated the tremor from its closest relative, the intention tremor of multiple sclerosis; Gaubius, in the middle of the eighteenth century, noted the propulsion; and Parkinson, in 1817, first erected the clinical entity shaking palsy, or paralysis agitans, and gave a description of its features that has entitled it to be known as Parkinson's disease to this day.

Although paralysis agitans has always been clinically recognizable, its pathological foundations have never been at all secure, standing in marked contrast to a related disorder, from which it was only separated by Charcot's genius, in the last forty years, multiple sclerosis, where the pathological features, strange to say, were known half a century before its clinical differentiation. The Hippocratic Sphinx has retained this disorder firmly within its bosom, and, though the guesses have been many, the firmly founded solutions are still to be sought for.

Three groups of symptoms stand out in the foreground in the modern study of this disorder: these are the altered muscular tone, the disturbances of motion, and vasomotor and secretory signs. The last play a subordinate rôle, but are frequently prodromal, and, though less striking, give a background of even color to the whole picture. They cannot be disregarded in the final analysis. The most striking and apparently most suggestive feature is the marked hypertonus. Whether the rigidity is directly due to the hypertonus is an open question, and there is a strong suggestion that both the hypertonus and the rigidity are due to an underlying interference with certain motor mechanisms, which, however, are not the usual frontospinal or pyramidal tract mechanisms. The absence of reflex phenomena, the waxy rigidity, the attitude, the fixation, all point toward a disturbance in the accessory motor mechanisms which are now recognized to implicate the cerebellum, the red nucleus, and the thalamus. Furthermore, the characteristic equilibrium disturbances are also controlled by the cerebellum.

The study of obscure tremors has revealed that lesions in the midbrain, chiefly involving tracts passing through the superior cerebellar peduncles, give rise to typical paralysis agitans tremors, and that lesions in the thalamus, apart from the chief sensory nuclei, give rise to the sympathetic disturbances that are so uniformly present. What leads to the early or late degeneration or disturbance in the functional capacity of these tracts is not yet revealed—whether it is going to be found in an insufficient parathyreoid secretion or in complicated hormone action of the parathyreoids is still an open question, concerning which much more light is needed in order to arrive at a satisfactory conclusion.

A CLERICAL TRIBUTE TO MEDICINE.

A correspondent has been kind enough to send us a leaf from an ecclesiastical periodical called the *Mentor*, published in Flushing, L. I., bearing an editorial article entitled The Ideal Doctor. We are so accustomed to derogation in these days that it is indeed gratifying to read such an article, but we believe that clergymen as a general thing are exceptionally appreciative of the efforts of medical men.

Obituary.

SIGMUND LUSTGARTEN, M. D., of New York.

Dr. Lustgarten died on Sunday, January 22d. He was an Austrian by birth and took his medical degree from the University of Vienna in 1881. He came to New York in 1889 and soon took a prominent position as a dermatologist; as a practitioner he was a man of unusual ability, and his personal qualities endeared him to his colleagues in the profession.

News Items.

A Special Clinic at the New York Postgraduate Medical School was given on January 19th, by Dr. John B. Murphy, of Chicago, on Bone and Joint Surgery.

The Annual Banquet of the Bronx Medical Association was held on the evening of January 19th. Dr. Charles Graef was toastmaster, and among those who spoke was Dr. Joseph D. Bryant.

Malpractice Suits.—Dr. Stephen Smith, of New York, will deliver an address on Some Recent Decisions of the Courts in Suits for Alleged Malpractice, at a stated meeting of the New York Academy of Medicine, to be held on Thursday evening, February 2d.

The Missouri State Board of Health held its annual meeting in Jefferson City recently and elected the following officers: Dr. E. F. Robinson, of Kansas City, president; Dr. S. B. Fuson, of Springfield, vice-president; Dr. Frank A. Hiller, of Kahoka, secretary and treasurer.

The Greater New York Surgical Trade Association held its seventh annual dinner on Monday evening, January 16th. Dr. S. R. Guildford, president of the association, was toastmaster, and among those who spoke were: Mr. F. H. Thomas, of Boston, and Mr. J. F. Hartz, of Detroit.

The Dayton, Ohio, Academy of Medicine held its annual meeting on Friday evening, January 13th. Dr. C. L. Paterson, health officer of the city, was elected president of the academy; Dr. W. C. Marshall was elected vice-president; Dr. W. E. Allaman, treasurer, and Dr. H. G. Marthens, secretary.

New Officers of the New York Pathological Society. At the recent annual meeting of the society officers to serve for 1911 were elected as follows: President, Dr. William G. MacCallum; vice-president, Dr. John H. Larkin; secretary, Dr. A. M. Pappenheimer; treasurer, Dr. [illegible] Carter Wood.

China Asks for Plague Experts.—According to cable despatches, the government of China has issued an appeal to the Powers to cooperate with her in studying the bubonic plague, with a view to ascertaining its cause and finding, if possible, some way to check its ravages. All nations are asked to send experts to the infected districts to study the epidemic, the expense involved to be borne by China. The first systematic step toward controlling the epidemic will be the isolation of the town of Fudziadian, [illegible] plague occurred last week.

The Long Island Throat Hospital and Ear Infirmary, at No. 55 Willoughby Street, Brooklyn, was [illegible] existence, and has turned over its building, valued at $15,000, to the Brooklyn Eye and Ear Infirmary. Dr. Charles T. Schondelmeier was president of the institution since its establishment twelve years ago.

The Minnesota State Board of Health.—At the annual meeting of the board, held recently in Minneapolis, Dr. W. A. Jones, of Minneapolis, was elected president; and Dr. B. J. Merrill, of Stillwater, vice-president. Dr. R. H. Mullen, of Minneapolis, was appointed head of the laboratory division, to succeed Dr. F. F. Wesbrook, who resigned recently.

The Medical Society of Jefferson County, N. Y.—At the annual meeting of this society, held in Watertown on Thursday, January 12th, Dr. G. E. Sylvester, of Black River, was elected president. Other officers elected at this meeting are as follows: Vice-president, Dr. F. R. Calkins; secretary, Dr. C. E. Pierce; treasurer, Dr. J. Olin.

American Guild of St. Luke.—At the next meeting of this society of physicians, to be held at the Catholic Club, No. 120 West Fifty-ninth Street, on Thursday evening, February 2d, the subject for general discussion will be Alcoholism in its Relations to Crime and Heredity. Dr. Charles E. Nammack is president, and Dr. James J. Walsh secretary, of the Guild.

Dr. Anders Honored.—Dr. Howard S. Anders, of Philadelphia, professor of physical diagnosis in the Medico-Chirurgical College, has been elected a fellow of the Royal Meteorological Society of London, on account of a series of investigations relating to weather phenomena and influenza epidemics, published since 1898 in the *Transactions of the American Climatological Association*.

The Gloversville and Johnstown, N. Y., Medical Association held its annual meeting in Gloversville on the evening of January 12th. Officers for the ensuing year were elected as follows: President, Dr. R. L. Ellithrop; vice-president, Dr. E. F. Hagedorn; secretary-treasurer, Dr. B. G. McKillip; trustees for one year, Dr. E. A. Stapleton, Dr. J. B. Bates, and Dr. George Lenz.

The Medical Society of the County of Richmond, N. Y., held its annual meeting in the Staten Island Academy, at St. George, and elected the following officers for the ensuing year: President, Dr. Frederick E. Coonley; vice-president, Dr. Charles E. Pearson; secretary-treasurer, Dr. Edward D. Wisely; censors, Dr. Walker Washington, Dr. A. H. Thomas, and Dr. N. D. Chapman.

The Medical Society of Warren County, N. Y., has elected the following officers for the ensuing year: President, Dr. Thomas H. Cunningham, of Glens Falls; vice-president, Dr. G. A. Aldrich, of Stony Creek; secretary and treasurer, Dr. M. L. Haviland, of Glens Falls; board of censors, Dr. J. M. Griffin, of Warrensburgh, Dr. Alexander McKee, of Glens Falls, and Dr. C. K. Burt, of Lake George.

Kansas City, Mo., Academy of Medicine.—The sixteenth annual banquet of this academy was held on Thursday evening, January 12th. The address of the evening was delivered by Dr. Joseph Collins, of New York, his subject being Analysis and Review of a Year's Work in a Neurological Hospital, with Remarks on the Therapeutics of Nervous Diseases. Dr. Joseph Block, president of the academy, was toastmaster.

The Medical Club of Philadelphia.—At a meeting of the club, held at the Bellevue-Stratford Hotel, on the evening of January 20th, the following officers were elected: President, Dr. William L. Rodman; first vice-president, Dr. S. Lewis Zeigler; second vice-president, Dr. Gwilym G. Davis; secretary, Dr. J. Gurney Taylor; treasurer, Dr. Lewis H. Adler, Jr.; governor, Dr. Edward L. Duer; additional directors, Dr. William Edgar Darnall, Dr. John A. McKenna, Dr. McCluney Radcliffe, Dr. Charles A. E. Codman, and Dr. Judson Daland.

Hartford, Conn., Medical Society.—At the annual meeting of this society, held on Monday evening, January 2d, the following officers were elected: President, Dr. Marcus M. Johnson; vice-president, Dr. O. C. Smith; secretary, Dr. A. R. Keith; assistant secretary, Dr. Edward H. Hotchkiss; treasurer, Dr. G. K. Welch; librarian, Dr. Walter R. Steiner; censors, Dr. C. S. Stern, Dr. J. B. Waters, and Dr. E. O. Elmer. Executive Committee: Dr. John H. Rose, Dr. J. F. Dowling, and Dr. F. B. Willard. [illegible] iner Horace S. Fuller.

The Northern Medical League is the name of a society recently organized in Philadelphia, by the physicians and druggists of the northern section of the city. The avowed purpose of the new organization is to further the interests of its members, scientifically and financially, and to establish a better relationship between the two professions. Meetings will be held twice a month. The following officers have been elected to serve for the first year: President, Dr. M. V. Leof; vice-president, Mr. G. Azoff; treasurer, Dr. H. Stembler; secretary, Dr. Harry S. Snyderman.

Society Meetings for the Coming Week:

WEDNESDAY, *February 1st*—Society of Alumni of Bellevue Hospital, New York; Harlem Medical Association, New York; Elmira, N. Y., Academy of Medicine.

THURSDAY, *February 2d*.—New York Academy of Medicine; Brooklyn Surgical Society; Dansville, N. Y., Medical Association.

FRIDAY, *February 3d*.—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Manhattan Dermatological Society; Practitioners' Society of New York.

Registration of Births Compulsory in New York City.—The Department of Health of the City of New York has issued a notice that Section 159 of the Sanitary Code will be strictly enforced hereafter, and that failure to comply with the requirements there laid down will be followed by prosecution. This section requires physicians and midwives to keep a record of the births at which they assist professionally, and to file a written copy of the registry of each birth with the Department of Health within ten days after such birth. Thirty-five actions under this section have been successfully prosecuted since October 7th, and about fifty more cases are pending.

An Institute for the Study of Malignant Disease in Buffalo.—A bill has been introduced into the State Legislature by Senator Loomis providing for an appropriation of $65,000 for the establishment in Buffalo of a cancer research hospital with a capacity of twenty-five beds. The proposed site of the institution adjoins the New York State Cancer Laboratory in High Street, where for the past twelve years Dr. Harvey R. Gaylord has been conducting investigations into the causes of the disease. The management of the institute is to be vested in a board of trustees of seven members, one of whom shall be the State Commissioner of Health.

A Woman Physician from China to Lecture in the United States.—Dr. Yamel Kin, the only Chinese woman graduate of an American medical school, arrived in New York on Monday, January 23d. She was accompanied by Miss Hsui Ian Pai, a young Manchu woman, who intends to study English in New York and then take up the study of medicine at Johns Hopkins University. Dr. Kin was one of the honor students at the Woman's Medical College of the New York Infirmary some years ago, and now heads the Woman's Medical Department of Northern China, with headquarters at Pei Yang. Dr. Kin will remain here two months and will lecture in several cities under the auspices of the Civic Forum.

National Tuberculosis Day.—April 30th has been set aside this year as "Tuberculosis Day," and will be observed in two hundred thousand churches in the country in a manner similar to that of "Tuberculosis Sunday" in 1910, when over forty thousand sermons were preached on the prevention of consumption. In one respect Tuberculosis Day of 1911 will differ from Tuberculosis Sunday of 1910. Instead of requesting the churches to give to the tuberculosis cause a special Sunday service, the National Association for the Study and Prevention of Tuberculosis is going to ask this year that meetings, at which the subject of tuberculosis and its prevention can be discussed, be held on Sunday, April 30th, or on any other day near that date, either in the week preceding or in the week following. The association is planning to gather statistics from thousands of ministers, showing how serious a problem tuberculosis is to every church. These figures will show among other things the number of deaths [illegible] tuberculosis in the church congregation, and the ways in which the pastors are called on to minister to sufferers from the disease. It is planned also to issue millions of circulars and pamphlets on the prevention of tuberculosis, both from the national office and from headquarters of the four hundred and fifty anti-tuberculosis associations who will co-operate in the movement.

Personal.—Dr. Peter Hughes, of Brooklyn, surgeon in chief to St. Catharine's Hospital for many years, has been appointed visiting surgeon to St. John's Hospital in Long Island City.

Dr. John D. McGill, of Jersey City, N. J., recently celebrated the fortieth anniversary of his connection with St. Francis Hospital.

At the recent annual meeting of the board of directors of the Episcopal Eye, Ear, and Throat Hospital, Washington, D. C., Dr. Joseph Taber Johnson asked to be relieved from his duties as a member of the board, and Dr. A. F. A. King was elected to fill his place.

Dr. Percy G. Smith recently resigned as superintendent of the Tuberculosis Hospital, Washington, D. C., and Dr. W. D. Tewksbury has been elected as his successor.

A "Symposium" on Poliomyelitis.—At a stated meeting of the East Side Physicians' Association of the City of New York, held on Thursday evening, January 26th, the evening was devoted to a consideration of poliomyelitis. Papers on the subject were read as follows: Epidemiology of Poliomyelitis, by Dr. Jacolyn V. Manning; Manifestations of the Acute Stage by Dr. Le Grand Kerr: The Cerebral Forms, by Dr. Henry Koplik; The Aetiology of Poliomyelitis, by Dr. Paul A. Lewis, of the Henry Phipps Institute, Philadelphia; Treatment by Massage and Electricity, by Dr. Henry W. Frauenthal; Surgical Treatment, by Dr. Dexter D. Ashley. Among those who participated in the discussion were Dr. William P. Northrup, Dr. Henry D. Chapin, Dr. Charles Herrman, Dr. E. Mather Sill, Dr George Dow Scott, Dr. Israel Strauss, and Dr. Herman Schwarz.

A Banquet to Dr. Harrison.—A testimonial banquet was tendered to Dr. Charles Custis Harrison, former provost of the University of Pennsylvania on the evening of January 18th in Weightman Hall, Philadelphia, by the heads of the various departments of the university. Dr. Edward C. Kirk, of the dental department, senior ranking dean in the university, presided, and others who spoke were: Dr. Edgar Marbury, technical instruction; Dr. Charles K. Mills, the medical school; Dr. Edwin T. Darby, dental school; Dr. William Romaine Newbold, the graduate school; Dr. John W. Adams veterinary medicine; Dr R. Tait McKenzie, physical education; Dr. G. B. Gordon, University Museum; Dr. Henry H. Donaldson, Wistar Institute; Dr H. R. Landis, Phipps Institute; Dr. William Draper Lewis, law school; Dr. Edgar F. Smith, the present provost, Our Boys, and, finally, Our University Family, Dr. Charles C. Harrison.

The Annual Dinner of the New York Postgraduate Medical School was held at Delmonico's on the evening of January 10th, under the auspices of the directors and the faculty of the school. About two hundred and fifty were present. Among the guests of honor were Surgeon General Charles F. Stokes, United States Navy, Surgeon General George H. Torney, United States Army, Colonel John Van R. Hoff, Medical Corps, United States Army, and Dr. W. S. Thayer and Dr. William Welch, of Johns Hopkins University. Others who sat at the guests' table were Dr. A. F. Chace, Dr. E. B. Dench, Dr. John I. MacPhee, Dr. Daniel Lewis, Dr. J. F. McKernon, Dr. Leonard Weber, Dr. Graeme M. Hammond, Dr. W. Lambert, Dr. G. G. Ward, Jr., Dr. Alexander Morgan, Mr. W. R. Mead, the architect, and Lawyer Howard Taylor. Dr. George N. Miller was toastmaster, and first introduced Dr. Chace. Surgeon General Stokes gave a two or three minute speech on Sanitation in the Navy.

Proposed Changes in the Pennsylvania Medical Practice Act.—A committee of the Pennsylvania State Medical Society, consisting of Dr. John M. Baldy, of Philadelphia; Dr. George W. Wagoner, of Johnstown; Dr. William L. Estes, of Bethlehem; Dr. Cyrus Stevens, of Athens; Dr. Frank G. Hartman, of Lancaster, and Dr. Otto C. Gaub, of Pittsburgh, with Dr. John B. Donaldson, president of the State Society, as ex-officio member, has been engaged in the preparation of a new law governing the practice of medicine in the State. Conferences are being held with the representatives of homœopathic physicians, with a view to having a law which will be both efficient and satisfactory to all. It is proposed to have a single medical licensing board, with the State commissioner of health as its president. The new law will probably be more stringent in respect to preliminary educational requirements, and will throw greater safeguards around the entry into the practice of medicine.

Resolutions on the Death of Dr. Lustgarten.—The members of the Medical Board of Mount Sinai Hospital, New York, have heard with profound regret of the death of their colleague, Dr. Sigmund Lustgarten.

In his death Mount Sinai Hospital loses one of its most faithful medical officers, distinguished by preeminence in his especial field of work, by unusual clinical ability, and by devotion to the highest ideals of the profession. His genial personality had endeared him to all his coworkers in the hospital, each one of whom feels in his death a sense of personal loss.

Resolved, That the foregoing sentiments be spread upon the minutes of the Medical Board, that they be published in the medical press of this city, and that a copy of the same be sent to his widow.

Resolved, also, That the Medical Board attend the funeral in a body.

A. JACOBI, M. D., Chairman.
M. MANGES, M. D., Secretary.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending January 21, 1911:

	January 14th.		January 21st.	
	Cases.	Deaths.	Cases.	Deaths.
[illegible]	443	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL

January 19, 1911.

1. The Sanatorium Treatment of Neurasthenia and the Need of a Colony-Sanatorium for the Nervous Poor, By FRANK K. HALLOCK.
2. Alimentary Gastric Supersecretion and Gastric Atony, By A. E. AUSTIN.
3. The Functional Spine. By JOHN D. ADAMS.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

January 21, 1911.

1. Report of Six Cases of Composite Odontomes, By THOMAS L. GILMER.
2. Infections of the Endometrium, By WILLIAM S. GARDNER.
3. Perforation of Uterus and Transfixion of Contiguous Mesentery and Peritonæum by Bone Crochet Needle, By E. GARD EDWARDS.
4. A Chronic Itching Eruption of the Axillæ, Pubes, and Breast, By MARCUS HAASE.
5. Report of Seven Cases of Syphilis Treated with Salvarsan, By MARK MARSHALL.
6. An Interesting Case of Confusional Insanity, By J. W. MEEHAN.
7. Foreign Material in the Stomach, By A. H. VANDIVERT and H. P. MILLS.
8. Diagnostic Value of Local Tuberculin Reactions, By THEODORE B. SACHS.
9. The Modern Treatment of Syphilis, with Reference to the Recent Syphilitic Preparations, By JOHN A. FORDYCE.
10. Treatment of the Pains of Acute Anterior Poliomyelitis, By TOM A. WILLIAMS.
11. Simple Complete Tonsillectomy. By G. E. GWINN.
12. A Case of Tabes Dorsalis without Ataxia, By AUGUSTUS A. ESHNER.
13. What Becomes of the Spirochætæ in the Secretions? By FREDERICK R. CHARLTON.
14. Two Appendices in One Person, By W. G. YOUNG.
15. Transmission of a Malignant New Growth by Means of a Cellfree Filtrate, By PEYTON ROUS.
16. Pyelitis Gravidarum, By THEODORE J. DOEDERLEIN.
17. Abdominal Diphtheria, By B. C. EVERALL.

1. Odontomes.—Gilmer reports six cases of odontomes. He remarks that odontomes are rare in man. They are more frequently found in the jaws of the horse and other animals, but when both those found in man and those found in animals are considered, the number is relatively small. Composite odontomes are most frequently found in the mandible, but are not to be excluded from the maxilla, since two of those in this report were from the upper jaw. They seem to belong to the molar region of the jaws. The composite odontome is made up of enamel, dentine, and cementum. These tissues may be thrown together in a more or less homogeneous mass, plus well formed diminutive teeth, all united by cementum, easily made out macroscopically, or the formation may appear to the eye only as a conglomerate mass with no well marked tooth forms. This simple, homogeneous mass, as observed by the unaided eye, is transformed by magnification in a complex tumor of regularly formed teeth with their roots and canals all cemented into a solid and compact body. The composite odontome differs from the ordinary dentigerous cyst containing diminutive teeth or dentary bodies, in that the dentigerous cyst contains no cement substance other than that which covers the root of the individual tooth, when perfectly formed teeth are found, with each little tooth or denticle separate and distinct from the other; besides there is a well defined cyst wall and cyst fluid. In the composite odontomes there is no cyst wall or cyst fluid. The origin of composite odontomes has not been fully made out, but it is reasonable to attribute them to the same source as that of multilocular cysts or adamantomata, that is, to unatrophied remains of the epithelial cord, or possibly to extra buds given off from the epithelial lamina, which have become distorted in development. Black attributes supernumerary teeth to additional buds, which buds he has demonstrated. The diagnosis of odontomes is generally spoken of as difficult. If the growth is of the composite variety and has been uncovered through absorption of bone with suppuration of the soft tissues overlying, it may be and is often mistaken for necrosed bone, since the color and general appearance are very similar, but on close examination, by means of the sharp steel probe, the texture is found different, the odontome being of a denser structure, resisting penetration, while dead bone may be penetrated to a limited degree. In addition to this difference we find in all cases of necrosis of the jaws thickening of the overlying soft tissues with induration. These conditions do not accompany odontomes. It may also, when not exposed, simulate osteoma, likewise that peculiar thickening of bone sometimes found about infected pulpless roots of the molar teeth. It may be confounded with sarcoma of the jaw or adamantoma. The surest method of differentiation of odontomes fully covered by bone is by the aid of the skiagraph. The odontome, being of dense structure similar to that of the tooth, may be skiagraphed in the jaw, as are the roots of teeth. The history accompanying odontomes is of value in diagnosis. They are of slow growth, the enlargement of the jaw usually having been noticed months or even years before the case presented to the surgeon. Such slow growths would not be the case in sarcoma. The absence of pain before the growth reaches the surface also distinguishes it from most malignant neoplasms.

5, 9. Salvarsan.—Marshall reports six cases treated with salvarsan. He remarks that the most interesting result of the use of the remedy was the rapid onset of the improvement after the administration. The primary lesions began to heal within two days. The mucous patches lost their irritability in fifteen hours. The ulcerating secondaries of the tonsils manifested an improvement in the same length of time, the first changes being a decrease in the infiltration of the surrounding tissues and a subjective lessening of the fifteen which caused difficulty in swallowing. All the patients are still under observation.——Fordyce states that except in a limited number of cases salvarsan in a single dose has not fulfilled its province of a specific in human syphilis. It is, however, a most efficient agent in controlling the early manifestations of the disease and in limiting the contagious sphere. As mucous patches and condylomata are the active carriers of the contagion, and most of the cases of infection occur through them, the value of the drug in making short this period cannot be overestimated. The result of an injection is fully equal to that of a prolonged course of mercury in the early stages and to a combination of mercury and potassium

dide in the later stages, with the advantage that e avoid the unpleasant byeffects of mercury, such salivation. It is especially valuable in combating nergencies in malignant syphilis, hereditary syph-s, and in those cases which are refractory to mer-ury. If we combine the mercurial treatment with lvarsan we can possibly accomplish a cure in six onths.

7. **Foreign Material in the Stomach.**—Vandi-rt and Mills found 1,446 foreign bodies in the omach of an insane man. The stomach weighed 268 grammes.

8. **Diagnostic Value of Local Tuberculin Re-tions.**—Sachs states that a vast amount of inical experience, gathered by numerous observers id substantiated in a proportion of cases by post ortem findings, points to specificity of the local iberculin reactions. The verdict of to-day is that positive reaction, following the local application tuberculin (conjunctival or cutaneous) signifies e existence of a tuberculous focus somewhere in e organism, without giving a definite idea of the tive or latent character of the process. Reactions curring on application of tuberculin differ in their gree according to various sites of the body se-cted as points of inoculation; a comparative study the results obtained by numerous observers is ssible only with a clear description in each indi-dual case of the site practised on. The results cutaneous tests performed with various dilutions tuberculin contribute to the belief that the actual mount of absorbed tuberculin is a factor of im-rtance in determining the degree of the reaction. ufficient evidence has not been produced so far to bstantiate the statement that a positive conjunc-val reaction signifies active tuberculous disease. he possibility, however, exists, that activity of a iberculous process may be a factor in causing a sitive local reaction with a minimal dose of tuber-lin, under certain conditions of the power of re-ponse. Hence the failure of the conjunctival test the clinically healthy and its uniform occurrence the clinically tuberculous (barring the very ad-anced cases, etc.). If this contention has any undation, a positive cutaneous reaction ought to possible in active cases of tuberculosis, with mini-al doses of tuberculin (greater dilutions). Fur-her experience with the cutaneous test, with vari-us dilutions of tuberculin, applied to various roups of cases, with a perfected technique, assur-ng thorough absorption of a definite quantity, may ssibly lead to some method of distinction of active nd latent cases. Cases of suspected tuberculosis, which the cutaneous reaction is rapid in develop-ent and marked in degree, generally respond read-y to the subcutaneous injections of minimal doses f tuberculin; hence the relative value of the cutane-us tuberculin test in cases in which the employ-ent of the subcutaneous test is for some reason ontraindicated. The subcutaneous test remains he decisive diagnostic procedure in doubtful cases f tuberculosis, particularly if a focal reaction is esired. The possible unfavorable effects of this est in some cases may be avoided by the use of mall doses of tuberculin (initial 0.2 or even 0.1 illigramme), according to the age and condition the patient. The work of von Pirquet, Wolff-Eisner, and Calmette opened a new field for further clinical and laboratory research, out of which may be evolved a safe, reliable method of diagnosis of the obscure and the very incipient cases of tuberculosis.

MEDICAL RECORD

[illegible]

1. Memorial Address on Doctor Robert Koch, By John A. Wyeth.
2. In Memory of Robert Koch, By S. Adolphus Knopf.
3. On Pylorospasm, By Max Einhorn.
4. Some Remarks on the Surgical Diseases of the Biliary Passages, By Alexander Bryan Jo[illegible]
5. Oliver Wendell Holmes; His Work in Establishing the Contagious Nature of Childbed Fever, By J. W. H[illegible]
6. Senile Debility, By I. L. Nascher.
7. Ichthyol in Pulmonary Diseases, By William S. Barnes.
8. Nonparasitic Cyst of the Spleen; Splenectomy, By Cyrenus G. Darl[illegible]

3. **Pylorospasm.**—Einhorn remarks that pylorospasm or spasmodic contraction of the pylorus can exist for a short period of time and disappear, or it can make its appearance quite frequently and last a long while. Rarely pylorospasm exists without any apparent cause (idiopathic form). More frequently, however, this condition is secondary and due to organic affections in the neighborhood of the pylorus (ulcers of stomach or duodenum, gallstones, etc.). Chronic pylorospasm is a frequent affection, which in its first stages is often overlooked. The principal symptoms are pains in the epigastric region, sometimes radiating more to the right side of the abdomen. Vomiting may exist. In the severe forms of pylorospasm peristaltic restlessness is encountered, and the pylorus may occasionally be palpated and felt as a smooth oval tumor. If ischochymia is fully developed the suffering is great and the picture of the disease resembles that found in an organic stricture of the pylorus. The treatment must first be directed against the primary affection; rest cure or duodenal feeding for ulcer of the stomach or duodenum, removal of gallstones, etc. Such treatment, if carefully carried out, very often results in the disappearance of the pylorospasm. In those cases in which the pylorospasm is idiopathic, or when the primary lesion cannot be entirely eliminated, stretching of the pylorus is of value. This mode of treatment corresponds to the same procedure practised in chronic cardiospasm, particularly when combined with dilatation of the œsophagus. The results obtained by Einhorn were good in nine cases.

7. **Ichthyol in Pulmonary Diseases.**—Barnes believes that in ichthyol we have a safe and valuable remedy in the treatment of diseases of the respiratory tract and of pleurisy. As to pneumonia he has used the drug in only one case, and that terminated fatally. He thinks that all cases of tuberculosis of the lungs and those disorders under suspicion should be treated with ichthyol as a means of bringing about a cure. Owing to the complex formula of ichthyol we are left to our own ideas as to what there is in the drug that has such a beneficial action. The therapeutists say that this drug is an alterative, contracting the bloodvessels and act-

ing as an intestinal antiseptic. Barnes believes that the drug is rapidly broken up in the stomach and that it acts as a stimulant upon the gastric mucous membrane, promoting a larger flow of gastric juice and increasing the power of digestion, thus aiding in the assimilation of food. His reason for this supposition is that patients who have done well under ichthyol immediately begin to show a greater desire for food, and their appetites begin to increase with remarkable rapidity. His experience with the drug has convinced him that unless there is this immediate improvement in the desire for food it is unwise to continue the treatment. As to any further action of the drug he states that its bowel property as an intestinal antiseptic is generally considered to be its most active virtue. It is probably by this means that the fever is reduced; that is, the toxines are eliminated from the blood into the intestinal tract, where they are neutralized and prevented from being absorbed. It has been his experience that ichthyol, when given in large doses, will produce a tendency toward frequent movements of the bowels (20 grains, three times a day). Whether or not any of the products into which ichthyol is decomposed are secreted by the mucous membrane of the respiratory organs the writer is unable to state. However, he believes that the drug does diminish the quantity of the discharge from the bronchial mucous membrane and hastens the return to a healthy condition, especially in those patients who have recovered from the acute bronchitis but still retain a cough accompanied by profuse expectoration. He gives it in solution, and because of its objectionable taste it is necessary to combine it with ordinary peppermint water, which makes it a fairly palatable mixture. Sometimes he adds a small amount of fluid extract of licorice, together with peppermint water. It should be given after meals. A very convenient form of administration is to give it in the form of a tablet containing 5 grains.

BRITISH MEDICAL JOURNAL

January 14, 1911

1. Results of the Surgical Treatment of Displaced Semilunar Cartilages of the Knee. By D'Arcy Power
2. Conservative Surgery of the Nose. By W. Stuart Low
3. On the Connection of Enlarged Cervical Glands with Carious Teeth, Enlarged Tonsils, and Adenoids. By H. Osborne
4. Draughts and Colds. By Ronald Campbell, M.D.

1. Treatment of Displaced Semilunar Cartilages of the Knee.—Power, in his second Hunterian Lecture, states that the lines of treatment appear to be well defined in cases of internal derangement of the knee joint due to injury of the semilunar cartilages. When the patient is seen directly after the injury every care should be taken to replace the injured cartilage in position by well considered manipulation. Rest in an extended position must then be insisted upon until the swelling has subsided and time has been given for repair, massage being employed during the whole of this period. It must be borne in mind that no satisfactory result will be obtained if the injury is treated simply as a sprain by rest and cooling lotions. It is essential that the cartilage should be replaced, for otherwise it is as useless to rest the joint as it would be to rest an unreduced dislocation. When these methods have failed, or when the original condition has been badly treated, and the patient is left with a chronically inflamed joint, which is insecure, painful, and locking, the sooner an arthrotomy is performed and the interarticular cartilage is removed the better it will be for the patient. His inquiries show that the least satisfactory results are obtained when the patient has been allowed to go about with a damaged fibro cartilage for months or years, the best results when he has had only a few attacks of painful fixation of a joint. In these latter cases the ligaments have not become stretched, and the joint quickly resumes all its normal functions.

LANCET

January 14, 1911.

1. Influence of Parental Alcoholism on the Physique and Ability of Offspring. By T. B. Hyslop.
2. The Rôle of Sepsis and of Antisepsis in Medicine. By William Hunter
3. Subtotal Hysterectomy for Fibromyoma Uteri; Forty Additional Histories. By Alban H. G. Doran.
4. Gangrene of Limb during Convalescence from Diphtheria. By A. S. Ransome and Edred M. Corner
5. Importance of Removing the Uterus in Certain Diseased Conditions of the Annexa. By J. M. Munro Kerr
6. The Association of Duodenal Ulcer with Appendicular Diseases. By Herbert J. Paterson.
7. The Treatment of Disseminated Sclerosis: A Suggestion. By E. Farquhar Buzzard.

3. Subtotal Hysterectomy for Fibromyoma Uteri.—Doran gives the statistics of one hundred cases of subtotal hysterectomy for fibromyoma uteri. In forty cases, or forty per cent., both ovaries were removed, and the menopause was neither immediate nor complete in four; in three out of the four the amputation was above the os internum. In thirty-nine cases, or thirty-nine per cent., one ovary was saved, and the menopause was neither immediate nor complete in twenty-one; in eighteen out of the twenty-one the amputation was above the os internum. In twenty-one cases, or twenty-one per cent., both ovaries were saved. The menopause was neither immediate nor complete in eight; in seven, possibly all, of the eight the amputation was above the os internum.

4. Gangrene of Limb in Diphtheria.—Ransome and Corner report a case of gangrene of the limb in diphtheria. They found nine such cases mentioned in the literature. In seven cases the lesion was a definite embolism; in one it is termed Raynaud's disease, and in two the origin is as obscure as the papers published in Madrid and Venice about twenty-four to thirty-four years ago are now unobtainable. In no less than six out of the nine cases the leg was affected; in one there were widespread gangrenous lesions in addition. In two other cases there was a widespread necrotic affection. Thus it would appear that in six out of the nine cases the gangrene was due to a vascular lesion, and that in two it was due to a vascular lesion with the addition of an infective or septic character in the embolus. In only one case, that which they record, was the diphtheria treated with antitoxine. The majority of the patients were children. The origin of these emboli seems to be in the auricles, particularly the left auricle, because in only one case was there also a pulmonary embolism. The em-

lus occurs during convalescence, at the time of action from the illness; in their case on the seven-enth day of the illness. It seems to occur only ter a severe diphtheritic attack. Subsequently to e embolism the temperature rose to 99.8° F. from bnormal, to which level it subsided, rising again a few days' time from septic absorption from the ngrenous part. They conclude that it is a curious ct that surgically the femoral or popliteal artery n be ligatured in young subjects without causing ngrene, and yet a postdiphtheritic embolus should use gangrene. The difference must be due to a rombus extending from the embolus; and in diph-eria an arteritis, having arisen from endarteritis, eventing the dilatation of the branches to form an astomotic circulation and aiding the extension of e thrombus; in addition there is the dystrophy the diphtheritic paralysis and the possibly infec-e condition of the embolus.

BERLINER KLINISCHE WOCHENSCHRIFT

December [illegible], 1911

[illegible] Duodenal Ulcers. By [illegible]

Relations between Ulcers of the Female Genital Or-gans and Diabetes Mellitus. By Felix Hirschfeld.

Leprosy and Carcinoma. By Munch Söegaard.

The Signification of the Antitrypsin Reaction in the Diagnosis and Prognosis of Carcinoma. By A. Pinkuss.

Further Experiences in the Treatment of Progressive Paralysis with Natrium Nucleinicum, By Julius Donath.

Nerve Troubles and Salvarsan Treatment, By P. Ehrlich.

[illegible] my Article on "Practice and Theory of Arsenobenzol," By Toulon.

Modern Studies Concerning the Physiology of Pulmonary Respiration. By A. Loewy.

1. **Chronic Duodenal Ulcers.**—Melchior dis-sses the occurrence of chronic ulcers of the duo-num, its more frequent diagnosis in America and ngland than in Germany, its situation, symptoms, d treatment, but the most interesting part of his per is the report of a case which cannot be prop-ly called one of chronic duodenal ulcer. The case as of a man, thirty-four years of age, whose thigh as amputated for sarcoma, who presented symp-ms of internal hæmorrhage, began to vomit blood o days after the operation, and died on the sixth y. Autopsy revealed a fresh ulcer in the upper ird of the duodenum that had eroded an artery. ine similar cases are quoted from literature. In ese cases he believes that there exists a predispo-tion, or diathesis, which goes along with a reduc-n in the vital resistance of the wall of the duo-num to the peptic action of the gastric juice. ich an ulcer has never been known to cause a ronic ulcer, all either caused death quickly, or ere found accidentally on autopsy.

3. **Leprosy and Carcinoma.**—Söegaard gives e following figures to show that carcinoma is very re among lepers. Of 2,269 deaths in the Nor-gian Hospital for lepers in which the cause of ath was known, only nineteen died of cancer, 0.84 r cent. Of these 2,269 leprous patients 696 men d 508 women were over forty years of age the me of death. Of these eight men, 1.2 per cent., d nine women, 1 per cent., died of cancer, in all, [illegible] per cent. The following figures are given as the mortality from cancer in Norway: In 1865, 3.5 per cent.; in 1880, 5.1 per cent.; in 1897, 7.5 per cent., and in 1906, 8.5 per cent. These figures are taken from the causes of death as reported by the physicians.

4. **The Antitrypsin Reaction.**—Pinkuss considers Brieger's antitrypsin reaction of great service in the clinical diagnosis of carcinoma.

6. **Nerve Troubles and Salvarsan Treatment.**—Ehrlich says that out of the great number of cases that have ben treated with salvarsan, which he estimates as between 25,000 and 30,000, only a single case has been met with in which a previously healthy eye showed signs of commencing optic atrophy after the injection. This, he shows, to have been a case of tertiary syphilis which had been treated previously with arsacetin and enesol, and he believes it to be more than probable that the effect on the eye was produced by these intensive preparations of arsenic. The sudden transitory disturbances of the vestibular nerve reported particularly by Urbantschitsch he believes due not to toxic injury of the nerve, but to a latent syphilitic affection of the nerve. The affection of the cranial nerves, particularly the acusticus and facialis, he likewise explains as not due to the remedy. In conclusion he says: The disturbances described of cranial nerves, enclosed for the most part in bony canals, are not of a toxic nature, but are syphilitic manifestations. They originate from separated spirochætæ remaining over after sterilization of the principal mass and occur likewise after mercurial treatment. The marked clinical symptoms are due not to their extent, but to their anatomical situation. Their slight extent or content of spirochætæ correspondingly occasion no Wassermann reaction and are usually promptly cured by renewed specific treatment. They are therefore not constitutional recurrences, but the last residue left by the preceding sterilization.

MUNCHENER MEDIZINISCHE WOCHENSCHRIFT.

January [illegible], 1911

1. Salvarsan Therapy; Retrospect and Outlook, By [illegible]
2. Digipuratum, By Gottlieb and Tambach.
3. Treatment of Cleft Palate Complicated by Monolateral Harelip, By Riedel.
4. Some Practical Suggestions in the Treatment of Peritonitic Ileus, By Kappis.
5. Sepsis Produced by Friedlaender's Bacillus, By [illegible]
6. Syphilitic Neurorecurrence, particularly after Mercurial Treatment, By Benario.
7. Symptomatology and Frequency of Intrathoracic Struma, By [illegible]
8. Chloroform Oxygen Narcosis, By [illegible] and [illegible]
9. The Reaction of the Urine in Paralysis to Liquor Bellostii, By Beisele.
10. The Technique of Treatment of Skin Diseases with Carbon Dioxide Snow. By Strauss.
11. The Technique of Treatment with Carbon Dioxide Snow. By Freund.
12. [illegible] By [illegible]
13. Fatal Injury by Masturbation per Rectum, By [illegible]
14. The X Ray Diagnosis of Penetrating Ulcer of the [illegible] By [illegible]
15. Address at the Opening of the New Poliklinik Building. By [illegible]

1. **Salvarsan.**—Ehrlich calls attention to the fact that he originally excluded as unfit for treat-

ment with salvarsan people with irritable cardiac nervous systems, heart disease, vascular degeneration, aneurysms, those who had previously suffered from cerebral hæmorrhage, and old persons. To these he now adds persons who are suffering from serious nephritis, diabetes, and ulcer of the stomach. He does not consider the remedy to be harmless, but the reverse, and fears damage will result from its use in improperly selected cases and without knowledge of the necessary technique. Even though he may not have attained his ideal of a therapia sterisans magna, still in the hands of experienced clinicians the remedy will prove a great advance on the old methods of treatment, and he continues to hope to attain his ideal.

2. **Digipuratum.**—Gottlieb and Tambach commend digipuratum as combining an energetic activity with a comparatively slight tax on the stomach and bowels.

6. **Syphilitic Neurorecurrence.**—Benario reports nine cases of syphilitic affection of the cranial nerves, chiefly the auditory, which proved obstinate to mercurial treatment, but responded to treatment with salvarsan. Hence he believes that the nerve recurrences observed after the use of salvarsan are not to be ascribed to the toxicity of that remedy.

7. **Intrathoracic Goître.**—Kreuzfuchs says that intrathoracic goitre is by no means a rare disease, but is one in which the diagnosis is apt to be very difficult without the aid of the x rays. The most important symptoms are dyspnœa, palpitation of the heart, difficulty in swallowing, cough, hoarseness, stridor, redness and turgidity of the face, cyanosis of the lips, dilatation of the veins of the neck and of the upper, anterior part of the chest, dullness over the manubrium sterni, and a deep position of the larynx. These symptoms together particularly favor the diagnosis of an intrathoracic goitre when they cannot be explained by conditions of the heart or lungs, or the presence of a goitre in the neck. There are other intrathoracic goitres that give rise to no troubles, but are revealed by the x ray examination. These cases should not be considered as unimportant, as the patients are predisposed by its presence to diseases of the respiratory and circulatory organs.

10 and 11.—Strauss and Freund present individually the apparatus for the production of carbon dioxide snow and describe the technique for its use in the treatment of skin diseases.

WIENER KLINISCHE WOCHENSCHRIFT

January 5, 1911.

1. The Photodynamic Actions of Fluorescent Materials. Preliminary Communication, By Hermann Pfeiffer.
2. Experiences in Tuberculin Treatment, By Josef Sorgo and Erhard Suess.
3. Tuberculin Diagnosis and Ambulatory Tuberculin Treatment, By M. Laub.
4. The Importance of Lordotic Albuminuria from the Point of View of School Hygiene, By Ludwig Piesen.
5. Herpes Noster Generalisatus, By G. Nobl.
6. The Use of the Blood Plate Method and the Complement Fixation Reaction in the Diagnosis of Sporadic Cases of Cholera, By M. Gioseffi.
7. Diet and Cooking in Chemistry, Physics, and Physiology, By W. Sternberg.
8. Remarks on the Ehrlich Debate, By G. Riehl.

2 and 3. **Tuberculin Treatment.**—Sorgo and Suess discuss at considerable length the use of tuberculin, which, they say, is increasing, and note some curious observations, not the least curious of which is the following: If a very minute dose is chosen and adhered to for many injections the local effect produced varies between these extreme limits. For example, if 0.000001 gramme of old tuberculin is employed in one case a distinct puncture reaction follows the first injection as well as the immediate following ones, but becomes weaker and finally fails to appear. In another case a febrile reaction follows the first injection, a weaker reaction the second, and the reaction becomes less and less until finally the dose is borne without reaction, thus showing a production of insensitiveness to the minute dose of tuberculin. But the reverse may happen. The first injections may be accompanied by no reaction, either puncture or febrile, and the reaction may first appear after frequent repetitions of the same minute dose, thus showing an increase of sensitiveness to tuberculin. Concerning the gradual increase of the initial dose, the method stated to be the most commonly used at present, they say that it is often impossible to increase the dose because of the oversensitiveness of the patient to tuberculin, and that any attempt to increase the dose even a little may result in an undesirable general reaction.——Laub presents the claims of tuberculin as a diagnostic agent and discusses its value in ambulatory work. Finally he makes the strong assertion that tuberculin accomplishes all that can be expected from a diagnostic and therapeutic specific against tuberculosis.

4. **Lordotic Albuminuria and School Hygiene.** Piesen says that children in school should be forbidden to sit with their arms crossed behind their backs, as this predisposes to lordotic albuminuria. The predisposition is greater in children of the same age among those who are taller, otherwise it increases with the age. Statistical studies also show the dependence of lordotic albuminuria upon the movability of the kidney.

INTERSTATE MEDICAL JOURNAL.

January, 1911.

1. The Present Status of the Noguchi System of Serodiagnosis of Syphilis. By Hideyo Noguchi.
2. On the Means of Finding the Spirochæta Pallida with Special Reference to the India Ink Method, By J. S. Cohn.
3. The History and Method of Application of Ehrlich's Dioxydiamidoarsenobenzol. By Lewis Hart Marks.
4. Syphilis of the Nervous System, By Ernest Jones.
5. The Treatment of Syphilis with Ehrlich-Hata "606"—Salvarsan, By A. L. Wolbarst.
6. Recent Progress in the Treatment of Syphilis, By H. Halloran.
7. Giant Cells in Syphilis, By John A. Fordyce.
8. Personal Observations with the Ehrlich-Hata ("606") Remedy, By B. C. Corbus.
9. The Public and Syphilis. By Isadore Dyer.
10. Syphilis and Pulmonary Tuberculosis, By Robert H. Babcock.
11. Syphilis as a Cause of Pauperism, By A. Ravogli.
12. The Sanitary Supervision of Prostitutes, By Prince A. Morrow.
13. The Scaphoid Scapula Syndrome; Its Connection with Syphilis in the Ascendants, By William W. Graves.

1. **Noguchi Test.**—Noguchi speaks of his own ethod of complement fixation test for syphilis, and ates that it is superior to the Wassermann reac- on, with which he compares it. Noguchi con- udes: "The complement fixation test for syphilis the method introduced and developed by me is pecific in the same degree as is the Wassermann ethod. It is somewhat more sensitive than the Vassermann in syphilis and parasyphilis, but is not o sensitive as to endanger the diagnostic value of ie test. My method is especially suitable in fol- wing the effects of antisyphilitic treatment on ac- unt of its delicacy. My method is strictly quan- tative in construction, having every factor entering ie reaction under quantitative control. By this ethod the estimation of the strength of the posi- ve reaction can be made in an accurate way. The Vassermann method is defective in this special oint, as no quantitative work is possible with that ethod. The quantity of blood required for my ethod is nearly one tenth of that needed for the Vassermann. The time and labor for carrying out y method are very much less than for the Wasser- ann. The preparation of the necessary reagents nd performance of the test may be separated and one by two different sets of workers. The per- rmer of the test is not required to be capable of reparing the reagents in order to get reliable re- ults, while in the Wassermann method the per- rmer must be capable of preparing the reagents efore his results are to be trusted. The most ssential and difficult reagents for the test are made table in my method, while this is not yet accom- lished for the Wassermann method. The adher- nts of the latter still follow the formula in detail aid out by Wassermann several years ago, hence eir reagents are in a most unreliable state. From he foregoing it is a benefit for every physician to pecify which method he desires to be employed for xamination of his specimens. The two methods re not equivalent in yielding the exact results."

2. **Method of Finding Spirochætæ Pallidæ.**—[illegible] refers in his paper also to salvarsan. He says ie examined lesions of all sorts, especially chancres, mucous patches, and secondary skin lesions, both efore and after injection. All told approxi- nately four hundred examinations were made. In very case except those which had been previously ubmitted to a long mercurial treatment, the spiro- hætæ were easily and quickly found. It should be mphasized as a safe rule to follow, that if any loubt exists that an organism is the spirochæta allida or not, one should, without hesitation, give negative report. He cannot state too strongly hat the picture presented by the India ink method is absolutely sharp. The gradual disappearance of the organisms following injection of comparatively mall doses of "606" was in striking contrast to the rapid disappearance following larger doses. Cohn concludes: How valuable the India ink method is for the demonstration of the spirochæta pallida in scrapings made from syphilitic tissue, such as fœtal liver or placenta, still remains in some doubt. His experience has not been very extended or conclu- sive, as at times he has found them in the tissue and at other times he has been unable to demonstrate them even when later studies with the Levaditi stain showed their presence. It seems to him that with the proper maceration and extraction of tissue, one should be able to obtain a homogeneous mixture with India ink, permitting its use here instead of the long Levaditi stain, and at present he is attempting to demonstrate the feasibility of this procedure.

3. **History and Technique of "606."**—Marks gives a review of the history of the discovery and the following development of salvarsan, and a description of the technique of injection; he prefers the Weintraub method. He concludes: "Because of the confusion in the available statistics and because of the smallness of the dose that is being used, it is almost impossible to ascertain at the present time what percentage of patients can be completely cured with one injection of the drug. We know, however, that many recurrences have occurred, and as the specific action of the drug upon the spirochætæ has absolutely been demonstrated, we should now try our utmost definitely to cure our patients. If, at some future date, it is found that a much larger dose given in the alkaline solution, intramuscularly, is sufficient completely to conquer the disease, then we would be justified in abandoning Ehrlich's present attitude. This will surely be the case, as the dosis tolerata for a human being computed from the average dosis tolerata for all animals would be from 5 to 7 grammes. At present Ehrlich regards the matter as follows: He says, a patient should be injected intravenously (0.4 or 0.5 gramme for women, and 0.5 or 0.6 gramme for men), and this injection should be repeated from three to eight days after the first injection. If at the end of four weeks the Wassermann reaction is still positive another injection should be made. There is absolutely no danger in frequently repeating the intravenous infusion of '606' from the standpoint of oversusceptibility. On the contrary, it appears that the patient stands the second injection better than the first."

5. **Salvarsan.**—Wolbarst reports five cases treated with "606," and believes that salvarsan is able to combat successfully conditions that remain unaffected by mercury and iodides for months and years; that while it is wonderfully effective it must be used cautiously.

6. **Progress in Treatment of Syphilis.**—Hallopean reports on the progress in curative and abortive treatment of syphilis.

7. **Giant Cells in Syphilis.**—Fordyce states that giant cells play in syphilis only a secondary rôle and are chiefly of interest because of the difficulties they present in a distinctive diagnosis from other infective granulomata, especially tuberculosis, and on account of their possible influence on treatment. Although many minor distinctions are made upon which to base a diagnosis between a tuberculous and a luetic lesion in the majority of cases from the histology alone it is impossible to say to which class of infections the specimen belongs.

8. **Observations with "606."**—Corbus reports thirty cases and states that he believes it is possible to do more with one injection of "606" in four days than one can accomplish in from six to seven months with continuous mercury treatment.

10. **Syphilis and Tuberculosis.**—Babcock says that "606" has not been given an extensive trial in

the syphilitic tuberculous. As a remarkable improvement in general nutrition follows the injection of "606" it ought to affect favorably all cases in which the patient is not too greatly reduced or the lung destruction not too great. Complications, as nephritis, arteriosclerosis, and myocarditis, all of which are sometimes seen in these doubly afflicted individuals, would contraindicate the employment of the remedy. All patients who for one reason or another cannot be subjected to "606" should receive, in the writer's opinion, an energetic mercurial treatment. This is true especially for all patients who are not too much reduced. In such, mercury should be tried, but cautiously, until its effect on general nutrition is determined. In the experience of the writer the conjoined use of inunctions and subcutaneous injections has given excellent results.

Proceedings of Societies

SOUTHERN MEDICAL ASSOCIATION.

Fourth Annual Meeting, held at Nashville, Tennessee, November 8, 9, and 10, 1910.

The President, Dr. W. W. CRAWFORD, of Hattiesburg, Mississippi, in the Chair.

(*Concluded from page 149.*)

End Results of Surgical Operations in Nervous Women.—This paper, read by Dr. S. T. RUCKER, of Memphis, was published in the *Journal* of January, 7, 1911.

The discussion was opened by Dr. A. A. HEROLD, of Shreveport, Louisiana, who recalled very distinctly a case of a woman whom he had visited in the gynæcological service of the New Orleans Charity Hospital. She was operated upon four times. First, for a retrodisplacement of the uterus, second, for the removal of one or both ovaries; third, for the removal of the appendix; fourth, for the removal of a kidney. At last, she was transferred to the neurological department, and what became of her after that he did not know.

Dr. GEORGE R. LIVERMORE, of Memphis, said that a man came to him for diagnosis and possible operation for kidney stone. He gave obscure nervous symptoms, with violent pain in the right side. The diagnosis had been previously made of appendicitis by another physician. He was operated upon and his appendix removed, but the pain was just as severe as before. Then a diagnosis of gallstones was made by a surgeon of Cincinnati, who operated for that condition. No gallstones were found. The gallbladder was drained, and the pain was just as severe after this operation as before. When he came to him, from the history of the case he thought his condition was more hysterical or neurasthenic than otherwise. Uranalysis was negative. He had never passed any calculi. X ray examination showed no stone in the kidney nor shadow anywhere, and so he refused to operate, and advised him to consult a neurologist.

Dr. J. A. CRISLER, of Memphis, recalled the case of a physician who had all the evidences of neurasthenia, including genuine hysteria, and who had the notion he had a bad gallbladder and a bad appendix. He came to him and Crisler refused to operate upon him. The patient went to every surgeon in Memphis, and went out of town to consult another surgeon, who removed his appendix and drained his gallbladder, since when the patient was perfectly well. Crisler said one might cite these cases one after another, and prove on the other hand that surgery was indicated.

Gunshot Wound of the Abdomen.—Dr. F. G. DUBOSE, of Selma, Alabama, reported a case of gunshot wound of the abdomen and chest, the bullet penetrating the stomach, the liver, and lung.

Foundation of Medicine.—The chairman of the Section in Surgery, Dr. E. DENEGRE MARTIN, of New Orleans, in his address, called attention to some of the loose stones in the foundation of medicine, and said methods of teaching were greatly to blame for the awkward work of beginners. The cadaveric courses now given in medical schools went far to better acquaint the student with the anatomical structures involved in the numerous operations, but the technique was at fault, as students only learned the replacement of the structures, but saw nothing of the various modifications which arose in every operation. A mere knowledge of anatomical relations, a theoretical mastery of pathology in the laboratories, was worthless until learned on the living body in relation to other structures. He believed a great advance could yet be made in methods of teaching.

Surgical Treatment of Hepatic Cirrhosis.—Dr. ARTHUR A. HEROLD, of Shreveport, Louisiana, reported three cases of hepatic cirrhosis and then drew the following conclusions: "I believe that all patients in the well marked atrophic cirrhosis of the liver should be advised to submit to surgical procedure, and should be informed that it is practically devoid of danger, and that there is a chance of prolonging his life and making him more comfortable thereby; also that he will carry a small hernia with him in the future. I do not consider results obtained on the whole brilliant; but I do not believe that failure to benefit one of those patients by operation will injure the reputation of either the surgeon or of surgery. As to the anæsthetic, if the kidneys show no lesion, ether is preferable, as general anæsthesia permits better examination of the liver and more freedom of work. If evidences of nephritis are present, it is safer to use a local anæsthetic and do a simple epiplopexy."

Why Ligate the Sac in Hernia?—In reading his paper Dr. H. A. ELKOURIE, of Birmingham, remarked that he had done within the last six years twenty-two operations for hernia without removing the sac, and his results had been very flattering. He had not had a single recurrence, and out of the twenty-two eighteen patients were now living within a radius of half a day's drive from his office.

Cancer of the Cervix Uteri and its Treatment.—Dr. A. G. PAYNE, of Greenville, Mississippi, said that the cervix uteri was affected with cancer more frequently than any other portion of the body. Fully one third of all women who died of cancer were the victims of uterine cancer, and cancer of the cervix was preeminently a disease of the child bearing period. Panhysterectomy was the only operation by which we could offer a woman with cervical can-

any permanent benefit or result, and then only case there had been no extension into the bladder, vagina, rectum, or glands. As soon as the disease spread beyond the cervix, a recurrence was inevitable, and only palliative treatment, operative or otherwise, was indicated.

Coxa Vara.—Dr. WILLIS C. CAMPBELL, of Memphis, reported a case of coxa vara, and said the diagnosis was not difficult with care in making the examination. As a rule, no medicinal measures were indicated, but in this case he believed that the thyreoid extract deserved a trial. In patients of moderate size a simple stilting abduction brace would be used until the bone was firm, when an osteotomy could be done below the lesser trochanter by any of the various methods, the extremity held in abduction and internal rotation by a plaster spica including the foot below and extending to the nipple or axilla above. He did not believe that a brace would be satisfactory in a subject with so much adipose tissue, but when further reduced we might be able to use any desirable method. At present the patient was in a plaster spica, extending to the nipple line, and the extremity held in as much abduction as possible. The condition had probably been present for one year, and at the expiration of two more years a corrective osteotomy could be done with excellent functional result if there was no further change visible by the x ray, otherwise he would wait until the process was stationary. In the meantime he should apply successive plaster spicæ with forcible abduction and internal rotation, which might restore the angle sufficiently to give perfect function.

Purgatives with Pain in the Belly, was the title of a paper by Dr. C. N. COWDEN, of Nashville, who said that there was no place for the administration of a purgative with pain in the belly unattended by diarrhœa. The point he desired to emphasize as strongly as possible was that the patient's danger lay not in the fact that the bowels did not move, but in the condition that produced the pain and obstruction, and the administration of purgatives of any kind under these circumstances with the idea in mind of attempting to force a bowel movement, was not only irrational, but was productive of the greatest harm to the patient. The patient did not get well because the physician forced his bowels to move, but in spite of the effect of the drastic measure. Why not be rational in the treatment of these cases and meet the indications with remedies or measures that were indicated and not by the indiscriminate use of purgatives? Purgatives were valuable remedies and were often indicated in the treatment of disease, but the cases were few and far between, not met with in a lifetime, in which they were indicated in the treatment of acute conditions of the belly, where pain was a prominent symptom.

Surgery of the Ovaries.—Dr. J. A. CRISLER, of Memphis, read this paper. He said that when a woman came to him with great pain in her ovary, for which no infection could be traced, who suffered before and after her menstruation and in between times, he could not tell, upon exploratory incision, which ovary was at fault by any macroscopical examination. On the contrary, on many occasions, he had found the ovary of which the woman complained and which was tender upon bimanual palpation, to be entirely normal in appearance upon cæliotomy, while the other ovary might contain a hæmorrhagic area half its size. When both ovaries were giving constant pain in a woman who was not necessarily neurasthenic, rendering her practically incapable, upon opening the abdomen, and both ovaries appeared as good or better than those noticed in a previous case that were not giving any trouble, he did not know whether to resect a portion of them in the hope of relieving the congestion and retention of large Graafian follicle cysts or to remove them entirely or to merely puncture the cyst and let some better surgeon remove them later or to confess absolute ignorance upon the subject and convict the entire profession of inefficiency, basing the proposition upon the present day literature on the subject and of our inability by any known means of distinguishing the good from the bad macroscopically and not clinically. He did not know when the removal of these ovaries would bring perfect relief to some women who did not seem to miss the so called internal secretion, while in others a series of the most violent and unpleasant symptoms followed the procedure regardless of the age of the patient. He mentioned these cases to show the broad contrast that could exist and the uncertainty of the effects of the so called ovarian secretion. A comparison was made of these ovaries that were removed and so far as he could tell, by a careful examination, there was relatively an identical similarity between them. The parenchymatous substance and stroma were normally arranged. The cortical surface presented a normal appearance. The vascularity was identical. There were no varicosities in the ovarian ligament vessels nor in the pampiniform plexus of either side. The corpora lutea were normally situated and distributed. The ovarian tension was not excessive, and the color was good, and no marked prolapse was present, and he did not know what caused the pain and its concomitant chain of symptoms.

Human and Bovine Bacilli Isolated from Eleven Consecutive Cases of Cervical Adenitis.—Dr. WILLIAM LITTERER, of Nashville, stated in this paper that eleven cases of primary tuberculous cervical adenitis were studied, which resulted in the isolation of five cultures of *Bacillus tuberculosis* of the human type, and six cultures of the bovine type. The classification of the types was made on the basis of four tests, the morphological characters of the cultures, the dysgenetic or eugenetic characters of the cultures, the relative virulence toward rabbits, and the reaction curve in five per cent. glycerin bouillon. This latter test served admirably to distinguish between the two types, provided careful control tests be rigidly adhered to. In gathering up the clinical data of the eleven cases, he was unable to discern a single feature of distinction between those persons who harbored the human type of bacillus, and of those who were infected with the bovine type. The only striking difference observed was the result procured from the administration of tuberculin. In order that uniformly satisfactory results be obtained from the therapeutic administration of this agent, he said it was imperative that the nature of the type of infection be determined,

so that a corresponding strain of tuberculin be employed.

Dr. W. M. McCabe, of Nashville, reported a case of elephantiasis caused by the *Streptococcus erysipelatosus,* which was associated with the *Bacillus prodigiosus.*

The Gamete Carriers.—Dr. Graham E. Henson, of Crescent City, Florida, spoke of the rôle of the gamete carriers in the cause of malaria, and said that until such a time as a campaign of enforced screening of all homes and public meeting places had been generally effected, it was imperative that in addition to the proper treatment of patients with acute clinical manifestations of malaria some means be devised to corral all chronic gamete carriers that either had frequent recurrences or possibly only after long periods of time, and that they be kept under treatment long enough to destroy all parasites they might be harboring.

Carbonic Acid Baths in the Treatment of Heart Diseases.—Dr. J. H. Honan, of Bad-Nauheim, Germany, stated that the results of his clinical studies convinced him that carbonic acid baths in most cases reduced high blood pressure, peripheral resistance, reduced dilatation, raised low blood pressure, increased the pulse volume, elimination, pulse amplitude, heart energy, duration of temperature, and relieved nervous irritability.

Dr. Thomas Weaver, of Nashville, discussed the complications and sequelæ of measles, based on a study of 470 cases.

Dr. C. C. Bass, of New Orleans, described a quick macroscopical typhoid agglutination test, and pointed out its application and advantages.

Dr. J. B. Murfree, of Murfreesboro, Tennessee, reported a case of aneurysm of the arch of the aorta, and exhibited the specimen. He said the course of thoracic aneurysm tended to death, and satisfactory treatment could only be hoped for when the aneurysm was saccular with a relative small neck to the sac.

Dr. J. M. King, of Nashville, reported six cases of dermatitis factitia, and said that the treatment for them was that of any simple dermatitis. The nervous system demanded the greater attention.

Pathology of Anterior Poliomyelitis.—Dr. O. H. Wilson, of Nashville, said that nearly all fatal cases of this disease terminated by paralysis of respiration, and in these œdema of the floor of the fourth ventricle was found with an extension of the inflammatory process well up the Sylvian aqueduct. The destruction of the ganglionic cell was a secondary result of the inflammatory process and the cell infiltration. The activity of the inflammation and the resistance of tissue determined the extent of this, thus influencing the character of the permanent paralysis. When localized destruction of some cells in the anterior horn was found, chiefly in the lumbar enlargement, we had the common type of poliomyelitis; when the pathology was localized and intense at a point involving practically the entire section of the cord, a rare condition, we might have a transverse myelitis. Acute bulbar paralysis might be seen when the intensity of the disease was located in that region, encephalitis when the cord symptoms were insignificant, and polioencephalitis when the symptoms were general.

Dr. Charles M. Nice, of Birmingham, discussed the symptoms and diagnosis of anterior poliomyelitis.

Infant Feeding.—Dr. Margaret O. Davis, of Nashville, brought out some points regarding the differences in human and cow's milk in infant feeding, the care of feeding utensils, etc. She emphasized the necessity of pure milk and its preference to the use of drugs in some cases. The predisposition to disease of poorly fed children was touched on. She emphasized the need of certified milk in cities.

Cardiorenal Treatment.—Dr. J. B. Guthrie of New Orleans, spoke of the use of digitalis in heart diseases. He withheld a salty diet in cases of dropsy, which, he said, assisted the patients in enduring the thirst, and made easier work for the heart. Measure of the urine was the gauge of treatment, and rest, dry, salt free diet and purgation gave as striking a change as we saw with the addition of digitalis. He recommended purgatives of strong salines or jalap in dropsy cases. In acute dilatation he recommended venesection, as well as the use of opiates to insure rest. He impressed the necessity of treating the heart muscle, even where the kidney or vessels were first affected, that is, to lighten the labor of the heart muscle by depleting measures, purgatives, diuretics, if the kidney was sound, rest in bed where possible, by the use of opiates, if there was distress, and by the reduction of drinking fluids. Digitalis might be given to prolong the rest period of the heart beat.

Treatment of Acute Anterior Poliomyelitis.—Dr. A. W. Harris, of Nashville, in summing up a paper on this subject, said that experimental work was still being carried on in this country and abroad, and all the recent knowledge gained as to ætiology, pathology, and clinical types should give much encouragement and should lead us to expect that in the near future a more certain means of making an early diagnosis and probably a specific therapeutic agent would be furnished us.

Double Perforation in Typhoid Fever.—Dr. E. M. Folkes, of Biloxi, Mississippi, reported two cases of perforation following typhoid fever. One patient died eleven days after a successful operation for the closure of the perforation. The diagnosis in this case was made early, and operation performed promptly. All of the patients of whom he had heard had died within twenty-four or thirty-six hours after the operation, which meant that a too early diagnosis could not be made, nor too prompt surgical interference had to save life.

Dr. A. B. Cooke, of Nashville, presented resolutions which were adopted, endorsing the medical inspection of all school children.

The *Gulf States Journal of Medicine and Surgery* was made the official organ of the association.

The association, by resolution, urged upon Congress the necessity of creating a National Department of Health for the protection of the present and future generations and the strict interpretation of the pure food and drugs acts, whereby the public could be shielded from foods drugged with artificial preservatives which sealed the inferiority of unfit material, from habit producing nostrums, and from

dhonest labels, even though in technical conform-a e with the law.

Officers.—The following officers were elected f the ensuing year: President, Dr. Isadore Dyer, l w Orleans; vice-president for Tennessee, Dr. \lliam Litterer, Nashville; vice-president for Florida, Dr. W. W. Adamson, Tampa; vice-president for Georgia, Dr. William C. Lyle, Augusta; v e-president for Alabama, Dr. T. D. Park, Birmi ham; vice-president for Louisiana, Dr. J. B. C thrie, New Orleans; vice-president for Mississ pi, Dr. A. G. Payne, Greenville; secretary treas-t r, Dr. Seale Harris, Mobile.

Hattiesburg, Mississippi, was selected as the p ce for holding the next meeting.

Book Notices.

We publish full lists of books received, but we acknowl- e no obligation to review them all. Nevertheless, so f as space permits, we review those in which we think r readers are likely to be interested.]

Practical Medicine Series. Comprising Ten Volumes n the Year's Progress in Medicine and Surgery. Un-r the General Editorial Charge of GUSTAVUS P. HEAD, I. D., Professor of Laryngology and Rhinology, Chicago ostgraduate Medical School, and CHARLES L. MIX, .M., M. D., Professor of Physical Diagnosis in the orthwestern University Medical School. Volume VI. eneral Medicine. Edited by FRANK BILLINGS, M. S., I. D., Head of the Medical Department and Dean of te Faculty of Rush Medical College, Chicago, and J. H. ALISBURY, A. M., M. D., Professor of Medicine, Chicago linical School. Series 1910. Chicago: Year Book Pub-shers, 1910. Pp. 352.

his is the sixth volume of the *Practical Medicine ries*, representing the progress of general medi-e during the year 1909. The review seems to representative, for there is naturally an embar-sment of riches to select from, and the editors ve been careful in their work.

Diseases of the Eye. By JOHN ELLIOT WEEKS, M. D., Professor of Ophthalmology in the niversity and Bellevue Hospital Medical College (Med-al Department of New York University); Surgeon to he New York Eye and Ear Infirmary, etc. With 528 ngravings and 25 Full Page Plates in Colors. New ork and Philadelphia: Lea & Febiger, 1910. Pp. ix-944. Price, $6.)

The announcement of a new work on ophthalmol-y by one of the world's foremost authorities and e confidence expressed by the publishers that the ork so planned and written by an authority of the ghest standing will promptly be recognized as a ader, invites a rather critical attitude on the part the reviewer, who has in mind Fuchs, Graefe-emisch, de Schweinitz, and others of lesser note. t it be said at once that Weeks has given us an ceptionally valuable and authoritative work, com-ete in scope, terse in presentation, and sufficiently ll in detail. The plan of the treatise is rather fferent from that of most textbooks and suggests ore the treatment common in encyclopædic or stematic articles in that, as regards many topics, me attention is paid to an analysis of the theories ncerned, whether involving ætiology, symptoms, rationale of treatment, and occasionally an his-rical synopsis is presented in condensed form. his naturally increases the interest and the in-formation to be derived, especially by the advanced student of ophthalmology, who while sufficiently familiar with the clinical manifestations of this or that affection, wishes to add to his knowledge of their underlying causes and to consult a summary of recent developments in his specialty. And the chapters and passages of a practical bearing are not less complete and instructive. Those on Ophthalmic Operations, on Ocular Conditions Connected with General Disease, on Sympathetic Ocular Manifestations, and on Special Remedies, are worthy of particular attention. The last named contains full notes on tuberculosis, sera, and vaccines, massage, radium, and the x rays in diseases of the eye. The embryology and anatomy of the eye are included in the work, and the subject of operations on the orbit and of the localization of foreign bodies in the eye by means of skiagraphy is explained and amply illustrated. One or two minor omissions, typographical errors, and slight inaccuracies will undoubtedly be corrected in the next edition, which, the reviewer feels sure, will be called for ere long.

Pathogenic Microorganisms. Including Bacteria and Protozoa. A Practical Manual for Students, Physicians, and Health Officers. By WILLIAM HALLOCK PARK, M. D. Professor of Bacteriology and Hygiene in the University and Bellevue Hospital Medical College, New York, and Director of the Research Laboratory of the Department of Health, New York City, and ANNA W. WILLIAMS, M. D., Assistant Director of the Research Laboratory, etc. Fourth Edition, Enlarged and thoroughly Revised, with 196 Engravings and Eight Full Page Plates. New York and Philadelphia: Lea & Febiger, 1910. Pp. viii-670. (Price, $3.75.)

This book is coming more and more to be regarded as the standard on bacteriology in the English language. And it is not undeserving of this distinction. Written by bacteriologists who constantly deal with practical problems covering the entire domain of bacteriology, the book has a personal, authoritative tone that carries conviction to the reader. We have carefully gone over the book and have nothing but praise for it.

Syphilis. Its Diagnosis, Prognosis, Prevention, and Treatment. By THOMAS PUGH BEDDOES, M. B., B. C. Camb., F. R. C. S. Eng., Surgeon to the London Hospital for Diseases of the Skin, etc. New York: Paul B. Hoeber, 1910. Pp. viii-224. (Price, $2.)

The publisher deserves the thanks of the medical profession for bringing out this little volume. It is a wonderfully complete presentation of the subject by one who has evidently had vast clinical experience with the disease. The book abounds in sound practical advice and is cordially recommended to our readers.

Medizinisches aus der Geschichte. Von Dr. HERMANN VIERORDT, Professor der Medizin an der Universität Tübingen. Dritte vermehrte Auflage. Tübingen: H. Laupp, 1910. Pp. 213.

During the last decades considerable attention has been paid to the relations between medicine and political history, and the literature on this subject is vastly increasing. From this precious book we can judge of the immensity of the material which had to be collected. The author has mastered it with diligence and he has made it entertaining and instructive throughout; that it is absolutely reliable goes without saying. It has been called a firm foundation of medical *"Culturgeschichte."* Cer-

tain it is that whoever writes on medicine in history cannot do so without consulting this book of Vierordt's. All the heroes of history are enumerated and only what is really authentically known concerning their pathological conditions and the cause of death is quoted from literature and the sources from which the information is taken exactly referred to. Thus a writer on medicine in history will save labor, finding all the literature up to the latest referred to in Vierordt's book.

The Mental Symptoms of Brain Disease. An Aid to the Surgical Treatment of Insanity Due to Injury, Hæmorrhage, Tumors, and Other Circumscribed Lesions of the Brain. By Bernard Hollander, M. D., with Preface by Dr. Jul. Morel, Late Belgian State Commissioner in Lunacy. New York: Rebman Company, 1910. Pp. xviii-237. (Price, $2.)

It is the conviction of Morel, of Gand, who writes an introduction to this book, that Dr. Hollander has contributed to psychiatric literature a master work, containing immense material for future research and opening the way for the conquest of insanity. How such a competent observer as Jules Morel could thus stamp what, in the reviewer's opinion, is a book absolutely without merit, can only be explained on grounds of personal friendship or lack of acquaintance with the English language.

The work resembles others prepared with a pair of scissors and a glue pot, and shows definite affiliation with much of the crazy patchwork that one sees in institutions for high grade imbeciles. It possesses neither merit nor interest save from the subjective point of view of the psychiatrist. It is pre-Gallian phrenology gone mad.

Urinary Surgery. A Review. By Frank Kidd, M. B., B. C. (Cantab.), F. R. C. S., Assistant Surgeon to the London Hospital. London, New York, Bombay, and Calcutta: Longmans, Green, & Co., 1910. Pp. xvi-429.

The object of this book is to place before students and practitioners, including candidates for the University of London examinations, an account of the progress of urinary surgery during the past decade. The diagnosis and treatment of diseases of the kidneys, ureters, bladder, prostate, and urethra are discussed from the viewpoint of modern clinical urology. The first chapter gives an entirely too sketchy outline of the routine methods of urinary diagnosis. The summary given may be sufficient as a "reminder" to one familiar with the subject, but lacks the essential pedagogic qualities which would make it a useful résumé for students. In the second chapter the anomalies of the kidneys and ureter are briefly discussed. It is in the third chapter that the true character of the work is revealed. From this point on, the author presents in an admirably condensed, systematically and logically arranged form an excellent syllabus of urinary surgery. The qualities of the teacher here appear at their best. Much information is crowded into the compact form of tables and summaries, and by a very wise use of typographical arrangement the salient point of each theme is clearly set forth. The book is one of the most concise ever written on the subject; yet is noteworthy for the comprehensiveness and completeness with which each theme is handled. We can only utter the wish that there might be more books written in this style, books in which every line and every word count and which are free from obvious padding. The material in Kidd's book, expanded in the usual diffuse style, without the slightest additional information, might easily be made to fill the traditional 900 or 1,000 pages of the ponderous "treatise" made to sell, but destined to languish unread behind its cover of half morocco.

The Treatment of Syphilis by the Ehrlich-Hata Remedy (Dioxydiamidoarsenobenzol). A Compilation of the Published Observations. By Dr. Johannes Bresler. Second Edition, Much Enlarged with the Portraits of Ehrlich and Schaudinn. Translated by Dr. M. D. Eder with an Abstract of the Most Recent Papers. London: Rebman Limited; New York: Rebman Company. Pp. xii-122. (Price, $1.)

We reviewed the original German edition in our issues of September 3, and October 1, 1910, to which we refer our readers. The translation seems to be done by a German, who, although he is well acquainted with the English language, uses many Teutonisms, and in this respect the translation is rather disappointing, although it is a good representation of the German text. While Bresler closes his second edition with reports reaching up to the end of August, Dr. Eder has added in an appendix "some articles and notices in the English medical press up to the end of October. The cuts at the end of the book illustrate the technique of injection with an armamentarium manufactured by a German house, and are repeatedly referred to in the text. Two of these cuts are also used by Dr. L. H. Marks in his article in the *Interstate Medical Journal* of January, 1911. The legends of these cuts are very poorly translated.

MEDICOLITERARY NOTES.

The new Red Cross Hospital is to receive a bequest of $100,000 from a wealthy layman on condition that no alcohol is ever administered therein. Other habit breeding narcotics are to be used in minimum doses. We think it would be better if the members of a hospital staff were left absolutely untrammelled as to their therapeutical decisions. No layman, however clever along commercial lines, is competent to advise the physician in the actual practise of his profession. If alcohol is a useless or pernicious drug, it may safely be predicated that the fact will be first discovered by a physician, and that the discovery will be quickly followed by a universal discarding of that agent from the armamentarium. With the practically unrestricted sale of alcohol, opium, and cocaine, it is not only outrageous but silly to charge the medical profession with the responsibility of creating narcomaniacs; the main cause of drug addiction is the *auri sacra fames*, a craving of similar nature, fostered mainly by the merciless conditions of modern business.

* * *

Eunice, Ola, Fred, and Roger are offered by the February *Delineator* for adoption. All are handsome and look bright. Roger is clever at whittling and carving and might make a good protégé for a surgeon; he is ten years old. Elsie Janis, the actress, in telling how to be beautiful, states that she is only a working girl. That is true, but there are certain consolations and delights in her work, as there are in that of a member of the Cabinet, say, which do not exist in less picturesque occupations. Judge Ben B. Lindsey avers with solemnity

[I]t equal suffrage has been of the greatest benefit t[o] Colorado, in an article which will surely increase h[is] already enormous circle of feminine admirers. N[u]merous ladies, all divinely tall and some most d[i]nely peroxidized, exhibit the bewildering effects o[f] the coming spring fashions. We fancy it must c[ost] for consummate tact on the part of our women c[on]eagues to find the golden mean in dress when p[ur]ing professional calls to invalid sisters, so as to c[om]mand only admiring comment.

* * *

Edgar Saltus presents Ropes of Sand in the Feb[ru]ry *Ainslee's*, and a few adverbs therein, such as "periorly" and "longly," which will be admired a[nd] duly copied by the half baked writers among h[is] admirers. Strange how the young copy the de[fe]s of their idols! In Byron's day youthful poets u[se]d to walk with a limp; débutant actors toed in [af]ter James Wallack, finding his ease and grace be[co]me them. Money Maze, the first magazine story o[f] the late O. Henry, is reprinted; it exhibits the e[x]traordinary *mæstria* of that lamented young au[th]or. H. Addington Bruce continues his Adventur[es] in the Psychical by an article on The Subcon[sc]ious, admirable in every way and containing noth[in]g to feed illogical mysticism. With Benefit of C[le]rgy, by Albert Kinross, is a charming tale, which s[oa]rs high on the wings of romance and fairylike i[m]probability.

* * *

Why should Dr. Ehrlich draw fifty-five per cent. o[f] the net profits from the sale of salvarsan amid u[ni]versal applause, while an American physician w[ho] ventured to do the same thing would have to s[ac]rifice his membership in the medical societies a[s] his ethical status? There does not seem to be a[n] explanation save that the Germans temper their m[e]dical rulings with strong common sense. Our o[w]n is an ill digested mass of rules gathered from v[ar]ious sources and not yet adapted to the conditi[on]s of American social and professional life; it n[ee]ds revision.

* * *

In the *Saturday Evening Post* for January 21st W[il]liam R. Lighton tells how money can be made i[n] growing *Oryza sativa*, or common rice, the prin[ci]pal food of a majority of the world's population. T[hi]s reminds us to urge growers not to polish their r[ic]e, or they may afflict their customers with beri-b[er]i, by depriving them of their just percentage of p[h]osphorus pentoxide.

* * *

How obvious a new idea appears when divulged. T[he] new edition of a well known encyclopædia is [to] be published all at once. Instead of putting all [the] labor into the kinds of knowledge beginning [wi]th A, before venturing to discuss those in B, the [wh]ole field of learning, irrespective of initials, will [ap]pear simultaneously. The old and time honored m[et]hod is a striking demonstration of the force of [ha]bit, trifling precedents as the accidental order of [th]e letters upon our modes of thought. We bump [al]ong in ruts made by the clumsy mental vehicles [of] bygone centuries.

* * *

Dr. Woods Hutchinson writes on The Conquest [of] the Great Diseases in the January *World's Work*, a magazine that treats entertainingly of facts only for the benefit of many earnest souls who think it wrong to spend time reading fiction, and also for the large class who are obliged to take contemporaneous history in condensed form on account of lack of time to peruse the huge daily papers.

* * *

A Crusade for the Child, by Olivia Howard Dunbar, is a striking article in the January *North American Review*, in which the author tells of the gradual regulation of the practice of midwifery in New York, of the lectures to the "little mothers" on the care of their baby sisters, of the sending to tenement houses of physicians and trained nurses, of the medical inspection of school children, of the establishment of juvenile courts, and of the happy modifications in orphanages whereby children are sent out as soon as possible to hospitable foster parents. She expresses a hope for the early establishment of a Federal Children's Bureau through which legislation affecting our successors will be made uniform throughout the land.

* * *

No physician within easy reach of the Seventy-first Regiment's armory should fail to see the Child's Welfare Exhibit, which will remain open till February 12th, free of admission charge, except on Mondays and Thursdays, when twenty-five cents will be the fee. Model flats are in view, adorned with furniture made from packing boxes, clothing proper for children from infancy to the age of sixteen years may be examined, all kinds of fascinating toys are displayed, and there are demonstrations of economical but palatable cooking. There will be frequent addresses by experts who have made a special study of the wants of children, and the children themselves, always the most beautiful of sights, will be frequently *en évidence*, marching, dancing folk dances, and singing. It is said also that they will play in a scientific manner, devised by playful archæologists, which must be very interesting and improving. Doctors with large East and West Side clientèles should make special efforts to send them to this exhibit, along with their children, who will do the rest.

* * *

Dr. Rupert Hughes continues his story of The Very Grand Piano Robbery in the *Popular Magazine* for February 1st; we hope stories of this kind have no other effect on boys than the amusement they give their elders. After all, the proportion of boys induced to run away to fight Indians by perusal of the old Beadle dime novels must have been very small; some of them made good Indian fighters, too. The books were looked upon with suspicion in the old days mainly because they were intensely interesting and, therefore, according to the Puritan code, likely to be pernicious.

NEW PUBLICATIONS

[illegible]
Anatomie der lebendigen Masse. Zweite Lieferung: Die Kontraktile Substanz, die nervöse Substanz, die Fadenge[illegible]
[illegible] Fischer, 1911.

Albarran, J.—Operative Chirurgie der Harnwege. Nor[illegible]

Ins Deutsche übertragen von Dr. Emil Grunert, Spezialarzt für Chirurgie in Dresden. Dritte Lieferung. Mit 252 Teils farbigen Figuren im Text. Jena: Gustav Fischer, 1910. Pp. 721-1063.

Kerr, Le Grand.—The Care and Training of Children. New York and London: Funk & Wagnalls, 1910. Pp. xvi-233. (Price, 75 cents.)

Schultz, Alfred P.—The End of Darwinism. Not Change but Persistence is Characteristic of Life. Every Change is Essentially a Persistence, only What Persists Can Change. Monticello, N. Y.: Published by the Author, 1910. Pp. 20. (Price, 50 cents.)

Ritchie, John W., and Caldwell, Joseph S.—Primer of Hygiene. Illustrated by Karl Hassmann and Hermann Heyer. Yonkers, N. Y.: World Book Company, 1910. Pp. vi-184. (Price, 40 cents.)

Tuttle, Thomas D.—Principles of Public Health. A Simple Textbook on Hygiene, Presenting the Principles Fundamental to the Conservation of Individual and Community Health. Yonkers, N. Y.: World Book Company, 1910. Pp. vi-186.

Beck, Emil G.—Bismuth Paste in Chronic Suppurations. Its Diagnostic Importance and Therapeutic Value. With an Introduction by Carl Beck, M. D., and a Chapter on the Application of Bismuth Paste in the Treatment of Chronic Suppuration of the Nasal Accessory Sinuses and the Ear by Joseph C. Beck, M. D. With Eighty-one Engravings, Nine Diagrammatic Illustrations, and a Colored Plate. St Louis: C. V. Mosby Company, 1910. Pp. 237. (Price, $2.50.)

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending January 20, 1911:

Place.	Date.	Cases.	Deaths.
Cholera—Insular.			
Philippine Islands—Balacan	Nov. 6-19	4	3
Philippine Islands—Ilocos Sur	Nov. 6-10	53	34
Philippine Islands—Manila	Nov. 6-Dec. 3	8	6
Philippine Islands—Mindoro	Nov. 6-Dec. 10	24	17
Philippine Islands—Rizal	Nov. 6-Dec. 3	4	1
Philippine Islands—Union	Nov. 1-12	2	1
Cholera—Foreign.			
Austria-Hungary—Croatia and Slavonia	Dec. 4-17	3	
Austria-Hungary—Hungary	Dec. 11-17	6	
Formosa	Dec. 11-17		1
India—Bombay	Dec. 9-16		9
India—Calcutta	Nov. 20-26		79
India—Madras	Dec. 4-10		1
Italy—Caserta, province	Dec. 18-24	1	
Italy—Lecce, province	Dec. 18-24		
Italy—Palermo insane asylum	Dec. 18-24	5	1
Italy—Rome, province	Dec. 18-24		1
Italy—Salerno, province	Dec. 18-24		
Japan	Sept. 14-Nov. 30	2,770	1,923
Japan—Aichi ken	Oct. 1-Nov. 30		3
Japan—Ehime ken	Sept. 3-Nov. 30		10
Japan—Fukuoka ken	Sept. 30-Nov. 30	234	165
Japan—Hiogo ken, Kobe	Sept. 12-Nov. 30	607	396
Japan—Hiroshima ken	Sept. 25-Nov. 30	58	30
Japan—Kagawa ken	Oct. 2-Nov. 30	201	201
Japan—Kagoshima ken	Oct. 28-Nov. 30	5	3
Japan—Kochi ken	Oct. 18-Nov. 30	72	42
Japan—Kyoto fu	Sept. 30-Nov. 30	143	119
Japan—Kumamoto ken	Oct. 18-Nov. 30	14	11
Japan—Miye ken	Oct. 11-Nov. 30	8	5
Japan—Nagasaki ken	Oct. 18-Nov. 30	26	11
Japan—Nagasaki ken	Dec. 12-18	2	
Japan—Nara ken	Oct. 3-Nov. 30	53	53
Japan—Oita ken	Oct. 12-Nov. 30	2	1
Japan—Okayama ken	Sept. 29-Nov. 30	71	49
Japan—Osaka fu	Sept. 17-Nov. 30	961	692
Japan—Saga ken	Oct. 4-Nov. 30	31	31
Japan—Saga ken	Dec. 25-31	6	6
Japan—Shimane ken	Oct. 1-Nov. 30	7	5
Japan—Tokushima ken	Oct. 7-Nov. 30	52	37
Japan—Tokyo fu	Oct. 12-Nov. 30	1	1
Japan—Wakayama ken	Oct. 6-Nov. 30	44	31
Japan—Yamaguchi ken	Oct. 12-Nov. 30	13	10
Java—Batavia	Nov. 27-Dec. 3	2	1
Java—Sourabaya	Nov. 6-12		1
Russia—General	Nov. 20-Dec. 3	105	47
Russia—Baku	Nov. 20-Dec. 3		1
Russia—Erivan, government	Nov. 20-Dec. 3		1
Russia—Kherson, government	Nov. 29-Dec. 5		3
Russia—Kief, government	Nov. 27-Dec. 5		1
Russia—Lublin, government	Nov. 20-26		31
Russia—Perm, government	Nov. 20-26		1
Russia—Saratov, government	Nov. 20-26		2
Russia—Siberia, Eastern	Nov. 20-26		1
Russia—St. Petersburg, gov'ment	Nov. 20-26		8
Russia—Tamboo, government	Nov. 20-Dec. 3		25
Russia—Taurida, government—Sebastopol	Nov. 20-Dec. 3		5
Russia—Tiflis, government	Nov. 20-27		1
Russia—Viatchnislav, government	Nov. 20-Dec. 3		22
Siam—Bangkok	Nov. 6-Dec. 3		136
Turkey—Adrianople	Nov. 21-Dec. 1		55
Turkey—Saloniki	Dec. 11-24		3
Turkey in Asia—Bagdad, vilayet	Nov. 20-Dec. 4		97
Turkey in Asia—Basra	Nov. 6-26		10
Turkey in Asia—Samsoun	Nov. 20-Dec. 3		6
Turkei in Asia—Trebizond	Nov. 20-Dec. 4		89
Turkey in Asia—Zongouldak	Nov. 20-Dec. 2		7
Yellow Fever—Foreign.			
Venezuela—Caracas	Dec. 4-17		13
Plague—Foreign.			
Brazil—Bahia	Nov. 28-Dec. 4		1
China—Swatow	Dec. 6		Present
Egypt—Alexandria	Nov. 29-Dec. 24		5
Egypt—Assiout, province	Dec. 1-20		50
Egypt—Galioubeeh, province	Nov. 22-Dec. 2		1
Egypt—Menouf, province	Dec. 2-22		26
India—Bombay	Dec. 9-13		
India—Calcutta	Nov. 20-26		
India—Karachee	Dec. 4-10		8
India—Madras	Dec. 4-10		1
India—Rangoon	Nov. 27-Dec. 3		
Manchuria	Nov. 21-Dec. 4		477
Manchuria—Dalny	Jan. 11		2
Manchuria—Harbin	Nov. 21-Dec. 11		3
Manchuria—Tchjalainarskiy	Nov. 11-Dec. 3		104
Manchuria—Tchjalantun	Nov. 21-Dec. 3		3
Russia—Abil-Isken, Astrakhan Government	Nov. 22-29		4
Russia—Naurali-Tchavgal, Astrakhan Government	Nov. 23-29		5
Russia—Neuren, Astrakhan Government	Nov. 17-21		1
Russia—Petrovsk, Astrakhan Government	Nov. 23		1
Russia—Sanitza-Olivianna, Astrakhan Government	Nov. 22		1
Russia—Transcaucasia	Oct. 23-Nov. 24		28
Siam—Bangkok	Nov. 27-Dec. 3		3
Straits Settlements—Singapore	Nov. 20-Dec. 3		
Smallpox—United States.			
Florida—Alachua County	Jan. 1-7		12
Florida—Duval County	Jan. 1-7		2
Florida—Escambia County	Jan. 1-7		2
Florida—Hillsboro County	Jan. 1-7		5
Florida—Leon County	Jan. 1-7		4
Iowa—Buena Vista County	Dec. 1-31		1
Iowa—Lee County	Dec. 1-31		
Iowa—Linn County	Dec. 1-31		18
Iowa—Lyon County	Dec. 1-31		3
Iowa—Marshall County	Dec. 1-31		1
Iowa—Page County	Dec. 1-31		19
Iowa—Polk County	Dec. 1-31		3
Iowa—Scott County	Dec. 1-31		1
Iowa—Taylor County	Dec. 1-31		64
Iowa—Warren County	Dec. 1-31		1
Iowa—Webster County	Dec. 1-31		10
Iowa—Woodbury County	Dec. 1-31		4
Louisiana—New Orleans	Jan. 1-7		9
Michigan—Alcona County	Dec. 1-31		1
Michigan—Alger County	Dec. 1-31		1
Michigan—Arenac County	Dec. 1-31		5
Michigan—Bay County	Dec. 1-31		1
Michigan—Calhoun County	Dec. 1-31		8
Michigan—Charlevoix County	Dec. 1-31		1
Michigan—Cheboygan County	Dec. 1-31		17
Michigan—Clinton County	Dec. 1-31		3
Michigan—Crawford County	Dec. 1-31		4
Michigan—Eaton County	Dec. 1-31		3
Michigan—Genesee County	Dec. 1-31		4
Michigan—Grand Traverse County	Dec. 1-31		1
Michigan—Gratiot County	Dec. 1-31		1
Michigan—Ingham County	Dec. 1-31		2
Michigan—Isabella County	Dec. 1-31		1
Michigan—Kalamazoo County	Dec. 1-31		5
Michigan—Keweenaw County	Dec. 1-31		2
Michigan—Lake County	Dec. 1-31		3
Michigan—Lapeer County	Dec. 1-31		
Michigan—Marquette County	Dec. 1-31		7
Michigan—Mecosta County	Dec. 1-31		3
Michigan—Missaukee County	Dec. 1-31		3
Michigan—Monroe County	Dec. 1-31		2
Michigan—Presque Isle County	Dec. 1-31		1
Michigan—Saginaw County	Dec. 1-31		3
Michigan—St. Clair County	Dec. 1-31		1
Machigan—Washtenaw County	Dec. 1-31		2
Michigan—Wayne County	Dec. 1-31		1
Michigan—Westland County	Dec. 1-31		2
Missouri—St Louis	Jan. 1-7		2
North Carolina—Bladen County	Nov. 1-30		1
North Carolina—Carteret County	Nov. 1-30		2
North Carolina—Columbus County	Nov. 1-30		23
North Carolina—Cumberland Co	Nov. 1-30		9
North Carolina—Durham County	Nov. 1-30		40
North Carolina—Edgecombe Co	Nov. 1-30		4

Place.	Date.	Cases.	Deaths.
[illegible]—Franklin County	Nov. [illegible]		
[illegible]—Martin County	Nov. [illegible]		
[illegible]—Nash County	Nov. [illegible]		
[illegible]—New Hanover County	Nov. [illegible]		
[illegible]—Pasquotank County	Nov. [illegible]		
[illegible]—Perquimans County	Nov. [illegible]		
[illegible]—Pitt County	Nov. [illegible]		
[illegible]—Robeson County	Nov. [illegible]		
[illegible]—Union County	Nov. [illegible]		
[illegible]—Wake County	Nov. [illegible]		
[illegible]—Cass County	Dec. [illegible]		
[illegible]—Morton County	Dec. [illegible]		
[illegible]—[illegible] County	Dec. [illegible]		
[illegible]—[illegible] County, N. Dak.	Dec. [illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
Smallpox—Foreign.			
[illegible]—Aden	Jan. 9	Present	
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]—Puuene, Maui	Jan. 16	11	
[illegible]	Dec. 6-13		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]—Tampico	Dec. 20-30	4	
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		
[illegible]	[illegible]		

ıblic Health and Marine Hospital Service:

[illegible] of changes in the stations and duties of commissioned and other officers serving in the United States blic Health and Marine Hospital Service for the seven ding January 18, 1911:

RKHALTER, J. T., Passed Assistant Surgeon. Leave of absence for one month from December 17, 1910, amended to read twenty-eight days from December 17, 1910.

TER, L. E., Assistant Surgeon General. Directed to report to the chairman of the board of medical examiners at Washington, D. C., for examination to determine his fitness for promotion to the grade of surgeon.

MING, Hugh S., Passed Assistant Surgeon. Directed to proceed to Washington, D. C., and report to the chairman of the board of medical examiners for examination to determine his fitness for promotion to the grade of surgeon.

STER, M. H., Passed Assistant Surgeon. Granted fifteen days' leave of absence from January 21, 1911.

ANCIS, Edward, Passed Assistant Surgeon. Directed to proceed to New York and Otisville, N.Y., on special temporary duty.

ST, W. H., Passed Assistant Surgeon. Directed to proceed to Albany, N. Y., on special temporary duty.

MSDEN, L. L., Passed Assistant Surgeon. Directed to return to Washington, D. C., via St. Paul, Minn., for conference with State Board of Health.

KEON, F. H., Passed Assistant Surgeon. Granted one day's leave of absence, November 19, 1910.

MULLEN, JOHN, Passed Assistant Surgeon. Granted seven days' leave of absence from January 13, 1911.

ONCURE, J. A., Acting Assistant Surgeon. Granted ten days' extension of leave of absence from January 1, 1911 [illegible] granted three days' leave of absence from January 11, 1911.

HERESCHEWSKY, J. W., Passed Assistant Surgeon. Directed to proceed to Washington, D. C., and report at the Bureau for conference.

HUSTER, B. L., Acting Assistant Surgeon. Granted nine days' leave of absence from January 11, 1911.

ERTENBAKER, C. P., Surgeon. Reassigned for duty at Norfolk, Va., effective December 26, 1910.

ILSON, R. L., Passed Assistant Surgeon. Granted three [illegible] leave from January 6, 1911.

YOUNG, C. B., Surgeon. Detailed to represent the Service at the annual meeting of the Association of American Medical Colleges at Chicago, Ill., February 27 and 28, 1911.

Board Convened.

Board of medical officers convened to meet at the Bureau, January 23, 1911, for the examination of Assistant Surgeon General L. F. Cofer and Passed Assistant Surgeon Hugh S. Cumming, to determine their fitness for promotion to the grade of surgeon. Detail for the board: Assistant Surgeon General W. J. Pettus, chairman; Assistant Surgeon General J. D. Long, Passed Assistant Surgeon Joseph Goldberger, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending January 21, 1911:

BLOOMBERGH, H. D., Captain, Medical Corps. Upon arrival at San Francisco, Cal., will proceed to Fort Yellowstone, Wyo., for duty.

BRECHEMIN, LOUIS, Jr., Captain, Medical Corps. Relieved from duty at the Army General Hospital, San Francisco, Cal., and ordered to Fort Lincoln, N. D., for duty.

BREWER, ISAAC W., Lieutenant, Medical Reserve Corps. Relieved from duty in the Philippines Division and will proceed from Manila, P. I., about July 15, 1911, to San Francisco, Cal., for further orders.

CARR, WILLIAM B., Lieutenant, Medical Corps. Relieved from temporary duty at Fort Myer, Va., with ten days' leave of absence.

CLARK, JOHN A., Captain, Medical Corps. Ordered to proceed to West Point, N. Y., for temporary duty.

CLARKE, JOSEPH T., Major, Medical Corps. Relieved from duty at Fort Crook, Neb., and ordered to Vancouver Barracks, Wash., for duty.

COFFIN, JACOB M., Captain, Medical Corps. Relieved from duty in the Philippines Division, and will proceed from Manila, P. I., about August 15, 1911, to San Francisco, Cal., for further orders.

DADE, WALTER H., Lieutenant, Medical Reserve Corps. Relieved from duty in the Philippines Division, and will proceed from Manila, P. I., about May 15, 1911, to San Francisco, Cal., for further orders.

DALE, FREDERICK A., Major, Medical Corps. Relieved from duty at Fort Lincoln, N. D., and ordered to Fort Crook, Neb., for duty.

DESHON, GEORGE D., Major, Medical Corps. Ordered to Washington, D. C., on April 3, 1911, for examination for promotion.

DUNCAN, LOUIS C., Captain, Medical Corps. Relieved from duty in the Philippines Division, and will proceed from Manila, P. I., about July 15, 1911, to San Francisco, Cal., for further orders.

FAUNTLEROY, P. C., Major, Medical Corps. Relieved from duty at Fort Benjamin Harrison, Ind., May 1, 1911, and will proceed to New York City to familiarize himself with the methods pursued in the Medical Supply Depot in the purchase and inspection of supplies; will proceed from New York on June 1, 1911, to St. Louis, Mo., and relieve Major Henry D. Snyder as Medical Supply Officer in that city; Major Snyder, after being relieved, will proceed to New York City, and assume charge of the Medical Supply Depot in that city, relieving Major Edwin P. Wolfe, Medical Corps.

FIFE, JAMES D., Captain, Medical Corps. Granted two months' leave of absence.

HAYNE, JAMES A., Lieutenant, Medical Reserve Corps. Upon departure of 3d Battalion, 2d Infantry, from Fort Assiniboine, Montana, will proceed to his home and upon arrival will report by telegraph to the Adjutant General of the Army; will then stand relieved from further active duty in the Medical Reserve Corps, to take effect upon his arrival at his home.

KILBOURNE, E. D., Captain, Medical Corps. Upon arrival at San Francisco, Cal., will proceed to Columbus Barracks, Ohio, for duty.

KIRKPATRICK, THOMAS J., Major, Medical Corps. Relieved from duty in the Philippines Division, and will proceed from [illegible] to San Francisco, Cal., for further orders.

LAMBIE, JOHN S., Jr., Lieutenant, Medical Corps. Relieved from duty as Surgeon of the transport *Sherman* upon arrival at San Francisco, Cal., about September 12, 1911, and will then report to the Adjutant General of the Army for further orders.

LEWIS, WILLIAM F., Major, Medical Corps. Relieved from duty in the Philippines Division and will proceed from Manila, P. I., about July 15, 1911, to San Francisco, Cal., for further orders.

MCCORNACK, C. C., Lieutenant, Medical Corps. Left Vancouver Barracks, Wash., for duty at target range near Proegsted, Wash.

MORSE, CHARLES F., Captain, Medical Corps. Upon arrival at San Francisco, Cal., will proceed to the Army General Hospital, San Francisco, Cal., for duty.

PATTERSON, EDWIN W., Lieutenant, Medical Reserve Corps. Relieved from duty in the Philippines Division and will proceed from Manila, P. I., about May 15, 1911, to San Francisco, Cal., for further orders.

RUKKE, GUY V., Lieutenant, Medical Corps. Relieved from duty at the Army General Hospital, San Francisco, Cal., and ordered to Jefferson Barracks, Missouri, for duty.

SCHLANSER, ADAM E., Lieutenant, Medical Corps. Relieved from duty with Company C., Hospital Corps, Walter Reed General Hospital, Takoma Park, D. C., and ordered to Fort Shafter, H. T., for duty on transport sailing from San Francisco, Cal., about July 5, 1911.

SCOTT, GEORGE H., Captain, Medical Corps. Upon expiration of present leave of absence will proceed to the Army General Hospital, Fort Bayard, N. M., for duty.

SMITH, HERBERT H., Lieutenant, Medical Reserve Corps. Relieved from duty in the Philippines Division, and will proceed from Manilla, P. I., about July 15, 1911, to San Francisco, Cal., for further orders.

SMITH, WILLIAM H., Lieutenant, Medical Corps. Relieved from duty at Fort Shafter, H. T., and upon arrival in Honolulu of the transport to sail from Manila about August 5th, will proceed on that transport to San Francisco, Cal., and report to the Adjutant General of the Army for further orders.

TUTTLE, ARNOLD D., Lieutenant, Medical Corps. Relieved from duty in the Philippines Division and will proceed from Manila, P. I., about August 15, 1911, to San Francisco, Cal., for further orders.

WILSON, WILLIAM H., Major, Medical Corps. Relieved from duty in the Philippines Division and will proceed from Manila, P. I., about July 15, 1911, to San Francisco, Cal., for further orders.

The following named officers of the Medical Reserve Corps are relieved from duty at the stations designated after their names, and will proceed at the proper time to San Francisco, Cal., will take the transport to sail May 5, 1911, for duty in the Philippines Division: Baker, Charles L., First Lieutenant, Presidio of San Francisco, Cal.; McCown, Thomas B., First Lieutenant, Fort Barrancas, Florida.

The following named officers are relieved from duty at the station after their names, and will proceed at the proper time to San Francisco, Cal., and take the transport to sail from that place about June 5, 1911, for duty in the Philippines Division: Lynch, Charles, Major; temporary duty in the Office of the Surgeon General; Roberts, William M., Major, Fort Thomas, Ky.; Bastion, Joseph E., Lieutenant, Company C, Hospital Corps, Walter Reed General Hospital, Takoma Park, D. C.; Austin, Thomas C., Company B, Hospital Corps, Army General Hospital, San Francisco, Cal.; Wheate, J. Marshall, Medical Reserve Corps, Fort Lincoln, N. D.; Mills, Frederick H., Medical Reserve Corps, Fort Missoula, Montana.

The following named officers are relieved from duty at the stations after their names, and will proceed at the proper time to San Francisco, Cal., and take the transport to sail from that place about July 5, 1911, for duty in the Philippines Division: Deshon, George D., Major, Army and Navy General Hospital, Hot Springs, Arkansas; Haverkampf, Charles W., Lieutenant, Company A, Hospital Corps, Fort D. A. Russell, Wyo.; Reynolds, Royal, Lieutenant, Company B, Hospital Corps, Army General Hospital, San Francisco, Cal.; Bell, Leonard P., Medical Reserve Corps, Fort Riley, Kansas.

The following named officers are relieved from duty at the stations after their names, and will proceed at the proper time to San Francisco, Cal., and take the transport sailing from that place about August 5th, for duty in the Philippines Division: Stark, Alexander N., Major, Fort Adams R. I.; Wolfe, Edwin R., Major, Medical Supply Depo New York City, N. Y.; Gosman, George H. R., Majo Fort Barrancas, Fla.; Cooper, Wibb E., Lieutenant, Company A, Hospital Corps, Fort D. A. Russell, Wyo Brown, Polk D., Medical Reserve Corps, Fort Sam Houston, Texas.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United State Navy for the week ending January 21, 1911:

RENNIE, W. H., Passed Assistant Surgeon. Detached fro the Naval Hospital, Annapolis, Md., and ordered t duty at the Naval Hospital, Boston, Mass.

Births, Marriages, and Deaths.

Married.

KNOX—REED.—In Brooklyn, New York, on Tues January 10th, Lieutenant Howard A. Knox, Medical Reserve Corps, U. S. A., and Mrs. Gladys Barnett Reed.

Died.

BELTZ.—In Ligonier, Pennsylvania, on Saturday, Janu ary 14th, Dr. George A. Beltz, aged twenty-eight years.

BERRY.—In Peebles, Ohio, on Sunday, January 15th, Dr James S. Berry, aged sixty-seven years.

CHACE.—In Newport, R. I., on Tuesday, January 17th Dr. Nathaniel R. Chace, aged seventy-six years.

CLARK.—In Passaic, New Jersey, on Friday, Januar 20th, Dr. C. E. Clark, aged sixty years.

CLARKE.—In Morristown, New Jersey, on Friday, Janu ary 13th, Dr. Edward V. Clarke, aged eighty-seven years

CRAWFORD.—In Chester, South Carolina, on Wednesday January 11th, Dr. Martin P. Crawford, aged fifty-three years.

DOUGLASS.—In Little Falls, New York, on Wednesday January 11th, Dr. Allison O. Douglass, aged sixty-four years.

FOOTE.—In Kansas City, Missouri, on Friday, January 13th, Dr. George Foote.

FURNESS.—In New York, on Tuesday, January 17th, Dr William J. Furness, aged forty years.

HARRIS.—In Winthrop, New York, on Wednesday, January 18th, Dr. Francis A. Harris, aged about sixty-five years.

HENRY.—In Newark, Delaware, on Sunday, January 15th, Dr. Columbus Henry, aged sixty-seven years.

HICKOK.—In Lake George, New York, on Thursday January 19th, Dr. Eugene P. Hickok, aged fifty-one years.

HOYT.—In Schenectady, New York, on Wednesday, January 11th, Dr. R. Burdette Hoyt, aged thirty years.

HUNT.—In Newtown, New Jersey, on Sunday, January 15th, Dr. Joseph H. Hunt, aged sixty-three years.

KINMOUTH.—In Farmingdale, New Jersey, on Monday, January 9th, Dr. William R. Kinmouth, aged sixty-two years.

KOYLE.—In Hornell, New York, on Tuesday, January 17th, Dr. Frank Harcourt Koyle.

LOVEJOY.—In Batchellerville, New York, on Tuesday, January 17th, Dr. Jay C. Lovejoy, aged fifty years.

LUSTGARTEN.—In New York, on Sunday, January 22d, Dr. Sigmund Lustgarten, aged fifty-three years.

MCCREADY.—In Sewickley, Pennsylvania, on Tuesday, January 17th, Dr. Robert McCready, aged eighty-one years.

NILES.—In Carbondale, Pennsylvania, on Tuesday, January 17th, Dr. Andrew Niles, aged seventy-nine years.

PRIEST.—In St. Louis, Missouri, on Wednesday, January 11th, Dr. Warren G. Priest, aged fifty-one years.

RAMSEY.—In Omaha, Nebraska, on Saturday, January 14th, Dr. W. H. Ramsey.

ROSENBERRY.—In Wausau, Wisconsin, on Thursday, January 12th, Dr. Harvey Lyman Rosenberry.

SCHWARTZ.—In Whitehall, New York, on Tuesday, January 17th, Dr. C. W. Schwartz, aged forty-five years.

SMITH.—In Atlanta, Georgia, on Friday, January 13th, Dr. C. D. Smith, aged eighty-three years.

WILLIAMS.—In Philadelphia, on Friday, January 13th, Dr. C. B. Williams.

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Original Communications.

ARSAN (EHRLICH-HATA "606") IN SYPHILIS.*

BY S. POLLITZER, M. D.,
New York,
Professor of Dermatology in the Postgraduate Medical School and Hospital.

The principles on which Ehrlich's chemotherapy based, the patience, industry, and scientific acumen with which he has developed the practical applications of these principles in the treatment of the trilloses, have been so often and so well presented recent medical literature[1] that I may be permitted to proceed at once with my topic, the use of varsan in syphilis.

In the first place, it must be pointed out that in disease like syphilis, with its unparalleled chronicity and its protean variation in course, it must be possible to speak with certainty of the result of y treatment that has been employed, however exisively, for a period of a few months only. We annot speak of cures of the disease until a large mber of cases has been followed for at least three ars, and with reference to the parasyphilitic diseses at least ten years. On the other hand, the failes to cure may manifest themselves in the course a few weeks or a few months. It thus comes out that the failures are the only positive results know, while for the successes we must, in the ture of the case, reserve our opinion till several ars have passed.

In estimating the value of a remedy for syphilis, must ask, first, does it cure the symptoms of the sease, and how does it compare in this respect th mercury and iodine; second, is the cure lasg and final; and, third, what are the objections to the dangers of the method of treatment?

In regard to the first question, does it cure the mptoms of the disease? the answer is, Yes! an phatic yes, in the great majority of cases. On is question there is practically but one opinion om all who have used the drug. Primary sores, condary lesions, and tertiary ulcerations yield to e new remedy with a certainty and rapidity that simply astounding. Spirochætæ disappear from imary lesions, mucous patches, and moist papules from twenty-four to forty-eight hours, and chanes themselves are epidermized in the course of a w days, rarely longer than a week or ten days. ne secondary manifestations on skin and mucous membranes disappear with few exceptions with equal rapidity. When we come to the tertiary lesions, especially the ulcerative lesions of the skin, we have the same certainty and marvelous rapidity of action. Extensive gummatous ulcerations of the skin, gummata of the nose, the lips, the tongue, obstinate ozænas, severe nocturnal bone pains, etc., all these symptoms, which have, perhaps, made life a burden for their unhappy victims, disappear in a few days or weeks after a single dose of the drug. "A dry description," says Michaelis,[2] "cannot reproduce the overpowering impression produced by this rapid cure of severe ills that have persisted for months or years and that have hitherto resisted in many cases every form of treatment."

Let me illustrate with a few of my own cases.

CASE I. Gummatous ulcer of the hard palate. Injected October 2, 1910, 0.5 gramme in neutral suspension interscapularly. Four days later, the ulcer was filled with healthy granulations and eight days after the injection was completely healed.

CASE V. Serpiginous tubercular syphilide of the scrotum. Injected October 31, 1910, 0.5 gramme in neutral suspension interscapularly. Three days later the scaling disappeared, and one week after the injection the site of the former lesion could not be detected.

CASE VII. Osteoperiostitis and necrosis of alveolar arch of the upper jaw bone, which had caused the loss of all the front teeth, and left an ulcerated area at the site of the right canine and first three molars; a sequestrum of dead bone at the left canine fossa; five small, deep, gummatous ulcers on the hard palate. Injected November 9, 1910, 0.6 gramme in alkaline solution, interscapularly and intramuscularly. One week later, the gummata on the palate and gum were healed; the dead bone at the left canine kept the ulcer there open and pus was still exuding from it. On removal of the sequestrum, two weeks later, the sinus healed completely in a few days.

CASE VIII. Hereditary syphilis in a girl of sixteen. Arthritis of knee joint; hydarthrosis, swelling, pain. X ray picture showed slight subperiosteal thickening on the side of both condyles of femur. Injected November 11, 1910, 0.5 gramme in neutral suspension in the lumbar muscles. One week later the pain and swelling disappeared and the patient walked without difficulty. Three weeks after the injection she went back to work.

CASE XII. Recent infection. Extensive diphtherioid ulceration on tonsils and soft palate; great swelling and pain in throat, so that patient swallowed even liquids with difficulty. Injected December 18, 1910, 0.3 gramme in paraffin suspension in the lumbar muscles. Four hours after the injection, the patient asked for and ate an apple, and ever after eats solid food.

These are typical examples. They might be manifolded a thousand times from the published reports of cases all over the world. They suffice, however, to answer our first question: The remedy does cure the manifestations of syphilis, and, furthermore, does it with a rapidity unparalleled by any results obtainable with mercury and iodine. I have

*Read at a special meeting of the New York County Medical Society, January 6, 1911.

[1] H. Marks. *Journal of the American Medical Association*, December 3, 1910, p. 1978.

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for many years dealt with a large syphilitic material and have been in the habit of treating my patients with maximal doses of mercury by intramuscular injections. In my experience only the most rapid action of mercury that we encounter but rarely is equal in rapidity of healing to the effects that are produced quite regularly by a single injection of salvarsan.

In addition to the effects on syphilitic lesions, the drug exercises a potent influence on the system in general. As soon as the immediate effects of the injection have subsided, the patients have a sense of euphoria, and almost without exception they begin to gain in weight. This favorable influence on the constructive metabolism of the body plays no doubt an important rôle in the healing of the syphilitic lesions, independently of the direct effect on the syphilitic process. To illustrate:

Case III. Male, with extensive phagedenic ulceration in inguinofemoral region. History of infection; Wassermann reaction = ++++. Had been in the hospital a great part of the last two years; treated energetically with mercury and with autogenous vaccines from ulcer. Locally every effort at surgical therapy was without effect. The lesion clinically did not look syphilitic, but in view of the history and the positive Wassermann reaction, an interscapular injection of salvarsan was given October 20, 1910, 0.5 gramme in neutral suspension. For two weeks no noticeable effect on ulcer; then as the patient's general condition improved, as he gained in weight—seven pounds in the first week—as the appearance of health superseded the pallid hospital color in his face, the ulcer began to epidermize, and to-day is progressing toward recovery.

When syphilitic ulcers heal under the influence of salvarsan the healing begins in a few days. I regard the healing of this ulcer as an example of the beneficial systemic effect of the drug.

So far I have presented only the bright side of the new therapy. Does the drug always bring about this prompt cure of syphilitic lesions? Here I must answer, No! Almost every writer has some failures to record. These failures are, it is true, relatively few in number, and it is not possible at present to explain them. Some of them, but not all, may be due to some peculiarity of the individual or to some error in the technique by which the drug fails to pass into the circulation. For instance:

Case II. Elderly man, tonsillar infection, six years ago. Gummatous ulcer of the nose. Injected October 2, 1910, 0.5 gramme in neutral suspension interscapularly. The injection was followed by no general or local reaction; soft diffuse infiltration at site of injection. After waiting two weeks for healing to begin, and finding instead that the ulcer was extending and threatening the destruction of the nose, I turned to injections of mercury, and with large doses succeeded in arresting the process and bringing about a cure with a moderate deformity of the nose. Five weeks after the injection a tumor developed rapidly at the site of the injection and attained the size of a large orange. This swelling was very painful for a few days and has remained sensitive up to the present time, thirteen weeks after the injection, though it is now beginning to get smaller. On palpation the tumor feels like a cyst, and I have no doubt it contains sterile necrotic fluid, the effect of the caustic action of the salvarsan.

Such cases have occurred a number of times, and from the cystlike tumors a great portion of the injected salvarsan has been recovered. Cases of failure to cure the lesions are, however, on the whole, rare; far less frequent, I opine, than the failures of quinine to cure malaria. But the failures are frequent enough to stamp the statement of a recent writer,[3] "Lesions which do not yield [to the remedy] are not syphilitic," as false and misleading.

As a symptomatic remedy of extraordinary potency in syphilis salvarsan has won a secure place.

We come now to our second question, does salvarsan cure the disease, is it capable of freeing the patient from his disease once and for all time; is it really a therapia magna sterilisans? It is with a feeling of deep disappointment that we must answer this question with an unqualified negative. Salvarsan does not cure syphilis at a single dose. Wherever the drug has been used and reliance placed on it alone, recurrences of syphilitic lesions have been noted again and again. The number of such recurrences after a single injection of salvarsan, the proportion of already known failures to cure cannot be estimated. Only a small portion of cases in which the drug has been tested has been reported; and too short a time has elapsed to enable us to say of even a single case that the patient is cured. Many observers, like Neisser and Gennerich, have employed mercury in conjunction with their injections of salvarsan, and as tests of the sterilizing value of salvarsan their results are useless. Rille[4] reports fourteen recurrences among the forty patients whom he has been able to follow. Finger[5], the well known syphilographer of Vienna, reports his experiences as follows: Of seventy-seven cases in the secondary stage of syphilis, nine showed recurrences in from two to twelve weeks after injection; of thirty-six cases with tertiary lesions, six patients showed recurrences; and of eleven cases of malignant syphilis, two patients showed recurrences.

I might multiply examples of recurrences from the reports on this subject in the literature, but I think these examples may be regarded as typical. In view of the fact that in the normal course of syphilis the patient may be free from lesions for a period of many months or years, I should say that seventeen recurrences out of 124 cases within three months show a remarkably evanescent effect of salvarsan on the course of the disease. In my own series of cases, ten patients were injected more than two months ago; three of these have shown recurrences. In my Case I papules developed on the palm and the glans penis four and a half weeks after the injection, regions that had previously never shown any lesions. Case V presented a recurrence of his scrotal lesion five weeks after injection. Case A-XIV was that of a patient who had been injected by Wechselmann in Berlin about August 3rd. Following the injection his few papular lesions, resulting from an infection the previous January, promptly disappeared. I saw the man on October 8th. He presented then no manifestations of syphilis other than a general adenopathy which had not been affected by the injection. His Wassermann reaction was negative. I saw him again November 5th, three months after injection; status unchanged, but Wassermann reaction was now ++++. On December 12th, fifteen weeks after injection, he presented a macular eruption on the trunk and arms and two small papules on the glans penis.

These examples suffice to show that the therapia magna sterilisans is still an unattained ideal.

[3] Journal of the American Medical Association, 1910, lv, p. 1281.
[4] Berliner klinische Wochenschrift, 1910, 50, p. 2281.
[5] Wiener klinische Wochenschrift, xxiii, 47, p. 1067, 1910.

How is it with cases of syphilis taken in the first s ge of the disease, when the process is still a local c limited to the site of the initial lesion? Is it ssible in such cases by energetic treatment with t new remedy to abort the disease? If any at- t pts in this direction have proved successful, it i impossible for us at this early period to know; v know only of such attempts which have proved i ures. For instance, a case reported by Hecker[6]: J ection July 30th; on September 1st, chancre, s rochætæ, negative Wassermann reaction; re- c ved 0.6 salvarsan intramuscularly. The spiro- c etæ disappeared, the chancre healed completely i sixteen days, the Wassermann reaction remained n gative; but on October 8th, thirty-eight days after i ection, two small papules showing spirochætæ v re found at the margin of the former chancre f six similar early cases treated by Finger, and c erved from twelve to twenty-six weeks, the W ssermann reaction remained negative in five and n secondaries have appeared. These cases, how- e r, impress this experienced syphilographer as J es of latent syphilis; the lymph glands have not l ome smaller and the sclerosis in only one case l become soft. From these and many examples, b h in the literature and unpublished, we may con- c de that syphilis even in its earliest stage is not c ed by salvarsan.

n many ways, the best estimate of the value of a treatment of syphilis is supplied by the Was- s nann test. It may be stated as a universally ac- c ted fact that a positive Wassermann reaction r ins syphilis, except in a few conditions which p ctically may be neglected. In the majority of c es the Wassermann reaction remains positive a r salvarsan. I say the majority of cases, be- c se more definite data are lacking. Wechsel- m n, who has the largest experience with salvar- s , regrets that he has been able to follow only a s ll percentage of his cases. Zieler[7] says he has v y few negative reactions after from six to eight v ks. Plaut[8] reports only two negatives out of f y-one cases, after from six to eight weeks. S oltz, Salzberger, and Beck[9] found twenty-one r atives out of eighty cases observed three months, s en of them in less than forty-five days. Mac Rae,[10] w o examined Fordyce's cases, reports seven nega- t s out of fifty-four cases at periods ranging from s days to four and two thirds months. In my ex- p ience, out of ten cases, injected more than eight v ks ago, only two have become negative. One c these was Wechselmann's case already referred t in which, however, the negative Wassermann re- a ion became again positive; the other, my Case I , in which a positive Wassermann reaction be- c me negative two weeks after injection.

A far greater significance than the failure to be- c me negative are those cases in which the positive W ssermann reaction becomes negative after a few v ks, and then again relapses to a positive. This t n in the Wassermann reaction from the negative t positive is the clearest possible indication of the c tinuance of an active syphilitic process, of the

inadequacy of the therapy. It may be said, in short, that the Wassermann reaction, after a single dose of salvarsan, behaves about as after a single moderate course of mercury. It is of interest to note that a weak positive Wassermann reaction before injection often becomes a strong positive after; this has occurred in nearly every one of my cases; and that a negative Wassermann reaction in old tertiary syphilitics often becomes positive after the injection. Dr. Garbat and Dr. Heimann, to whom I am indebted for these examinations, will report their results in detail hereafter.

We may pause here a moment to call attention to what seems a paradox in the behavior of the new drug toward syphilis. On theoretical grounds, I should say that nowhere in the system are the spirochætæ so well protected from the action of any chemical poison in the circulation as they are in the initial lesion. In the initial lesion these organisms are shut off from the general circulation by a wall of leucocytes and plasma cells, the reaction of the tissues to the invading germs, a wall of such density and compactness as to give to the lesion its characteristic name of hard chancre, and that serves its protective purpose however inadequately, yet sufficiently to delay the passage of the organism into the general circulation of the host for perhaps several weeks. Now, on the one hand, we have the remarkable fact that salvarsan both in experimental animals and in the human subject practically without exception destroys the spirochætæ in a chancre after a single injection in from twenty-four to forty-eight hours; and, on the other hand, fails apparently to destroy them in their relatively unprotected locations throughout the system. Surely if the spirochætæ lying on the distal side of the dense chancrous wall are killed, we should confidently expect them to be destroyed everywhere else in the tissues. And yet we have seen that lesions of syphilis occur throughout the system after an injection of salvarsan. How can we explain this paradox?

In the first place it must be said that we know very little about the life history of the spirochæta; we are not even sure of its biological position. We seem to take it for granted that a spirochæta is always a spirochæta. I think this assumption of a single form for the spirochæta is incorrect. Both from analogy to other organisms and from the clinical history of syphilis, I think we must assume the occurrence of another form in the life history of this organism, a form corresponding to the spore stage of bacteria or the encysted stage of protozoans; in short, a resistant resting form out of which the adult form of the organism may again develop. When, after an infection with spirochætæ, after the incubation in the chancre and the lymphatics, the organisms flood the circulatory system, they pass out of the vessels into the tissues. Here their first effect is the production of the various lesions of the secondary stage of syphilis and here most of them are probably destroyed in the course of time by the defensive agents of the tissues aided, perhaps, by our therapy. Then comes a pause; and then, after five, ten, or even twenty years, we may have the development of the tertiary lesions, in which we find regularly a few spirochætæ. What has happened to the spirochætæ in the mean time?

Is it conceivable that these delicate organisms have remained dormant in the tissues as spirochætæ? I think not. I think it far more reasonable to assume the development of a resting form for these organisms in which they may remain an indefinite number of years, from which the adult form or spirochæta may again develop upon the application of some external stimulus.

This, of course, is only an hypothesis; but it has the support of analogy with other organisms—protozoans without exception pass through such a stage—and it serves to make intelligible the unique clinical phenomena in the history of syphilis; and finally it serves to explain the destructive action of salvarsan on spirochætæ in so well protected a zone as a hard chancre, while not eradicating them completely from the system. If this hypothesis of a resistant resting stage of the spirochætæ is correct, we can understand the paradoxical behavior of salvarsan by assuming that it kills adult forms, spirochætæ, but not the resistant resting forms, which later develop into spirochætæ and again produce syphilitic lesions when the effect of the salvarsan has passed off. Incidentally I may refer to the action of quinine in malaria, in which the drug is ineffective against the macrogametes of the plasmodium while destroying the other forms of that organism.

Furthermore, it is a remarkable fact that successive injections of salvarsan in cases of recurrence of lesions are quite as effective in healing the lesions as was the first injection. Ehrlich observed, on the other hand, that repeated inadequate doses of arsenophenylglycin or of salvarsan in trypanosomiasis and in relapsing fever, served to render the organisms that survived more resistant to these poisons, so that it was possible by repeated injections to render the organisms so resistant or fast to the poison, that even maximal doses failed to destroy them. It was indeed on this observation that he based his principle of therapia magna sterilisans: the principle that it was necessary to kill off all the parasites at a single dose, lest the survivors become resistant to the drug. Now, the laboratory experiment furnishes us with certain definite facts; if our therapeutic experiment does not harmonize with them, the error is not in the facts, but in their interpretation or in that of the therapeutic experiment. The fact that repeated doses of salvarsan lose nothing of their effectiveness against the recurrences in syphilis does not contradict the laboratory experiment if we assume that the fresh lesions are produced by spirochætæ that have developed out of their resting stage only after the last injection of the drug, and have therefore never before as spirochætæ been subject to its influence.

Moreover, every one who has used salvarsan has been struck by the rapidity and character of the recurrences. When lesions disappear under mercurial treatment, we can generally count on a considerable period of freedom, a period in tertiary cases often measured by years. After salvarsan not only do lesions recur in the briefest space of time, but the new lesions are often of a character or in a location which for the given case is entirely new or unusual. It seems as if the salvarsan had directly provoked the development of the new lesions. Or, expressed in terms of the theory of resting form of the spirochætæ, it seems as if the drug had acte as a stimulus on the resting forms, provoking the development into spirochætæ with the resulting ne lesions. In this respect an analogy may be mac with the action of tuberculin. If this view of th effect of salvarsan is correct, it discloses a valuab property of the drug and affords a useful hint fc treatment.

To come back to salvarsan, it is evident that drug that is capable of bringing about the phe nomenally rapid healing of syphilitic lesions tha we have seen must have a very great value in th treatment of syphilis. We have spoken of its e fects on syphilitic lesions in general; it remains t consider a few clinical forms.

In hereditary syphilis in infants, there have bee some remarkable cases of the curative effect on th child following injection of the drug into the nur ing mother; and there have also been a number c failures to produce such an effect in this way. O the whole, I think, we shall do well in these case to treat the babies directly with extremely minu doses of the drug, so as not to overwhelm thes generally enfeebled infants with the products c dead spirochætæ. Out of seven cases of hereditar syphilis treated by Finger with salvarsan, typic cachectic, shrivelled babies under two months c age with papules, pemphigus, coryza, etc., most c whom would probably have died, five recovered.

In syphilitic affections of the eye, Ehrlich ha from the first strenuously warned against the us of the drug, especially in cases of optic neuritis an atrophy. The clinical evidence has gone to sho that the fear of harm in these cases is unfounde Indeed, I can see no *a priori* reason for placin syphilitic lesions of the eye in a special categor with the possible exception of optic neuritis o atrophy, and even in these cases I imagine Ehrlic was influenced by the risk of having the remed unjustly discredited in case the atrophy progresse unfavorably, rather than by the fear of any harm ful action of the drug on the nerve. Among Wech selmann's[11] large series of cases were twelve pa tients who had previously been treated with atoxy or arsacetin, who were not injured by injection witl salvarsan. He has used the drug in a number o cases in which optic atrophy was already presen without doing any harm, and indeed in some case there was an apparent improvement in vision Schanz[12] reports two cases of neuroretinitis a least temporarily improved and one case of opti neuritis in which the swelling of the disc was di minished, and the cloudiness of the retina cleare up with improvement of vision the day after an in jection. A fair number of such cases have bee recorded. It seems to me that while a beginning optic neuritis may be checked, it is of course quit out of the question that an atrophic optic nerv should resume its function.

Iritis, recent and nodular, and the various ocula palsies, yield with great rapidity to injections of sal varsan, and in a great many cases have recurre with equal promptitude. Parenchymatous keratiti

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hereditary syphilitics shows as a rule very great improvement if the process is recent, and less benefor none if the process is well advanced. I have ated two such cases, kindly referred to me by Otto Schirmer, and I copy from his notes:

ASE IX. Boy, thirteen years, Wassermann reaction -+. Left eye moderate interstitial keratitis, which beginning to clear up under the usual treatment while episcleritis developed on temporal half of right eye. er intramuscular injection with salvarsan, 0.1 gramme one week later 0.25 gramme, in neutral suspension, the eye continued to improve, but three days after the secinjection an interstitial keratitis developed on the right progressed slowly for ten days, then gradually diminished. Within six weeks after the injection, all irritation ed and the corneæ were practically clear. Wasserreaction still +++.

he salvarsan was given after the crisis in the eye. It is of special interest to note that an rstitial keratitis began three days after the sec- injection, but ran an aborted course.

ASE X. Boy, twelve years. Wassermann reaction -++. Completely developed interstitial keratitis on eyes, corneæ opaque, beginning vascularization on all s. Atropine potassium iodide, hot compresses. Salvan, 0.3 gramme in neutral suspension intramuscularly cted. No immediate effect. One week later less photobia, vessels slowly progressing. Cornea clearing at phery, five weeks after injection, the irritation had ly subsided; there was a central opacity from three to millimetres in diameter.

n this case the progress toward recovery was haps a little more rapid than is usual by ordiy treatment.

n tabes and paresis, salvarsan has been used in cry considerable number of cases. Ehrlich has atedly warned against the use of the drug in cases of advanced degeneration of the central vous system. But these patients, who often suffunendurable pains and other grievous miseries, nor for a trial of the new remedy. Now, it must clear that a degenerated nerve tract which has replaced by connective tissue is about as likely esume its function as the stump of an amputated to grow a healthy leg. Nevertheless, as Erb Nonne have pointed out, there may be mixed with the sclerotic tissue foci of active syphilitic cesses, and on these the remedy may have a favable action. Certain it is that in a large number of cases of tabes, there has been a marked improvement in some distressing symptoms after the of salvarsan; paretic sphincters have resumed r function, girdle and lancinating pains have appeared, at least for a time. In paresis the results have been on the whole less favorable, and I uld sum up my impressions by saying that if case is sufficiently advanced to make a positive gnosis possible, the drug is not indicated. Several cases of death are recorded in tabes and paresis after salvarsan. I take the liberty of referring here to a death which occurred in the practice of a physician of this city a couple of months ago. The patient, an advanced tabetic in a sanatorium in a near by city, became somnolent, stuporous, and finally comatose after an injection of salvarsan and died ten days after the injection.

We come now to our last question, What are the objections to or the dangers of the new drug? The remedy has been used now in over 30,000 cases. A few deaths have followed its use. In testing a new drug on so large a scale, and in so grave a disease as syphilis, it is but natural that mistakes should have been made. They need not happen again. The few recorded deaths have occurred in patients with advanced degenerative lesions of the central nervous system, with myocarditis, in debilitated, cachectic individuals, and in moribund infants. We may assert with reasonable confidence that the enormous dose of arsenic given in the form of salvarsan does no harm. In thousands of cases, furthermore, the drug has been used more than once; two, three, and more reinjections have been given without damage to the patient—without, on the one hand, establishing an immunity on the part of the spirochætæ or, on the other hand, oversusceptibility on the part of the patient. Properly employed and in suitable cases the drug seems to be harmless.

The fear of a neurotropic action of the drug, like the effect of atoxyl and arsacetin on the optic nerve, has been constantly borne in mind, and the fact that the drug is used to-day in a hundred well conducted clinics of Europe after a trial of six or eight months may give us some assurance that the fear of a special action on the optic nerve is unfounded. Atoxyl atrophies occur in from a few weeks up to seven months after treatment with atoxyl. Unless an effect on the nerve is produced with salvarsan after an unprecedentedly long period, I think we may regard its use as safe in this respect.

It must be noted, however, that Finger is of a different opinion. In his publication of November 24th,[6] he gives the histories of four cases in which the nervous apparatus of the eye, and in three cases of the ear, was affected at an early period in the history of the disease, when such lesions are at least uncommon in syphilis. He believes that the innocuousness of salvarsan on the nerves of these special organs is by no means established, and flatly warns the medical public against the general use of the drug. The authority of Finger carries great weight; but against it I should place the experience of Neisser, Gennerich, Schreiber, and a hundred other excellent observers who are to-day using the drug more than ever. It seems to me that all of Finger's cases, except one, may be explained in the light of Wechselmann's observation—that about three per cent. of his large series of cases of syphilis in the secondary stage of the disease showed more or less grave lesions of the optic nerve without loss of vision—as examples of such early nerve involvement as part of the syphilis, and not as the effect of the salvarsan. In his cases the observed lesions developed between two and three months after the injection. It seems incredible that among the 20,000 or more cases injected now more than three months ago, and many of them more than six months ago, there should not have been a large number of such sensory nerve injuries observed if salvarsan were responsible for them. The single exception in Finger's list is a case of optic nerve atrophy occurring two and a half years after infection and three months after treatment with salvarsan. In an article just published, Ehrlich[13] analyzes this case and concludes that it is most probable that the optic atrophy was due to the sensitizing effect of energetic treatment which this pa-

tient had previously undergone with arsacetin and enesol. It must be added that in the most recent literature, the number of reports of cases of cranial nerve lesions other than optic, occurring after salvarsan, is increasing, and the matter must be regarded still *sub judice*. I have dwelt on this matter a little fully because of its vital importance for the whole question of the use of salvarsan.

As to the minor objections to the use of the drug, they are based mainly on the details of its application. In a moderate number of cases, severe pain follows the injection and sometimes sloughing of the skin occurs, or an aseptic abscess is produced. I may say at once that the failures, the recurrences of the lesions, and the local accidents occur with all methods of preparation of the drug. They are only seldom due to an error in technique on the part of the operator. Marks[1], an assistant of Ehrlich, expresses the hope that the administration of salvarsan will be left in the hands of the specialists, just as laparotomies are done for the most part by surgeons.

I shall not here go into the details of the technique of the preparation and administration of the drug. I desire to dwell on a few points only. Theoretically, the intravenous method should give us the most complete sterilization of the infected host. Practically, however, recurrences develop after this method as after all others. The intravenous method has the advantage of comfort for the patient. A chill, a few hours of moderate temperature, some nausea, perhaps vomiting, and that is all; no subsequent pain or tumor or possible abscess and slough. It has the disadvantages of necessitating several days' stay in the hospital and of requiring a certain amount of skill and training on the part of the operator. Furthermore, not every patient has arm veins that are available for the injection. The intravenous method can never become the popular method, and moreover, I am not sure that it is worth while. The subcutaneous or intramuscular injections of neutral suspensions or alkaline solutions of the drug, have the disadvantages already referred to, pain, abscess formation, etc., and furthermore, the preparation of the dose for each injection requires an aseptic technique, considerable skill, and a great deal of time.

It was therefore with great interest, when the hope of a sterlisatio magna seemed futile, that I read of Kromayer's application of the drug in the form of a suspension in oil, analogous to the suspension of the insoluble salts of mercury that we are all familiar with. Kromayer[14] reported that the immediate clinical results of an injection of salvarsan in liquid paraffin were contrary to the theoretical considerations, just as prompt and effective as when the drug was used by other methods. The rapid absorption of the drug from its oily suspension is proved by its prompt appearance in the urine after injection. Rosenthal[15] confirmed these observations. The use of the drug in oily suspension offers so many advantages of convenience, that I have of late been employing it in this form. The suspension may be prepared in larger quantity—prepared aseptically and protected from light it keeps perfectly—and small doses may be given in office or dispensary practice and repeated at short intervals. The immediate symptomatic effects of these injections I have found in my small experience quite equal to those by other methods of injection and I venture to believe that this simple, practical method of administration will come to be the one most commonly employed.

I was much gratified at learning very recently that others, much better qualified to judge than I, have seen the advantages of the oil or fat suspensions of the drug. Within a fortnight I have received a personal communication from Professor Neisser, of Breslau—and no one stands higher than he as a syphilographer, and few have had as much experience with salvarsan—from which I am at liberty to communicate his method of employing the drug. He writes: "Every syphilitic who has suitable veins and is willing to stay two weeks in the hospital receives an intravenous injection of one gramme of salvarsan, which is repeated once or twice, at intervals of three or four days, and followed by an injection of a fatty suspension of the drug. In cases in which the intravenous injection are not available, the patient receives four or five or more injections of the fatty suspension, each containing 0.4 gramme of salvarsan, at intervals of about ten days each." The details of the composition of his fatty suspension will soon be published. Neisser regards this as the simplest mode of application of the drug. At the same time, and in every case, he employs the most energetic treatment by mercury, using injections of gray oil.

From this communication it is evident that the eminent syphilographer of Breslau does not trust to salvarsan for the cure of his patients, but employs it merely as an adjuvant to the treatment with mercury; second, it shows that after seven months' experience, he has no fear of harmful effects from the new drug; and, finally, it stamps with his approval the use of the drug in its convenient fatty suspension.

Not sufficient time, however, has elapsed since the introduction of salvarsan for any one to declare this or that method the best. It may be that the best and most lasting effects will be found to follow the intravenous method. It may be that we shall give our patients three or four injections of the fat suspension at intervals of ten days, and repeat this course at intervals of a couple of months throughout the year. It may be that this method of discontinuous sterilization will prove even more efficacious than treatment with mercury. No one knows. A prolonged period of study on the part of those who have abundant material and facilities for observation lies before us. In the mean time I should say that *the drug should not be used in the routine treatment of syphilis by the general practitioner*. A single injection is of very little use and may do some harm. There are, however, special conditions under which its use is indicated.

CONCLUSION.

I would summarize my views as follows:

1. Salvarsan is by far the most effective symptomatic remedy for the lesions of syphilis that we possess.

2. So far as we know at present, the drug may

[1] *Münchener medizinische Wochenschrift*, September 26, 1910, p. 1693, and September 26, p. 1791.

[14] *Berliner klinische Wochenschrift*, November 1, 1910, p. [illegible]

e used without fear of serious injury to the patient
1 suitable cases, and the dose may be repeated at
ntervals a number of times.

3. Its employment is indicated in: a. Cases of
ecent syphilis in which the rapid sterilization of
ne lesions is a matter of importance for the en-
ourage of the patient and the safety of the com-
nunity. b. Cases of extensive syphilitic ulceration
) shorten the period of local treatment. c. Cases
1 which important structures, like the eye, the
roat, etc., are threatened. d. Cases of syphilitic
achexia. e. Cases with severe lesions in patients
ho are oversensitive to mercury or are resistant
) mercury—the latter are very few in number. f.
ases of syphilis complicated by tuberculosis in
hich the effect of mercury on the tuberculosis is
id. g. Cases in an early stage of tabes for the
lief of pain or of sphincter troubles. h. Cases of
ereditary syphilis in infants. In the last two con-
tions in small doses only.

4. It should not be used: a. In cases of syphilis
mplicated with organic disease of the heart or
ith advanced arteriosclerosis. b. In cases of par-
is and advanced tabes. c. In cases with advanced
egenerative changes in the brain from any cause.
In cases with acute febrile disturbances from
y cause. e. In confirmed alcoholics (?). And
nally. f. it should not be used for purposes of diag-
sis.

I desire to express my obligation to Dr. Simon
lexner, of the Rockefeller Institute for Medical
esearch, from whom I received my first supply
the new drug; to Dr. Quintard, who generously
aced his wards at the Postgraduate Hospital at
y disposal; and to Dr. Kammerer and Dr. Kiliani,
the German Hospital, in whose services I treated
few cases.

51 East Sixtieth Street.

DIET IN TYPHOID FEVER.

By Charles Edward Nammack, M. D., LL.D.,
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The requirements for a suitable diet for typhoid
ver cases are three: It should be fluid, it should
easily digested, it should be readily absorbed.
r the average patient in the private practice of a
neral practitioner these requirements must be
ught for in foods which are simple, efficient, and
eap. No single article of diet meets the require-
ents so well as does milk. A close second is found
eggs, when they are fresh and not released from
ld storage plants. Many cases in workingmen's
milies have been conducted safely through typhoid
ver upon this diet, during the past thirty years of
tive practice, and with no better nursing than
uld be given by some other member of the family
here other liquid articles could be obtained, such
ve been added as possessed any real nutritive
lue, but the difficulty has rather been to restrain
licitous relations from administering beef tea and
her compounds on which hours of affectionate
t mistaken culinary efforts have been spent. The
rious proprietary articles which are supposed to
alcoholic solutions of beef, bread, and wheat have
been studiously avoided, and when a mixture of
fifteen per cent. alcohol and an albumin has been
thought to be necessary, the indication has been
met with sound sherry wine and a fresh raw egg.

When milk disagrees, when there is abdominal
distention, and when curds appear in the stools,
some modification in the administration becomes
necessary. In fact pure milk is never ordered, my
favorite formula being milk, four ounces; fresh
cream, one ounce; lime water, one ounce, given
every three hours, and followed by a mixture of
dilute hydrochloric acid, ten minims in one drachm
of a reliable essence of pepsin. To this prescrip-
tion strychnine can be added when required. Be-
tween each two portions of milk, albumin water,
made by adding the white of one egg to six ounces
of boiled water is given. The patient is also so-
licited to drink plain water freely. If there is com-
plete intolerance or aversion to milk, then butter-
milk or kumyss or kefir can frequently be borne.

There is no danger, in my opinion, in forcing this
quantity of fluid through the cardiovascular ap-
paratus and the kidneys, unless acute nephritis ex-
ists as a complication. In that case it is both use-
less and injurious to attempt to drive this quantity
of liquid through an inflamed and partly impermeable
kidney filter. The quantity and quality of the
daily urine output must be carefully studied, and
attempts at flushing the kidneys postponed, until the
mechanical obstacles to the flow of urine are re-
moved.

Another objection to an exclusive milk diet arises
from the fact that milk is very rich in phosphates
and that the urinary phosphate excretion is greatly
increased on an exclusive milk diet. To convert
some of these phosphates into calcium phosphate,
which is absorbed with difficulty from the intestine
and excreted in the fæces rather than eliminated
through the kidneys, lime water is added and helps
to bring about the required change (1).

The acid and pepsin mixture is given after each
feeding of milk and cream, because the secretion of
digestive juices by the stomach is almost arrested
during the fastigium of typhoid fever. This is the
theory of its administration. As a clinical fact,
easy of demonstration, abdominal distention and the
passage of undigested curds in the stools will not
be observed during its use.

An able clinician of this city has raised the ob-
jection that a diet of thirty-two ounces of milk and
eight egg whites contains only about 900 calories a
day, while the average typhoid patient requires
about 2,600 calories (2). The addition of eight
ounces of cream adds about 500 calories to the first
mentioned figures, and when the whole egg can be
taken and digested, as it usually can after the first
week of rest in bed and proper general treatment,
the caloric requirement can be met. In the present
furore for stuffing patients, we are apt to forget that
therapeutic fasting, at the beginning, may allow an
uncomplicated typhoid infection to pursue a normal-
ly mild course without any mixed infection, by re-
ducing the bacterial content of the intestines (3).
The value of the initial purge in typhoid fever prob-
ably rests upon the possibility of a like bacterial
reduction.

After the third week, I usually allow crackers

with butter, well cooked rice, calves foot jelly, and broth, and other solid foods when the evening temperature reaches normal. Twenty-eight cases treated according to this plan in St. Vincent's Hospital from June 1 to October 1, 1910, resulted in twenty-seven recoveries, and one death from ulcerative endocarditis; three patients recovered after severe intestinal hæmorrhages, and in one small boy perforating appendicitis developed in the fourth week, but he recovered, after surgical operation, performed within four hours after onset.

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42 East Twenty-ninth Street.

THE MEASUREMENT OF ARTERIAL PRESSURE IN MAN.

By George Bachmann, M. D.,
Atlanta.
(*From the Intoxications of the Jefferson Hospital, Philadelphia.*)

The measurement of the blood pressure has established itself, within recent years, as one of the recognized procedures of clinical investigation. The progressive physician does not rely entirely on his sense of touch to gauge the pressure within his patient's arteries any more than he would think of estimating the same patient's temperature by laying his hand over his forehead. It is true that the estimation of the blood pressure by the ordinary clinical instruments is not free from more or less serious fallacies, one of which has lately been dwelt upon by a number of investigators. I refer to the resistance of the arterial wall proper as a factor apart from the pressure exerted by the blood against the sides of the vessels. This factor can never be expressed in mathematical terms in any one case, but it is safe to say that it can be discarded in healthy arteries, as its value is probably within the limits of ordinary experimental errors. The estimation of arterial change will, therefore, continue to be obtained by the palpation of accessible arteries. The resistance offered by the tissues overlying the arteries may be another disturbing factor, although this has been denied by some. Other and possibly more serious sources of error lie in the various methods in use for the evaluation of the arterial pressure. Briefly stated all instruments are attempts to put into practice the principle, first enunciated by Marey, that the amount of pressure, applied outside an artery, just sufficient to extinguish the pulsation of the vessel at this point, is equivalent to the maximum pressure within the vessel under compression; as the highest pressure is found in the arteries during the systole of the ventricles it is known also as systolic pressure. The principle underlying the estimation of the minimum pressure may be stated as follows:—If an artery is compressed (preferably in a concentric manner) the greatest amplitude of the arterial pulsation will be observed when the amount of the compression is equal to the lowest pressure within the vessel under consideration. That the principle is faultless has been demonstrated experimentally by Howell and Brush (1). This minimum pressure being found in the arteries during the diastole of the ventricles the name of diastolic pressure has also been applied to it.

The instruments which have been devised to measure the arterial pressure in man are numerous. They may be grouped into three classes: 1. Instruments using a mercury manometer to indicate the amount of compression to which the artery is subjected. 2. Instruments using an aneroid drum. 3. Instruments using compressed air with a water indicator. The aneroid and compressed air instruments are graduated in millimetres or centimetres of mercury. These instruments may be classified, furthermore, into those employing a cuff by means of which circular compression of a segment of a limb may be exerted (upper arm, finger, wrist) and those employing a pad either solid or fluid for the compression of an individual artery, usually the radial (Oliver).

The great majority of instruments employ circular compression of the upper arm and, therefore, measure the pressure in the brachial artery. In estimating the systolic pressure it is customary to observe the disappearance of the arterial pulsation at the radial (method of Riva-Rocci), occasionally at the brachial below the cuff, at any rate always at some distance from the point of compression. This method of applying Marey's principle is essentially faulty and the results obtained are necessarily erroneous. Indeed it can be shown that while the pulse has disappeared at the radial there is a pronounced pulsation in that portion of the brachial artery under compression. Pachon (2), who demonstrated this fact by means of his instrument (to be described presently), and the sphygmosignal of Vaquez, gives the following theoretic explanation of his experimental finding:

The pulse wave has its origin in the contraction of the ventricle and represents a certain amount of kinetic energy. This wave of pressure spreads from the root of the aorta to the end of the arterial system and in so doing loses energy little by little owing to friction against the sides of the vessels. As the resulting distention of the arterial walls is normally extremely slight (Poiseuille) very little external work is performed by the pulse wave. If, however, a segment of an artery is compressed so that a portion of its internal pressure is counterbalanced, that segment will yield to a greater extent to the distending force of the pulse wave and the vessel wall will begin to move. In other words, external work will be done. The compression may be such that the extent of the movement of the vessel wall (hence the amount of work done by the pulse wave) will exactly balance the amount of energy possessed by the wave. At this moment the pulse wave is entirely utilized in performing mechanical work, it is, therefore, absorbed at this point and no pulsation can be felt below it; the blood flow, however, has not been interrupted, the intermittent flow has merely been changed into a continuous one. This explains why wide cuffs with a larger area for the absorption of the pulse wave, give lower figures than narrow ones. It serves to explain also why the arterial pressure in man appears so low in comparison to that observed in the

ther mammalia. Benczur (3) reached practically ie same conclusions by the combined use of the Jecklinghausen and Gärtner instruments.

Marey's principle for the determination of the inimum or diastolic pressure has been more correctly applied in that the oscillations of the compressed artery are transmitted directly to the instrument and their amplitude noted. As stated by achon (4), however, the instrument which is to eproduce these pulsations must have both a great nd a constant sensibility. The mercury manometer as naturally a constant sensibility, but owing to the ertia of the mercury this sensibility is but slight, rely not sufficient to enable one to compare differences in the amplitude of oscillations at various vels of pressure. Everyone who has used the ercury manometer for the determination of the iastolic pressure is impressed with its imperfections for this purpose. A few investigators have ought to overcome this defect by placing an elastic g in connection with the cuff through which comnation the arterial pulsations are taken up and ansmitted, by appropriate means, to a tambour to magnified and graphically recorded (Erlanger, skow). The first objection to this method is that ie bag cannot be made sensitive on account of the latively high pressure to which it must be subcted. The second objection is that such a bag has ot a constant sensibility at various pressure levels. he amplitude of its oscillations will be smaller the reater its state of tension (distention), the force the oscillations remaining the same. It will, ierefore, lead to error to compare the amplitude oscillations obtained at various pressure levels.

All these objections have been removed in the mple and ingenious instrument devised recently by achon (5). The main features in the construction this instrument, which he names a sphygmomeic oscillometer, can best be understood by referng to Fig. 1.



tallic box hermetically sealed and containing in its interior an eroid manometer which indicates the level of the pressure in the tire system. The box, manometer, aneroid drum *a*, and the cuff e normally in free communication by means of the tubes *d*, *e*, *f*. ie pressure can be raised in the system by means of the pump *P*; can be lowered by allowing the air to escape by unscrewing the lve *s*. The cuff and the aneroid *a* can be cut off from the rest mpressor *c* (called separator by Pachon).

The position of the aneroid *a* is in the interior the box and the free communication of the inrior of the same manometer with the box and ie cuff have solved the problem of devising an strument which would have both a great and a constant sensibility at any pressure level. By reason of this arrangement the same pressure is exerted at all times on the external as on the internal surfaces of the drum *a*, hence this drum is always in a position of rest or zero tension, except when by compressing *c* the cuff is placed in direct communication with the interior of the drum and any change of pressure within the cuff may then act upon it. These changes of pressure due to the pulsations of the artery are normally very slight, so that the drum *a* could be made of relatively thin metal, hence very sensitive. This sensibility will always be the same no matter what the level of the pressure around the arm may be since it always takes up the pressure changes in the cuff by starting from a state of no tension.

In using the instrument the cuff is placed around the arm in the usual manner. Air is pumped into the system until the pressure is well above the normal arterial pressure. The amount of the pressure is read from manometer *M*. The observer now confines his attention to the manipulation of valve *s* and compressor *c*, using preferably one hand only in order to ensure that the tube *d* shall be freely opened when valve *s* is opened and closed. If on compressing *c* the hand *n* does not oscillate, valve *s* is opened and the pressure allowed to fall half to one centimetre; *c* is again pressed upon and the hand *n* observed. This manœuvre is repeated until oscillations of the hand *n* of the extent of, say, one degree of the dial are shown. This moment indicates the return of the pulse *at the point compressed*, and, therefore, the maximum or systolic pressure there. This is read on manometer *M*. To determine the minimum or diastolic pressure, the pressure in the system is lowered in the manner explained above and the compressor *c* manipulated between each lowering of pressure, at the same time the hand *n* is observed and at the moment its excursions are greatest the level of diastolic pressure has been reached and can be read on manometer *M*. This is the most satisfactory instrument I have seen for the determination of the diastolic pressure; the oscillations are large and the moment of greatest amplitude is clear cut, for both immediately before and immediately after this moment the oscillations are noticeably smaller.

The determination of the systolic pressure in such instruments is a vexed question. Erlanger obtains small pulsations with his instrument, as shown by the movements of the lever, before the true systolic level has been reached. This he attributes to the "hydraulic ram action" of the pulsating proximal stump of the artery against the edge of the cuff. Pachon now uses a cuff adapted to the wrist, where on account of the small size of the vessels and the fairly thick edge of the cuff the danger of this source of error should be greatly minimized. The writer observed that an oscillation of the hand *n* equivalent to one degree of the scale indicates the return of the pulse at the point compressed as controlled by the palpation of the artery under similar conditions. To determine this point a cuff is placed around the upper arm and one around the wrist. The two cuffs are connected with the

TABLE SHOWING THE RESULTS OF THE ESTIMATION OF BLOOD PRESSURE WITH THE PACHON INSTRUMENT (BRACHIAL AND RADIAL CUFFS) AS COMPARED WITH THE STANTON MODIFICATION OF THE RIVA-ROCCI INSTRUMENT.

					Pachon.						Stanton.			
					Brachial			Radial						
Age	Height, feet and inches	Weight, pounds	Sex	Occupation	Systolic	Diastolic	Pulse pressure	Systolic	Diastolic	Pulse pressure	Systolic	Diastolic	Pulse pressure	Pulse rate
18	5.7	142	M.	Student	[illegible]	[illegible]	60	150	100	50	120	85	35	80
19	[illegible]	[illegible]	M.	Student	[illegible]	[illegible]	50	140	90	50	130	90	40	88
20	5.4	130	M.	Student	[illegible]	[illegible]	45	130	90	40	133	90	43	[illegible]
19	5.10	165	M.	Student	[illegible]	[illegible]	40	130	90	40	120	85	35	72
13	5.4	[illegible]	F.	Mill worker	130	85	45	125	85	40	100	80	20	100
18	5.3	[illegible]	F.	Housework	140	[illegible]	40	130	100	30	120	85	35	112
19	5.7	125	M.	Box maker	[illegible]	95	65	140	115	45	125	85	40	98
18	5.6	130	M.	Clerk	[illegible]	135	40	155	[illegible]	35	115	95	20	80
15	5	100	M.	School boy	110	80	30	110	80	30	95	75	20	86
17	5.3	122	M.	Tailor	138	[illegible]	50	130	90	40	105	80	25	74
				Average.....	141	94.5	46.5	136	96	40	114.3	85	29.3	
22	5.6	150	M.	Student	[illegible]	[illegible]	40	130	[illegible]	30	110	80	30	78
23	5.8	142	M.	Student	[illegible]	[illegible]	50	140	100	40	130	85	45	72
21	5.9	160	M.	Student	148	90	58	135	100	35	125	90	35	70
22	5.10	131	M.	Student	150	[illegible]	50	135	105	30	120	90	30	84
21	5.5	137	M.	Student	140	95	45	135	100	35	125	90	35	88
21	5.6	130	M.	Student	135	[illegible]	45	120	90	30	110	80	30	74
22	5.7	140	M.	Student	145	[illegible]	45	135	100	35	130	90	40	80
24	5.5	135	M.	Student	120	[illegible]	35	120	85	35	110	85	25	80
23	5.9	137	M.	Student	145	95	50	140	100	40	125	95	30	84
25	5.4	140	M.	Student	138	[illegible]	35	130	100	30	120	95	25	64
24	5.11	140	M.	Student	150	[illegible]	50	140	110	30	135	90	45	70
22	5.1	110	M.	Student	150	100	50	140	100	40	130	90	40	94
20	5.8	137	M.	Student	150	[illegible]	50	140	100	40	120	85	35	100
20	5.5	120	M.	Student	130	90	40	120	85	35	112	87	25	84
20	5.4	120	M.	Student	155	[illegible]	45	140	100	40	120	85	35	90
21	5.9	140	M.	Student	130	85	45	120	90	30	120	90	30	73
23	5.8	130	M.	Student	125	90	35	120	90	30	115	85	30	70
24	5.6	125	M.	Student	130	90	40	130	90	30	115	75	40	90
23	5.10	140	M.	Student	140	100	40	130	90	40	125	90	35	72
25	5.11	175	M.	Student	140	[illegible]	40	140	100	40	110	85	25	76
21	[illegible]	[illegible]	M.	Student	135	90	45	130	90	40	125	80	45	112
28	5.9	142	M.	Student	150	100	50	140	100	40	130	90	40	68
21	5.11	140	M.	Student	130	80	50	130	100	30	115	85	30	62
22	5.6	145	M.	Student	130	90	40	120	90	30	115	90	25	74
24	5.8	172	M.	Student	140	[illegible]	40	135	100	35	125	90	35	80
23	5.6	145	M.	Student	140	[illegible]	40	130	100	30	115	95	20	[illegible]
21	5	150	M.	Student	[illegible]	[illegible]	50	140	95	45	135	90	45	72
21	6	142	M.	Student	160	105	55	140	100	40	140	95	45	74
20	5.8	130	M.	Student	[illegible]	[illegible]	50	140	100	40	130	90	40	84
20	5.11	150	M.	Student	[illegible]	[illegible]	50	130	85	45	120	85	35	88
21	5.8	148	M.	Student	150	100	50	130	90	40	130	90	40	70
22	5.6	130	M.	Student	150	100	50	140	100	40	110	85	25	72
22	5.7	125	M.	Student	140	100	40	135	90	45	135	90	45	70
21	5.10	145	M.	Cigar maker	[illegible]	80	30	100	80	20	90	70	20	90
25	5.7	165	M.	Laborer	140	90	50	140	90	50	115	88	27	60
24	5.8	155	M.	Laborer	150	90	60	140	90	50	110	80	30	76
25	5	123	M.	Weaver	140	90	50	130	90	40	110	90	20	68
24	5.5	130	M.	Tailor	150	95	55	130	90	40	125	90	35	68
21	5.5	135	M.	Shoemaker	135	90	45	135	90	45	110	85	25	52
20	5.4	135	M.	Baker	170	100	70	160	100	60	135	90	45	70
20	5.5	132	M.	Mattress maker	160	100	60	150	100	50	100	80	20	70
20	5.3	130	M.	Stone cutter	120	85	35	120	85	35	115	90	25	72
20	5.8	130	F.	Mill worker	150	100	50	140	100	40	130	95	35	96
20	5.3	122	M.	Laborer	140	100	40	130	100	30	115	90	25	84
27	5.5	130	M.	Capmaker	125	85	40	120	85	35	100	75	25	68
20	5.4	134	M.	Machinist	145	100	45	140	100	40	130	90	40	90
28	5.9	150	M.	Painter	140	80	60	120	80	40	100	75	25	68
21	5.7	140	M.	Salesman	135	90	45	130	90	40	105	80	25	94
21	5.4	128	M.	Knitter	120	80	40	120	90	30	110	85	25	78
23	6.1	185	M.	Fireman	170	[illegible]	70	165	100	65	120	85	35	72
28	5.2	107	M.	Barber	130	90	40	130	90	40	110	85	25	109
23	5.5	143	M.	Printer	140	80	60	120	80	40	125	85	40	72
				Average.....	141	94	47	132.5	94.3	38.2	119	87	32	[illegible]
38	5.8	143	M.	Fireman	160	[illegible]	70	140	100	40	120	90	30	80
33	5.7	130	M.	Laborer	150	90	60	150	90	60	110	85	25	80
35	5.7	170	M.	Fireman	180	[illegible]	80	180	110	70	150	90	60	78
30	5.2	175	M.	Laborer	150	90	60	150	100	50	135	105	30	70
35	5.3	113	M.	Huckster	125	95	30	120	95	25	125	95	30	90
35	5.8	148	M.	Farmer	125	95	30	120	100	20	110	85	25	[illegible]
31	5.8	120	M	Tinsmith	140	70	70	140	80	60	120	80	40	82
31	5.5	135	M.	Barber	120	70	50	110	70	40	90	70	20	84
				Average.....	143.75	88.75	55	138.75	93	45.75	120	87.5	32.5	[illegible]
40	5.7	133	M.	Laborer	150	80	70	150	90	60	110	80	30	82
42	[illegible]	125	M.	Barber	130	90	40	120	100	20	115	90	25	92
42	6	150	M.	Leather worker	140	90	50	140	100	40	120	90	30	80
42	5.7	137	M.	Brakeman	240	130	110	225	140	85	205	130	75	70
44	5.10	[illegible]	M.	Packer	120	80	40	120	85	35	100	75	25	68
40	[illegible]	160	M	Lumberman	120	85	35	110	80	30	105	80	25	80
47	5.5	160	M.	Bartender	150	90	60	150	100	50	120	95	25	84
48	5.4	140	M.	Carpenter	120	80	40	120	90	30	100	80	20	72
49	5.9	145	M.	Engineer	150	80	70	150	100	50	125	95	30	108
				Average.....	146.4	89.4	57	143.3	98.3	45	122.2	90.5	31.7	[illegible]
51	5.9	145	M.	Lead worker	160	90	70	150	90	60	110	80	30	60
52	5.8	147	M.	Waiter	125	90	35	120	95	25	100	75	25	72
55	5.4	150	F.	Servant	130	90	40	130	90	40	120	90	30	72
56	5	125	F.	Milliner	140	90	60	150	100	50	130	90	40	80
				Average.....	141	90	51	137.5	93.75	43.7	113	83.7	31.3	[illegible]
60	5.8	145	M.	Tailor	[illegible]	80	70	150	90	60	105	80	25	80
62	[illegible]	126	M.	Laborer	[illegible]	90	70	160	100	60	135	105	30	[illegible]
				Average.....	145	85	70	155	95	60	120	92.5	27.5	[illegible]

Pachon instrument by means of a Y tube; a stopcock is placed in the course of each tube coming from the cuffs. A pressure is put around the wrist equal to the diastolic pressure at this point. When a pressure is applied around the brachial equal to the systolic pressure and the stopcocks and compressor suitably manipulated, no pulsation is seen at the wrist. The pressure must be lowered considerably around the brachial before a pulsation is indicated at the wrist. If now the radial cuff is removed and the brachial systolic pressure estimated by the ordinary method of palpation of the radial artery it will be observed that the pulse is felt when the pressure around the brachial is at the same level as when the indicator of the Pachon instrument showed an oscillation of approximately one degree when it was in relation with the radial cuff. The following table will show the result of a few observations:

Age	Systolic pressure in brachial artery (Pachon) — mm. Hg	Pressure in brachial cuff at which pulse appears at wrist (Pachon)	(Tactile)	Diastolic pressure at wrist (Pachon
27	130	105	105	80
26	125	105	105	90
33	130	110	110	90

These observations, which are easy to make and which can be conducted with great rapidity, demon-

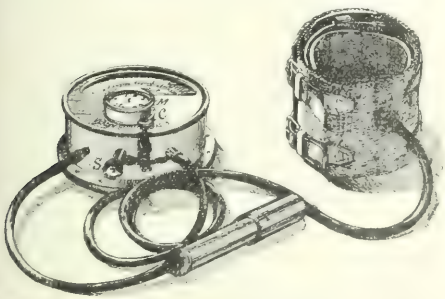


Fig. 2.—Pachon's sphygmometric oscillometer. (After Pachon.)

strate that the Riva-Rocci or any similar method of noting the return of the pulse at a point *below* the part compressed is faulty; the systolic pressure is from 20 to 40 mm. lower than when estimated by the Pachon instrument. Benczur's figures with the Recklinghausen and Gärtner combination show even a greater discrepancy. As the diastolic pressure remains relatively low, as estimated with the Pachon instrument, it follows that the pulse pressure is higher than when estimated with the mercury manometer. In order to emphasize these different points there is appended a number of observations grouped in decades and obtained from healthy students and from patients suffering, for the most part, from trifling ailments and gathered from the medical dispensary. A comparison is made between the Pachon and the Stanton instruments. The blood pressure was determined both in the brachial (cuff 10 cm. wide) and in the radial (cuff 8 cm. wide) by means of the Pachon instrument and in the brachial (cuff 10 cm. wide) by means of the Stanton instrument (Riva-Rocci method of systolic pressure estimation). The subject was invariably placed in the recumbent posture and the first observations discarded in order to eliminate any error which might be caused by the excitement attendant upon a novel experience. The results of a comparison of the pressures in the brachial and radial arteries show a fair agreement with what is found by direct measurements in animals; the systolic pressure falls more sharply than the diastolic in passing from the brachial artery to the wrist, this giving rise to a lower pulse pressure at the wrist than at the brachial. Very often the diastolic pressure undergoes no appreciable change while not infrequently even the systolic pressure remains unaffected.

Altogether this new instrument has many points which will appeal to the clinician. It is compact, does not necessitate the use of mercury, is devised on sound mechanical principles, is not subject to the disturbing factor of personal equation, permits of easy and rapid readings and the possibility of the use of a wrist cuff will still further save time and annoyance. On the other hand it is advisable with this instrument, as with any aneroid instrument, to test the manometric drum occasionally against a mercury manometer, preferably a U-shaped manometer.

I take great pleasure in acknowledging the help which Dr. George Faris and Mr. T. F. Mullen gave me in estimating the blood pressures reported here.

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THE TREATMENT OF SKIN DISEASES WITH SOLID CARBON DIOXIDE SNOW AND DEMONSTRATION OF THE METHOD.*

By Edward Pisko, M. D.,
New York.

I believe I have read over a dozen different methods of preparing the solid carbon dioxide snow with another dozen of modifications within the short period of three years since the snow was first introduced by Pusey (Sixth International Dermatological Congress, 1907).

I fail to see the value of complicating matters, to me it seems best to look for the simplest and plainest method. The main thing is to have a good drum, a drum that closes airtight and can be kept closed airtight, when not in use; a drum which is filled with the best obtainable carbonic acid gas (no

water). All I have to do when I want to draw snow is to remove the cap and put a tube made out of blotting paper around the opening where the gas is to escape, the length of the blotter and its diameter to be the size of the cone of snow. A layer of gauze comes on top of the blotter which stands in a right angle against the drum, then I make a number of circular tours with a gauze bandage in order to fasten the tube to the drum, especially tight around the cap so as to insure a tight fitting, thus preventing the gas from escaping to the sides and forcing it to enter the tube, forming a solid cone within the blotter of the size wanted. The drum is then bent over toward the floor in an angle of about forty-five degrees; the valve is then opened very quickly for about fifteen seconds, then is closed very quickly; opened again right after it was closed and the gas is allowed to escape for about from twenty to twenty-five seconds, until the sound of a good crackling is heard, which is the only sign that solid snow in a cone is forming, while the spray and the flakes of snow merely indicate that gas is escaping from the drum. I then turn off and with my hand I feel whether the snow is forming into a solid cone; if so, another twenty or twenty-five seconds are sufficient for packing the snow. With a sharp knife the bandages are then cut loose and the cone is ready for use. The mass is hard enough and can easily be shaped with an ordinary penknife to the size wanted according to the lesion, even to the size of a pinpoint, it can be sharpened just like a lead pencil. Before I start to work with the snow I first tighten the screw of the drum and fasten the cap on the valve in order to save the gas, which costs money—every drum from two to three dollars, and, aside from that, it is very unpleasant to be without it, if you do not happen to have a reserve drum in your office.

As to the use of the snow, how to apply, how much, at what pressure, how long to freeze, etc., these questions cannot be learned from books, it must come to one naturally, one must study each case individually and find out the nature of the lesion. In a superficial juvenile wart or in a pinhead sized ordinary nævus in an infant, from twenty-five to thirty seconds, without any pressure whatsoever, will do. On the other hand, a destructive process, which has disfigured quite an area of the face, will sometimes need a very hard pressure for over one minute. If bleeding is produced, there is no fear, nothing can happen, and a whitish scar develops if left alone, just leave the area exposed and uncovered. If the burning sensation is very severe, lasting for a number of hours after the application of the snow, a mild solution of boric acid is to be applied ice cold, but no ointments nor powders. Besides, a bulla of various size around the orbital region and around the lips an œdema follows the day after. The patient must be told so beforehand in order not to be frightened. I do not use any ether; I do not believe it is necessary if the snow was made hard enough by packing.

Solid carbon dioxide takes now the place of liquid air, which is quite difficult to obtain and to preserve, but we must admit that liquid air is the stronger and better agent, its freezing point being at 190° C., while carbon dioxide freezes at 90° C. Here is where the advantage of carbon dioxide comes in. It is not an ordinary cautery, it produces an inflammation, due to the freezing of the tissue,[1] its action and effect can be fully controlled from a superficial erythema to a total destruction of the diseased tissue. The snow is, as a rule, used in more or less smaller areas and only where a scar as final result is wanted: nævus, hypertrophied scars, angioma, leucoplacia, keratosis, verruca, rodent ulcer, epithelioma, keloid, chloasma, tatoo marks, powder stains, dermatitis, and last but not least, lupus erythematosus. In all these we get the best cosmetic scar with a comparatively small amount of pain and skin destruction; it is "the" treatment for lupus erythematosus. Anything used heretofore was more or less undesirable for one reason or another, the destruction pertained to the entire skin and not only to the diseased tissue and the scar could never be controlled; here we get the best cosmetic results, and what more with a few applications we can prevent the process from spreading, quite a factor for the face of a female. In cases of deep seated lupus erythematosus, as well as rodent ulcers and epitheliomata filling almost the whole of the orbital cavity much pressure must be used up to one or one and one half minutes' duration, still the pain is very little owing to the intense cold of the carbon dioxide snow acting as a local anæsthetic.

Case I. Epithelioma. Mr. O. T.; fifty-two years old; noticed in winter 1906 in his right temple a small pimple—a papule—with a fine scale on top, this dropped off and another appeared and so on to this day while the papule slowly grew to an ulcer, one inch in diameter, with sharp outlines, pearly edge toward the healthy tissue, superficially. On April 5, 1909, I removed the crust and cleaned the ulcer with a boric acid solution, then I applied snow to the edges for twenty-five seconds and then to the ulcer proper for about fifty seconds with medium pressure; on April 19th and 26th for forty seconds; on May 10th for thirty seconds; on the 24th only the edges for twenty seconds; on June 7th patient was perfectly cured. I presented patient one year later, May, 1910, to the members of the Manhattan Dermatological Society, who were hardly able to recognize the seat of the former epithelioma.

Case II. Epithelioma, began about five months ago as a small pimple on the left cheek; patient, fifty years old, came on April 21, 1909, with an irregular ulceration two and one half by three quarter inches, edges undermined, pearly, the base of the ulcer filled with pus and broken down tissue. Carbon dioxide snow was applied for forty seconds; on April 25th for thirty seconds, wound clean and epidermization, perfect cure after seven applications.

Case III. Epithelioma, began three months ago; patient sixty years old, smoked a clay pipe, lower lip, left angle of jaw, about one inch long, healed after four applications.

Case IV. Epithelioma, J. McC., sixty-five years old; nine months' duration. Patient was shown in April, 1909, before the Manhattan Dermatological Society. On the right side of the lower lip was a superficial, slightly elevated, whitish plaque, same had sharply defined elevated edges, scaly, several pinheadsized nodules on the inner surface of the lip. The diagnosis of epithelioma was doubted by some members, but a microscopical examination sustained same. With five applications of snow patient was perfectly cured and again presented January, 1910, before the same society, and in April, 1910, at the Society for Dermatology and Genitourinary Surgery.

Case V. Epithelioma of nose and orbita. An Italian woman, sixty-six years old, presenting a deep ulcerating mass, which had exposed the malar bone; edges undermined; ulcer covered with broken down matter and pus;

[1] Solid carbon dioxide freezes the tissues into solid ice upon the very contact, the tissue then looks perfectly white and it takes from one half to two minutes to thaw out from the periphery.

the saddle of the nose, the right eye, and the upper parts of the cheek were involved.

This case was of special interest, because I treated the patient by packing the whole cavity with snow cut in lumps, which I allowed to remain *in situ* for over two minutes, in the meantime treating the edges. After two weeks the ulcerating mass diminished in size, no pus, epidermization of the bone. Patient felt much better, but ran out when seeing another patient with epithelioma which was worse than hers, and never again returned to the clinic.

CASE VI. Epithelioma of the whole left orbit, of ten years' duration. Patient was first seen October 25, 1909, a very large ulcerating mass with everted edges and pearly nodules, covering the left orbit as well as the cheek and extending across the nose. Patient was unable to open the left eyelid. A prolonged x ray treatment did not benefit her. Patient was treated in the same way as the patient in Case V. No more pus since November 5th, the eyelid opened November 15th. Patient could see fingers in front of her by November 29th, she was greatly improved when leaving for an out of town home for aged. In this case I have made two applications mixed with ether, both have been very painful to the patient.

CASE VII. Epithelioma, H. Q., fifty-six years old, sent to me by Dr. Lancaster. Patient had received an x ray burn two years ago; the epithelioma at that time hardly elevated above the face rapidly grew to the size of a hen's egg, covering the whole of the right zygomatic region, bled easily, and was adherent to the bone; thick scar tissue impaired the use of the jaw. Patient had five applications of snow, forty seconds each, with full pressure always followed by profuse bleeding, the tumor diminished more than half in size.

CASE VIII. Lupus erythematosus. Mrs. E. O., fifty years old; began fifteen years ago. A number of scaly patches on the cheeks and over bridge of nose developed into the characteristic butterfly. Patient came to the Harlem Hospital October 9, 1909, snow was applied seven times (once a week) on the different areas for forty seconds with medium pressure. I presented patient as cured at the December meeting of the Manhattan Dermatological Society.

CASE IX. Lupus erythematosus, Mrs. E. W., thirty-three years old, also extended areas behind both ears and lesions on the scalp, I had to treat especially careful around each canthus internus. Patient still under treatment.

CASE X. Dermatitis papillaris capillitii. Patient, D. C., twenty-six years old, in December, 1908, noticed a painful inflammation of almost all of the hair follicles on the neck, each hair was imbedded in pus; I used a fine curette and afterward four per cent. red oxide of mercury ointment, the folliculitis disappeared. In April, 1909, patient returned with several isolated, elevated, hard nodules, keloids. Snow was applied to each for one minute, five applications in all, perfect cure.

CASE XI. Scrofuloderma on the left inner thigh. Patient, twelve years old, still under treatment.

CASE XII. Scrofuloderma of the right cheek, five areas on the chin and neck in a girl, sixteen years old, still under treatment.

CASE XIII. Angioma in a baby, five months old, perfect cure after three applications.

CASE XIV. Nævus cavernosus of the scalp in a two year old baby disappeared after five applications.

CASE XV. Nævus papillosus on the lower left jaw in a girl fifteen years old, still under treatment.

I have also treated numerous warts, hairy moles, keratosis palmaris and plantaris, and xanthoma with best results.

In conclusion I wish to say that the reliable and inexpensive snow fully takes the place of the high priced radium, but never the surgeon's knife when glandular involvement is present.

616 MADISON AVENUE.

REPORT OF A CASE OF AMERICAN RELAPSING FEVER.

BY WALTER BAETZ, M. D.,
Ancon Hospital, C. Z., Panama.

Considering the infrequency with which cases of American relapsing fever are reported in medical journals, the following may be of some interest to the profession:

CASE. One of the patients admitted to the medical section of Ancon Hospital, Canal Zone, on January 25, 1910, was a negro, age twenty years, native of Martinique, F. W. I., employed as laborer at Gatun, C. Z., in the construction of the locks at the Atlantic terminal of the canal. Concerning his family and personal history prior to his present illness, he could give no better account than is usual in his race and class. It is therefore omitted, with the exception of stating that he had been in Panama about two years and lived in a rented house at Gatun during this time. His present illness began about ten days before admission, when he was taken suddenly with severe headache, pains in back and epigastrium, vomiting, cramps in calves of legs, chills, fever, and sweat of about twenty-four hours' duration. The day following this acute attack he felt weak, but well in all other respects and continued so until his present, second attack, which was characterized by symptoms identical with those of his first illness. The thermometer registered 104.4° F. on admission at 1:30 p. m., pulse was 108, and respirations, 24. General physical examination showed a young negro of medium height and weight; musculature fairly well developed; anxious countenance; skin presenting old and recent lesions on chest, abdomen and about waist very suggestive of pediculi bites; tongue heavily coated with a white moist fur. Examination of lungs and heart was negative; peripheral arteries fibrotic; liver slightly and uniformly enlarged, tender on pressure; spleen moderately soft, very tender and palpable about 5 cm. below costal margin; lymphatic glands generally indurated and enlarged; sclera pearly white, not injected; pupils equally and regularly dilated. A routine blood smear was found to be negative for malaria. The urine was negative for albumin and had a specific gravity of 1.015. Fæces were also negative on microscopical examination. A tentative diagnosis of clinical malaria was made, and an initial dose of quinine sulphate, 20 grains, in solution was given by mouth, and 10 grains of the same drug ordered three times daily. The routine three grains of calomel followed by magnesium sulph. solution, two ounces, were also given. The patient perspired freely that evening, all unpleasant symptoms abated rapidly and he passed a good night.

January 25th to 29th.—The following morning he felt weak but well; his temperature was 97° F., pulse 52, and respirations 18. The temperature remained subnormal for five days, during which period of time he received as only medication quinine sulphate, ten grains, three times a day in solution, and felt perfectly well. The previously made tentative diagnosis of malaria seemed sustained.

January 30th.—Second relapse. On this day, the fifth day of the apyrexia, he was again suddenly taken ill in the evening with the same distressing symptoms which had marked his two previous attacks.

January 31st.—The following morning at 8:00 a. m. his temperature had risen to 102.8° F., pulse 96, respiration 27. A blood smear was made and it was noticed that macroscopically the blood as taken from the lobe of the ear was abnormally dark in color and coagulated rapidly. The preparation was stained with Hasting's stain and approximately thirty spirilla were found to a 1/6 inch cover slip. In the fresh blood very motile, exceedingly delicate spirilla were observed. Quinine sulphate was discontinued and a complete blood examination made, which gave the following results: Red cells, 5,880,000; white cells, 6,900; differential count, polymorphonuclears, sixty-eight per cent., large, seventeen per cent., small, twelve per cent.; eosinophiles, one per cent.; trans., one per cent.; mast., one per cent. Basophilic stippling of erythrocytes similar to that observed in plumbism.



Temperature chart showing the difference of the American from the European type of relapsing fever.

Dr. Darling and Dr. Bates, of the Board of Health Laboratory, injected two monkeys with 5 c.c. each of venous blood intraperitoneally.

The temperature rose to 105° F., pulse 100, respiration 28, at noon. A tepid sponge bath was given and a drop to 102.5° F., pulse 100, respiration 28, was recorded. At 4:00 p. m. the thermometer registered 104.2° F., pulse 90, respiration 28, and another sponge was ordered. At midnight the temperature was 102.2° F., pulse 100, respiration 28, and all symptoms were rapidly disappearing while the patient perspired freely and slept.

February 1st.—The following morning at 8:00 a. m. he

felt exhausted but had no other complaint to make. Temperature was 98° F., pulse 76, respiration 24. No change in physical signs was noted. Patient constipated.

Laboratory findings: Blood negative for spirilla. Red blood corpuscles, 5,590,000; white blood corpuscles, 4,800; differential count, polymorphonuclears, forty-nine per cent., large, thirteen per cent., small, thirty-six per cent., mast., two per cent.

Just before midnight of this date the temperature fell to 96.5° F., pulse 60, respiration 16.

February 2d.—Temperature dropped to 96° F., pulse 60, respiration 20, and rose to an average of about 97° F., for the day only to drop again to 95.5° F., pulse 44, respiration 20, at midnight, with no inconvenience to the patient.

Laboratory finding: One single spirillum found in blood smear. Basophilic stippling of erythrocytes. Red blood corpuscles, 5,050,000; white blood corpuscles, 5,500; differental count: Polymorphonuclears, thirty-nine per cent., large, eleven per cent., small, forty per cent., eosinophiles, eight per cent., trans. two per cent.

February 3d.—Abortive relapse. The temperature rose steadily until it reached 101.8° F., pulse 70, respiration 24, at 8:00 p. m. At 3:00 p. m. the patient complained of chilly sensations, had cramps in calf muscles, perspired freely, and suffered some headache. Laboratory findings: 3:00 and 9:00 p. m. Blood negative for spirilla. Examination of fæces showed uncinaria ova in considerable number. Urine: Specific gravity 1.020, albumin negative, indican in excess.

February 4th.—The temperature dropped to 95.8° F., pulse 56, respiration 20. Patient asserted that he did not feel ill and complained only of constipation and weakness, as he did after his previous two relapses. Laboratory findings: Spirilla negative after exhaustive search. Red blood corpuscles, 5,850,000; white blood corpuscles, 3,600; differential count: Polymorphonuclears, forty-two per cent., large, eleven per cent., small, thirty-six per cent., eosinophiles, eight per cent., trans. two per cent., mast. one per cent. Urine negative for albumin, indican a trace.

The Board of Health Laboratory reported spirilla positive in the blood of one of the two monkeys inoculated on January 31st.

February 5th.—Patient was apparently well. Desired to go to work. The temperature fell to 96° F., pulse 52, respiration 18, during the night and rose to 98° F., pulse 52, respiration 20, during the day.

February 6th.—No symptoms. Temperature 96.5° F., pulse 48, respiration 24. Restful night.

February 7th.—Third and last relapse. The temperature gradually rose to 99° F., pulse 80, respiration 20, by 4:00 p. m. this day. At 8:00 p. m. the patient had marked rigors, flushed face, slightly injected eyes, severe headache, profuse perspiration, pain in legs and back, tender enlarged spleen and liver, temperature 102° F., pulse 90, respiration 28. The mental state was not disturbed. At midnight the thermometer registered 103° F., pulse 100, respiration 28.

February 8th.—At 8:00 a. m. a fall in temperature to 100.5° F., pulse 90, respiration 24, was recorded, although no sponge bath was given as during the height of the previous paroxysm. No abatement of symptoms was noted. By noon the fever again rose to 103° F., pulse 100, respiration 24, and it reached its maximum for this terminal relapse at 8:00 p. m. when the recorded temperature showed 103° F., pulse 100, respiration 30. By midnight the verified temperature was found to be 97° F., pulse 56, respiration 20. The patient slept well.

Laboratory findings: 10:00 a. m.—About 10 spirilla to the 7/8 inch cover slip. Basophilic stippling of erythrocytes again marked. White blood corpuscles, 6,600. Differential count: Polymorphonuclears, forty-one per cent., large, twenty per cent., small, thirty per cent., eosinophiles, eight per cent., trans., one per cent.

The dark color and abnormal coagulability of the blood were again noticed as on January 21st, the day of the second relapse.

February 9th.—The patient complained of weakness as after the previous relapses. In all other respects he seemed well. At midnight of this day the temperature dropped to 95.4° F., pulse 48, respiration 12.

February 10th to March 7th.—During this period of time the patient was in the hospital under observation. A four hourly temperature, pulse, and respiration chart was kept. The subnormal fluctuations of temperature, pulse, and respiration were marked, generally 96° F., pulse 60, respiration 18, during the night, and quite regularly reaching normal at noon. On February 16th and 17th the patient was given thymol treatment to rid him of his uncinaria. This treatment consisted of liquid diet at 6:00 p. m.; calomel, three grains, at 8:00 p. m.; thymol capsules, twenty grains, at 5:00 a. m.; another dose of thymol, 20 grains, at 6:00 a. m.; no breakfast; magnesium sulphate solution, two ounces, at 9:00 a. m.; salts repeated if necessary at 11:00 a. m.; dinner at 6:00 p. m. All other medications discontinued during this treatment. On February 18th a few uncinaria ova were again found in the fæces and the treatment was repeated on February 21st and 22d. On February 23d another fæces examination was made and no ova could be found.

During the patient's entire stay in the hospital his bowels moved on the average of about four times a day. He would become somewhat constipated only during the paroxysms of his disease. This slight diarrhœa occurred in many of the tropical negroes and it was therefore not referred to in connection with this case. The almost exclusive bulky diet of carbohydrates, and the prevalence of intestinal parasites (uncinaria in this case) might be contributing factors to this overaction of the bowels.

On March 7th a general physical examination was made and the folowing abnormalities detected: Spleen slightly enlarged, palpable; general glandular enlargement and induration; faint, soft, systolic murmur over pulmonary area, not transmitted; bloodvessels fibrotic. The temperature, 98.4° F., pulse 76, and respiration 18, normal

Laboratory findings: Red blood corpuscles, 5,500,000; white blood corpuscles, 8,600. Differential count: Polymorphonuclears, forty-two per cent., large ten per cent., small thirty-seven per cent., eosinophiles ten per cent., mast. one per cent. Hæmoglobin estimation (Dare) 108 per cent. Blood negative for spirilla. No basophilic stippling of erythrocytes. Urine and fæces negative.

The patient was transferred to convalescent ward, his general condition being good.

In conclusion, I wish to extend my thanks to the following gentlemen for permission to publish: Colonel W. C. Gorgas, Medical Corps, U. S. A., chief sanitary officer; Lieutenant-Colonel Charles F. Mason, Medical Corps, U. S. A., superintendent of Ancon Hospital; and to Dr. W. E. Deeks, chief of the Medical Clinic, on whose service this case occurred.

SYRINGE FOR LOCAL ANÆSTHESIA IN RECTAL OPERATIONS.*

By Joseph F. Saphir, M. D.,
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Local anæsthesia for rectal operations has been used for the past twenty years. Schleich, as early as 1891, aroused the interest of the medical profession in his infiltration method of using cocaine for local anæsthesia,—and he originally used 0.1 or 0.2 per cent. cocaine combined with morphine, 1 in 5,000 parts, in anorectal operations, with very gratifying results. Dr. Samuel G. Gant has for the past ten or twelve years experimented extensively with eucaine and cocaine as well as with sterile water for local anæsthesia, and has demonstrated that very many operations for which general anæsthesia has been administered can be successfully performed under local anæsthesia of eucaine, cocaine, or sterile

*[illegible]

water without any pain other than the momentary introduction of the hypodermic needle.

Originally, from four to six per cent. of cocaine or eucaine solutions were used, but due to toxic symptoms following these strong solutions weaker solutions were tried until it was found that the local anæsthesia was produced not so much by the strength of the cocaine or eucaine, as by the pressure on the nerve endings produced by the infiltration of



Fig. 1.—Metal syringe with large cut-out section for getting a better unobstructed view of the field of operation while injecting the local anæsthetic.

the fluid into the tissues. We now use either sterile water, which is preferred in mucous membrane work, or one eighth or one tenth per cent. solutions of eucaine or cocaine for skin work.

When injecting any solution to produce local anæsthesia, enough solution should always be injected to distend the tissues so that they become anæmic and glassy white in appearance. This may necessitate any amount from a few drops to three or four drachms. When eucaine or cocaine is used the solution should never be stronger than one eighth or one tenth per cent., should always be freshly pre-



Fig. 2.—All metal piston of Saphir syringe for local anæsthesia in rectal operations, showing revolving rings for finger hold.

pared (because the solutions deteriorate very rapidly), and should be dissolved in distilled water or in normal saline solution.

The addition of morphine to relieve pain or adrenalin chloride or the extract of suprarenal gland for controlling hæmorrhage are not necessary; in fact, the use of adrenalin chloride or any of the suprarenal gland extracts for controlling hæmorrhage should be discouraged, for although they may check bleeding while operating, as soon as the solution has



Fig. 3.—Saphir syringe complete, showing large cut-out as well as revolving rings for finger hold.

lost its effectiveness—in from one half to two hours—there is a dilatation of the vessels and increased hæmorrhage is the result.

Weak solutions of eucaine or cocaine have been found to be as effective in producing local anæsthesia as the stronger solutions due to the distention of the tissue and the pressure of the fluid on the nerve endings, therefore one should be very careful when injecting any tissue with either sterile water or eucaine or cocaine solution, that he does not puncture the tissue he wishes to operate on, in too many places, because the fluid may escape through one of the openings and one will not get the proper distention and blanching of the tissues, which when produced shows that anæsthesia has been produced and the operator may confidently proceed with the full knowledge that he will give no pain to the patient while operating.

Quinine and urea hydrochloride solution, one of the most recent local anæsthetics to be used in anorectal operations, I have tried in over fifty cases, and have found that when the one per cent. solution is used, one is apt to get more sloughing than when the one eighth, one quarter, or one half per cent. solutions are used, while the anæsthetic effect produced is almost the same. Quinine and urea hydrochloride solution has the advantage over the other solutions used for local anæsthesia, because it has a tendency to keep the injected parts in a state of anæsthesia for a period of from three to ten days; produces sloughing when a one per cent. solution is used, which is advantageous when used for the removal of internal hæmorrhoids, or wherever it is desired to cause more slough, followed by the formation of plenty of scar tissue; but quinine and urea hydrochloride solution is contraindicated, in those cases where it is desired to avoid sloughing and scar tissue formation, as in external hæmorrhoids, skin tags, fistula, etc.

The instrument ordinarily used for the injection of various fluids to produce local anæsthesia by means of infiltration, is the regular syringe holding about an ounce or thirty cubic centimetres, the barrel of the piston being covered with either rubber or leather to make the syringe air tight. Dr. S. G. Gant modified this by devising the Gant curved extension piece so that the syringe barrel will not obstruct the view of the field of operation when the needle is inserted for use. This instrument possessed many objectionable features, namely: 1. The piston was covered with rubber or leather washers, which caused the syringe to get out of order just at the time when its use was most urgent; 2, the syringe was not, at all times, perfectly air tight; 3, it could not be thoroughly sterilized without spoiling the washers or loosening the cement between the glass and metal; 4, the Gant curved extension piece necessitated two washers, one between the syringe proper and the extension piece, and the other between the extension piece and the needle—very often causing an escape of the solution at these joints.

To overcome these objectionable features, I have devised or perfected a syringe which has proved very satisfactory for infiltration of the tissues to produce local anæsthesia in operations about the anus and rectum.

The advantages possessed by this instrument over the others are as follows: 1. The syringe is all metal; 2, it is perfectly air tight; 3, it can be easily taken apart and just as easily put together again; 4, it is very easily sterilized; 5, it is always in order; 6, it can be used with the ordinary or universal hypodermic needle; 7, it has revolving finger rings to enable one to get a better grip on the instrument

no matter in what position the instrument may be at the time of insertion; 8, it has a permanent knee or shoulder attachment to enable one to get a better and unobstructed view of the field of operation while injecting the local anæsthetic into the tissues; 9, it does away with washers of all kinds and description with the exception of a small washer between the needle and the instrument proper; 10, this instrument holds about one ounce of fluid and may also be used for local anæsthesia injection or infiltration purposes at any other parts of the body besides the rectum and anus with equally gratifying results.

118 First Street.

TO AVOID MISTAKES IN THE DIAGNOSIS OF FOOT TROUBLES.

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Flat foot or weak foot are often concomitants or symptoms of serious local or constitutional diseases. At present there is a tendency to attribute the patient's complaint solely to the depressed arches, the reason being that the changes in the arches are often glaring while the constitutional cause, which may be perhaps the prime factor of the entire trouble, is intrinsic and requires a repeated and careful examination in the incipient stage to detect it. In examining foot cases the physician should look for a constitutional cause if he is to avoid the risk of calling incipient arteritis obliterans, locomotor ataxia, chronic gonorrhœal foot, and a host of other troubles, flat foot or weak foot. The reputation of the physician is materially injured when he treats a case for flat foot and later the patient is told by some other man that the pain in his lower limbs is not at all due to his depressed arches but to incipient locomotor ataxia; or (and this is even more serious) when he treats a case of flat foot, and he has assured the patient that he will get well, it turns out to be a case of arteritis obliterans, and after gangrene has set in the physician is compelled to speak to him about amputation of the leg.

The aim of this paper is to call attention to the fact that with proper care mistakes of this kind can be prevented. The writer has prepared a card which he uses for foot cases, the purpose of which is to prevent overlooking any possible constitutional disease, or the diseases that usually coexist with flat foot, or the diseases that may be mistaken for flat foot. It also aims to detect minute physical signs in every tissue of the foot.

The card is in part as follows:

Name Address
Age .. Sex .. Occupation Nationality
Examination.
Skin: (Normal, inflamed, œdematous, cyanosed, ischæmic).
Location of pain:
Location of tenderness:
Arterial pulsation: (Normal, [illegible], spasmatic, absent).
Muscles: (Normal, spastic, paralyzed).
Balance: (Normal. Patient favors left foot, right foot. Posterior pillar, anterior pillar. Inner side, outer side).
Arches: (Longitudinal, transverse, anterior).
Arches: (Patient standing (normal, depressed).
Arches: (Patient sitting (normal, depressed).
Position of scaphoid bone: (Normal, prolapsed, rotated).
Nerves: (Normal, anæsthesia, hyperæsthesia, hypæsthesia).
Pupils:
Patellar reflex:
Gait:
Other joints involved:
Systematic diseases .....
Ætiology: (gonorrhœa, syphilis, tuberculosis).
Urine:
Intestinal putrefaction:

The writer pays little attention to the patient's history as it is often only misleading. For instance, a woman may tell the history of her "rheumatics" when it is obvious that her trouble is bad feet caused by vile shoes, or a man may be certain that his trouble is a "cold," when he is really suffering from gonorrhœic infection of the foot.

A correct diagnosis is only based on physical signs. At the beginning of the trouble the patient may suffer a great deal and the lesion may be so insignificant as to be easily overlooked. This is true of strained arches, disturbed balance, spasm of arteries, sensitive joint, etc. Also, as was said before, a lesion in the foot may mask a serious constitutional disease. All such cases are easily overlooked unless one makes a study of the patient. The snap-shot diagnosis, therefore, has no place in foot troubles. The prognosis of flat foot is influenced by the presence of a constitutional disease. The muscles that support the arches are built up with difficulty by foot gymnastics, if toxine or disturbed metabolism constantly rob the muscles of tone. Special stress is laid on the values of examining the arteries of the foot as a routine in every case of foot troubles, for the patient is sure to attribute the unfortunate termination of arteritis obliterans to the physician's treatment. It would be valuable to the reputation of the physician if, before removing an ulcerated ingrown toe nail or curetting an ulceration of the foot, or using any other treatment, he would first put his finger on the dorsalis pedis. He may well hesitate to do anything for the patient without first giving a serious prognosis, if he finds the pulsation of the arteries in the foot spasmatic or absent.

24 West Forty-fifth Street.

PNEUMOCELE OF THE LACRIMAL SAC.

By E. M. Blake, M. D.,
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The following case was unique to me and a search through the literature failed to disclose but four others like it.

Case. A young physican of twenty-seven years came September 24, 1910, because of watering of the left eye. The epiphora was not aggravated but necessitated wiping the eye rather frequently. It had existed for about a year and had grown gradually worse. Two years before seeking treatment the eye had been struck with the end of a broom handle while the patient was amusing a younger brother. He suggested that the injury might have been the causative factor in the production of the epiphora. The blow had produced a subcutaneous hæmorrhage in the lids but no break in the continuity of the skin and no bleeding from

the nose or conjunctiva. Whether the injury may be reckoned as the true cause of the lacrimal obstruction is uncertain at least.

Inspection of the lids showed no scars, deformity, or evidences of dachryocystitis and it was during the examination that the patient casually mentioned that when he blew the nose forcibly there was a swelling in the region of the left lacrimal sac. He was not aware that the condition is at all rare. When the mouth was closed and the nostrils held forced expiration caused a distinct ballooning of the sac, measuring about four by six millimetres. The swelling subsided immediately upon the cessation of the increased intranasal pressure. As the air entered the sac a distinct sound was heard. It could hardly be called a musical sound but was rather a click, as though it were made by the separation of the collapsed sac walls. The sound could be heard several feet from the patient.

To relieve the epiphora the lower canaliculus was slit up and an attempt made to pass a probe into the sac. The entrance was extremely difficult and was made only after repeated trials, succeeding finally by pushing a Graefe knife along the canaliculus and slitting the tissues. A number eight probe was then passed into the sac and lacrimonasal duct. The epiphora was much relieved but the sac could sometimes be inflated, although only with difficulty. Fluorescein dropped into the conjunctival sac did not find its way into the nose.

To explain the phenomenon of pneumocele we must suppose that the valvelike fold of mucous membrane at the lower end of the nasal duct (Hasner's valve) is lacking or deficient, thus permitting air to pass from the nose into the tear sac. If, now, the valves of Rosenmüller at the openings of the canaliculi into the sac are functioning or there is a constriction of the canaliculi or puncta we would have air in the sac which could only be emptied into the nose. While the intranasal air pressure was increased the air would be unable to escape, but when this pressure was again lowered the elasticity of the walls of the distended sac would force the air out through the inferior opening of the sac.

In the case under consideration we have all the requirements fulfilled for the production of pneumocele, except that we cannot, of course, assert that the valve of Hasner is absent or insufficient. This must, however, be the case.

It seems not unreasonable to think that the injury which produced the black eye two years previously may have lacerated the canaliculi near the sac—the place where an obstruction was found when an attempt was made to probe the sac. The patient had suffered from chronic nasal catarrh for many years and so had blown the nose frequently and forcibly, thus gradually distending the sac.

The case here reported brought to mind an article by Dr. R. B. Elliot, of India, in the April, 1910, number of *Ophthalmology*, in which he cites two cases of pneumocele. Briefly they are as follows:

Case I. Male; Hindu; aged forty-five. Lacrimal obstruction and dachryocystitis. While extirpating the right sac it was noticed that it puffed out at each forced expiration. The left sac was found to behave in the same way. At operation it was empty, its walls thin and adherent to surrounding parts. The writer says that presumably the valves of Bianchi, Taillifer, and de Briand were nonfunctional while that of Rosenmüller was the seat of a stricture.

Case II. Male; Hindu; aged seventy-two. Sac inflated by holding nose and mouth and expiring. Then when pressure was made upon the sac a distinct musical sound was heard as the air emptied itself into the nose. The sound could be heard by those standing near. The tear sac had no communication above. As an explanation of the sound it is suggested that at one of the valves guarding the lacrimal passages there is a slitlike arrangement, permitting the ingress of air but thrown into vibration by the current of air during egress—a reed pipe effect.

Elliot gave reference to a case reported by Motais in the *Bulletin et mémoires de la Société française d'ophthalmologie*, October, 1907. The patient presented a double mucocele. The right sac was considerably and permanently enlarged and became more marked upon forced expiration, the nose and mouth being closed. The left swelled out suddenly upon forced expiration. The mucous membrane was found to be healthy at operation. The absence of valves at the inferior extremity of the nasal duct and their abnormal development at the various orifices of entrance into the sac are offered as the explanation of the condition.

The title of one other article upon this subject was found, but the journal was not accessible. A. S. Chimalosoff published in Russian in 1898 in the *Meditsinskiya pribavleniya k morskomu sborniku* a paper entitled Air Passing through the Lacrimal Canals in Blowing the Nose.

If one can judge from the literature of lacrimal sac affections the condition of pneumocele is very rare. Or it may be that a more careful lookout for the anomaly would show it to be commoner than we think. Considering the relative frequency of disease of all portions of the lacrimal apparatus it would seem that we might oftener have the anatomical requisites for the entrance of air from the nose into the sac with no avenue of egress above, producing a pneumocele.

257 Church Street.

THE LITERATURE OF SALVARSAN.

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Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CVI.—How do you treat obesity? (Closed January 16 1911.)

CVII.—How do you treat acute otitis media? (Answers due not later than February 15, 1911.)

CVIII.—How do you treat hiccough? (Answers due not later than March 25, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

[illegible] to question CV was awarded to Dr. J. G. Walker, of Iola, [illegible]

PRIZE QUESTION CV.

THE TECHNIQUE FOR PERFORMING CIRCUMCISION

[illegible]

Dr. G. A. Graham, of Kansas City, Mo., remarks:

In this simple operation, the principal causes for so many partial failures and bad results are:

1. Rough handling of the parts, bruising by clamping, tight sutures, ragged incisions, etc. The skin covering the penis, with its reduplication over the glans, forming the prepuce, is delicate, very loosely attached to the underlying structures, devoid of fat, becomes œdematous with the slightest traumatism, is easily infected, and slow to heal when infected.

2. Removing too much skin, so that on retraction the cut edge recedes too high on the body of the penis. This causes tension on the sutures, and leaves insufficient tissue to allow for erection, and if erection does occur before healing takes place, the sutures are torn out.

3. Removing too little skin, so that, on healing, a partial reproduction of the prepuce occurs.

4. Neglect to remove a sufficient amount of the fold covering the glans penis causes a redundancy of tissue on the lower surface and sides of the penis.

5. Performing circumcision when the incision must necessarily be through or very close to a venereal sore.

When there is phymosis from chancre or chancroid, and the prepuce cannot be retracted to allow of sterilization of the parts, and cauterization of the sores, it is better to lay bare the glans penis by a dorsal incision, and complete the operation after the sores have healed. Otherwise the wound becomes infected, the stitches break down, and we have one great venereal sore encircling the penis, the healing of which is a slow and discouraging matter.

Only when the sore is so situated that, before the operation, it can be thoroughly cauterized, or, if on the foreskin, when it can be cauterized and then completely removed by the incision, should the operation be performed in the presence of a venereal sore.

In performing the operation of circumcision a general anæsthetic is preferable, as its use gives the operator a free hand, unimpeded by the nervousness of the patient; it is as safe as the use of the amount of cocaine necessary; and perfect primary union is more readily secured than when the parts are infiltrated, and rendered œdematous by the injection of a foreign solution.

Still, when necessary, a local anæsthetic can be used, but it is not my choice. From eighty to one hundred minims of a two per cent. solution of cocaine or eucaine are injected under the skin just back of the corona. A rubber band should first be applied at the root of the penis, to prevent the solution from entering the general circulation by absorption through the lymphatics.

Before operating the skin should be marked with indelible pencil or ink a short distance in front of the ridge made by the corona glandis. This distance, in adults should be from one third to one half an inch, depending upon the amount of phymosis, and œdema of the foreskin present, which draws the skin of the penis forward, thus displacing its normal relations. With the normal retraction of the skin, incision at this site will leave the cut edge just back of the corona.

The parts should be cleaned and disinfected, care being taken not to use too strong antiseptics. Cauterize such sores as do not contraindicate the operation. The operation should be conducted according to the principles of modern aseptic surgery. The penis should be surrounded by sterile towels, or drawn through a hole made in a sterile towel.

The prepuce should be grasped on its sides by the thumb and fingers of the left hand, and drawn forward until the mark made upon the skin is just beyond the glans; then it may be clamped or not, just as the operator desires. The use of a clamp insures a cleaner, evener line of incision. Then with a sharp knife, at the site of the mark, a clean, quick incision should be made obliquely from above downward and forward, removing the prepuce at one stroke, taking care that the glans penis is posterior to the line of incision. If a clamp is used the incision should be made on the proximal side of the clamp, thus removing all clamped tissue. The cut skin then recedes back of the corona glandis, leaving the glans still covered with a layer, raw on the outside and semimembranous on the other, next the glans. A director should be inserted between this layer and the glans, and with a sharp pointed scissors, it should be split, midline on its dorsal surface, right up to the sulcus back of the corona, thus avoiding the possibility of subsequent constriction.

This layer should then be turned back with the fingers, any adhesions being broken down, completely freeing it down to the coronal sulcus.

Then with a sharp scissors this portion of the skin should be clipped off on a line, one third of an inch back of the corona. At this distance there is little chance of wounding the arteries of the frenum, and it is none too much for the convenient insertion of sutures. Ligature any bleeding vessels with fine catgut. Most of the bleeding will stop when the parts are sutured. Wash freely with a boric acid or normal salt solution, and insert sutures of horse hair, catgut, or silk. Catgut is best for children, as it does not need removal. The first suture should be at or near the frenum, taking care to use a round needle, and to secure perfect apposition of the corresponding cut edges. Then a stitch on the dorsum and one on each side; after which a sufficient number of others are inserted to secure perfect apposition of the cut surfaces, without their gaping between the sutures—in children about six, in adults ten or twelve, in all, are required. Avoid inversion of the skin and do not tie the sutures too tightly. Flush again with mild antiseptic, and dress with dry dusting powder, and apply an inch to an inch and a half roller gauze bandage around the penis, from the corona to the root of the penis, leaving the most of the glans bare, so that the patient can urinate without soiling the dressing.

Dress as often as indicated by the soiling of the dressing, previous condition of the parts, or for necessary observation. If silk or horse hair are used, remove the stitches according to conditions, firmness of union, absence of œdema or tension, tendency to priapism, etc. Some of the sutures can be left in longer than others as a matter of precaution.

If gonorrhœa is present, give urinary antiseptics as hexamethylene tetramine, methylene blue, oil of santal, etc.

If there be priapism give bromides, camphor, or heroine hydrochloride.

Dr. C. E. Montgomery, of Walla Walla, Wash., writes:

While no one method meets all the conditions requiring circumcision, it is best to adhere as closely as possible to one method and to modify it to meet the few unusual conditions in the organ, and to adapt it to the age of the patient.

Children can often be relieved by gradual dilatation of the foreskin by retracting it at a very early age, or if retraction is not possible, it may be gently stretched with forceps and then retracted. This is advisable to prevent adhesions forming between the glans and the mucous membrane of the foreskin. But if this procedure has been neglected until considerable growth has taken place circumcision is preferable to much manipulation.

Children should be anæsthetized for this operation, which should be done as follows: Cleanse the penis very thoroughly with soap and water and boric solution. Grasp the edge of the foreskin on the dorsum with a forceps on each side of the median line, and with another forceps catch the skin at the frenum. Satisfy yourself that the scissors are not in the meatus, and then slowly split the foreskin of the dorsum between the two forceps, back to the corona, leaving a forceps holding each side. Then with the scissors the skin and mucous membrane is sheared from the back of the dorsal slit to the point held by the forceps on the frenum, and the same procedure repeated on the other side.

A few, very fine, plain catgut sutures are required to control the oozing, and to keep the skin and mucous membrane in perfect apposition. In a small penis a continuous suture may be started on each side of the frenum and continued to the dorsum, but must be tied separately. If the penis is of fair size this is not advisable, as swelling may make the suture too tight. If adhesions have formed between the glans and its covering they must be teased away by gauze or a probe until any secretion back of the corona can be liberated. The wound should be well dusted with zinc stearate, which protects it from moisture and is soothing as well. Over this should be applied a gauze and adhesive dressing, and the exposed portion of the glans well protected with petrolatum or zinc oxide ointment, so the urine will drop off without soiling the bandage. Unless the bandage becomes badly soiled it will not need changing for three or four days, in which case the edges have united.

Circumcision in adults can be painlessly and successfully performed under local anæsthesia, and general anæsthesia should be used only when demanded by the patient. After a vigorous cleansing of the parts with soap and water, the foreskin should be well pulled up and a rubber band applied to the penis to lessen the circulation. The foreskin is then infiltrated with a two or four per cent. cocaine solution with a small amount of adrenalin added. The corona is located and the needle inserted about one fourth of an inch anterior to it on the dorsum of the penis. As soon as the point of the needle is buried begin infiltrating, and by directing the point of the needle toward the tip of the frenum and infiltrating ahead of the needle point the part can be infiltrated with one insertion of the needle for each side. Withdraw the needle and on reinserting it to inject the other side it should be inserted in the infiltrated area and directed toward the tip of the frenum on the opposite side until that side is infiltrated. A forceps or clamp should then be applied at an angle corresponding to the slope of the glans and in such a manner as to leave the skin long enough to cover the corona, then the excess is trimmed off with scissors. The clamp is removed and the mucous membrane held by two forceps and split along the dorsum well back to the corona. If it is sensitive it should be infiltrated as the skin and then trimmed to correspond with the curve of the corona to the frenum.

Interrupted sutures of small, plain catgut should be applied beginning on each side of the frenum, and all bleeding vessels controlled by these same sutures that coapt the skin and mucous membrane. There is very little bleeding if the cuts are made with scissors, as the crushing closes all except the largest vessels, and in ligating them the knot should be left exposed, otherwise healing will be delayed at that point.

The wound should be dressed dry with zinc stearate or some similar dusting powder that will shed the water and at the same time feel smooth and comfortable to the patient. The glans should be covered with zinc oxide ointment or petrolatum to prevent chafing as it rubs against the clothing. The patient should stand with the feet wide apart and urinate straight downward, so as to not wet or soil the dressing, which may be left on for several days.

If there is a chancroid on the foreskin to be taken off, it must be thoroughly cauterized with carbolic acid and alcohol, and the part then washed well with bichloride solution 1 in 10,000 before the incision is made, and the dressing in these cases must be changed daily, and any reappearance of the infection in the wound thoroughly cauterized and dusted with boric acid powder.

Dr. H. C. [illegible], of Hamilton, W. Va., observes:

In performing a circumcision, I find the operation simpler (and therefore results better) without the use of any of the numerous "phimosis clamps" on the market, and, except in young children or excessively nervous adults, I have found cocaine anæsthesia preferable to general.

With the patient recumbent, and with my hands carefully disinfected (so far as possible), the penis is thoroughly washed with green soap and aseptic gauze sponges, the prepuce being retracted, and its inner layer, the glans, and sulcus receiving attention, and all smegma being removed. It will sometimes be found necessary to slit the prepuce before it can be retracted. This preliminary scrubbing is followed by a washing with a 1 in 1,000 bichloride solution. It is not necessary, during this preparation, for the hands to come in contact with the patient's skin. The penis is now wrapped in moist sterile gauze, the hands redisinfected, and two sterile towels arranged over the patient's abdomen and legs, above and below the penis, thus giving a wide aseptic field. A gum catheter, previously sterilized by boiling with the instruments, is now tied about the base of the penis. This must be accomplished to avoid altering the relation of the parts. It

ginning on the dorsum, the skin just posterior to the intended line of incision is infiltrated with a two per cent. cocaine solution, the infiltration being marked by a succession of wheals. The inner surface of the prepuce is anæsthetized by the simple application of the solution, and loss of sensation is usually complete in about five minutes, during which time the penis is kept covered with a sterile towel, and the surgeon's hands may again be disinfected.

The foreskin is now grasped, with a hæmostatic forceps, on either side of the median line, and both layers slit up between them with sharp scissors to within about one eighth inch of the point of reflexion—from the angle of this incision the prepuce is trimmed away on each side, parallel with the corona glandis, the frenal portion being reserved to the last. (It will not infrequently be found necessary to shell out the glans from an adherent prepuce, like a hazelnut, but this is seldom difficult. In cases of long standing, I have found the inner layer thickened and infiltrated, resembling leather, but this condition disappears in from one to two weeks.)

If the frenal artery has been cut, it is now ligated with No. 00 catgut, and the cut edges of the two layers united in the median line, dorsally and ventrally, by No. 1 catgut sutures, which serve as guides for the approximation of the tissues laterally. A suture is then placed on each side, the ends of the four sutures being left long, and two additional sutures introduced on each side. Undue tension must be avoided in tying these sutures. The field is now sponged off with the bichloride solution, and the catheter carefully loosened. Usually there is practically no hæmorrhage, but should any occur, it is easily controlled by extra sutures.

A narrow strip of borated gauze is laid over the suture line, overlapping at the ends, and tied in place by the ends of the four sutures, left long for the purpose. The penis is wrapped with a sterile gauze bandage, the meatus and part of the glans being left uncovered, and the patient ordered to remain quiet, although I have had them return to hard work immediately after the operation, with no bad results.

It may be well to keep the patient on bromides for two or three days, as erections are somewhat painful.

With this technique, I have always had rapid and perfect healing, and my patients have been absolutely satisfied with the results of the operation.

Dr. Charles A. Covell, of Syracuse, N. Y., says:

Aside from the surgical necessity in certain diseases, circumcision should be performed on all male children. It prevents masturbation in early life, and later lessens the danger of infection.

A general anæsthetic should first be administered. As the time of the operation is short, only a few moments at the most, chloroform is preferable, unless contraindicated. It should, however, be given by a thoroughly competent physician. The danger limit in this operation is very close to the line where sensibility ceases. In my early practice, I often had a nurse or a medical student give the anæsthetic, and it was a very usual happening for me, to have to defer the operation while I performed artificial respiration on the patient.

While the anæsthetic is being given, cleanse the parts thoroughly with soap and water, and if the prepuce can be retracted and the glans exposed, all adhesions are broken up, the secretions back of the corona removed, and the inner side of the prepuce and the glands washed. The adhesions are best removed at this or any other stage of the operation by carefully pulling the layers apart with the fingers. The bleeding if any is controlled by applying hot water.

The instant that the sensibility of the skin is lost, make a scratch on the skin with a scalpel on the dorsum of the penis, slightly anterior to where the corona shows through the skin. This scratch serves as a guide, and indicates the exact point to which the cut skin will retract, after amputation. Draw the skin forward and clasp with a long pair of dressing forceps in such a way that the scratch comes even with the anterior edge of the blades. Dressing forceps are better than the self locking forceps, as they do not damage the tissues, and are held in the left hand of the operator, while all the tissue in front of them is cut off with scissors. Release the forceps when the skin retracts, leaving the mucous layer covering the glans like a hood. Pass a grooved director under this layer, and slit along the dorsum with scissors back to within an eighth of an inch of the cut skin, thus making a flap on each side. If the prepuce was not retracted in the first cleansing, now loosen all adhesions and cleanse with hot water. Seize the flaps separately with dressing forceps, and with scissors cut them off following the line of the cut skin, leaving an eighth to a quarter of an inch of loose tissue, removing part of the frenum or not according to the excessive length of tissue. If the frenal artery spurts tie it with fine catgut.

Insert four stitches of medium sized gut, one on top, one at the frenum, and one on either side midway between the other two, tie and leave the ends six inches long. These are usually sufficient to approximate all cut edges. If not, insert a few fine gut stitches as necessary, tie, and cut the ends off short.

Now take a piece of gauze tape, either plain sterile or of iodoform, personally I prefer the iodoform, three quarters of an inch wide and ten inches long. Fold in the edges of the tape, and lay it two inches from its end, between the long end of the suture on one side. Tie the suture over the tape. Carry the gauze over the cut skin edges so as to enfold and cover them to the frenum and tie the suture over the gauze tape at that point in the same way, then up the other side, and cross the two ends of the tape between the ends of the suture at the top, tie, and cut off all ends short. Be careful not to draw the gauze too tight, but leave a little loop between each suture to allow for swelling.

No other dressing is needed. The patient can urinate with freedom, without in any way soiling the dressing. All the parts are protected and the dressing has never to be changed. In about ten days the skin is healed and the sutures are absorbed. If the dressing should adhere in places it may be loosened by the application of hydrogen peroxide.

In children I apply a square of absorbent cotton over the whole penis and hold in place with a diaper the first twelve hours to prevent the child from disturbing the parts.

In some diseased conditions of the glans or foreskin it is advisable to do a preliminary operation which consists in slitting up the prepuce over a grooved director, using cocaine as an anæsthetic. Much of the attendant pain of this operation is obviated by keeping all the parts immersed in hot boric acid solution during its performance. This only exposes the parts for cleansing. When they are healed, the flaps should be amputated by cutting off and suturing the edges as in the regular operation.

The steps of the procedure then are: 1. Cleanse. 2. Make a slight cut as a guide. 3. Draw forward and cut off. 4. Slit up the hood and trim off the flaps. 5. Insert the four sutures. 6. Tie in the gauze. In an uncomplicated case the whole operation can easily be done in three minutes time.

(*To be concluded.*)

Correspondence.

LETTER FROM LONDON.

At a recent meeting of the Surgical Section of the Royal Society of Medicine, a discussion was held on cancer of the rectum. Mr. F. Swinford Evans entered a protest against the performance of an unnecessarily severe operation attended with a heavy mortality for cases of cancer attended with but little risk to life and which, moreover, entailed no crippling of the patient. All forms of treatment other than operative, whether by radium, x rays, high frequency currents, or trypsin and other digestive ferments, had proved unavailing. Nowadays the position of the growth—namely, its distance from the anus—was no bar to extirpation.

The only real bar to a successful operation was the fact that the growth was no longer confined to the bowel, but had become adherent to neighboring parts, while the lymphatics were infected. Another condition which quite barred any attempt at removal was metastasis in the liver, often not discovered until the abdomen had been opened either for exploration of the growth or for the purpose of forming an artificial anus. In considering the best method to employ for removing the disease, due regard must be paid to the immediate mortality of any given operation, the risk of recurrence, and the amount of crippling, if any, likely to follow the operation. Mr. Ernest Miles had advocated a very extensive proceeding, which he called the radical abdominoperineal operation, for all malignant growths of the rectum and colon. That operation consisted in the formation of an iliac anus with the entire removal of the rest of the sigmoid colon, the rectum with the soft parts adjacent thereto, and the anus. After fifty-eight operations of this nature there had been fifty-four recurrences. For the last ten or twelve years Mr. Edwards had abandoned the old perineal operation except for cases of epithelioma of the anus, and in the majority of cases had performed the extirpation by the sacral or coccygeal route. He had performed this operation eighty-one times with four deaths. There was recurrence in twenty-two cases. Cases of cancer of the sigmoid colon were very favorable ones for operation by the abdominal route with end to end union unless obstruction was present, when a temporary colotomy should be the rule. In the face of his own results he could not agree with those surgeons who advocated a combined operation for all cases of rectal carcinoma any more than he agreed with those who for a small and limited cancer of the breast would remove all but the ribs and thus cripple the patient for life.

Mr. W. Harrison Cripps said he agreed with Mr. Edwards. The class of cases that he considered suitable for removal of the cancer was one in which the growth was still confined to the rectum and had not extended beyond; to discover if the growth was confined in that manner it was necessary to find out by feeling whether it was fixed or not. If it was not fixed, the disease could be removed with advantage to the patient. Mr. Cripps said it took him some time to learn when a growth was removable or not. He emphasized the importance of making an examination for rectal cancer under an anæsthetic. As regarded recurrence, in most of his cases, the cancer, when it recurred, was found in the tissue surrounding the part from which the growth had been removed. Concerning the method of operation, he thought it was impossible to lay down precise rules. Turning to the question of the value of the operation, his view was that if there was any doubt as to whether a growth should be removed or not the benefit of the doubt should be given for the removal of the tumor. He believed a very large number of these patients with cancer of the rectum were curable if operated upon early, and appealed to practitioners to spend more time in studying the symptoms of the disease.

Sir Frederick S. Eve said that, judged by the best clinical observation and by the percentage of permanent cure, there was no doubt in his mind that Kraske's operation had not been sufficiently thorough. In regard to cure, every surgeon was aware that a three year limit was far too small. There were plenty of cases of cancer in which recurrence occurred after ten years. He had seen a melanotic cancer recur after twenty years. It was clear that Kraske's or the perineal method of operation could not be trusted to obtain a permanent cure, and he had come to the conclusion that the operation which filled the most important position at a low mortality risk was the abdominoperineal operation combined with a permanent colostomy.

Mr. H. Waterhouse emphasized the importance of preliminary preparation. When intestinal obstruction, a result of cancer of the rectum, was present an inguinal colotomy should be immediately performed and an attempt at radical cure abandoned for some days. Failure to recognize the importance of that rule had to his knowledge proved disastrous. Even in cases in which no obstruction had occurred and in which daily or more frequent evacuations of the bowel took place. It was in his

opinion, essential to attempt to diminish as far as possible the septicity of the bowel. He was accustomed to administering castor oil on the sixth and fifth days preceding the operation. During the four days prior to operation the patient was given beta naphthol and salol, five grains of each, in a cachet four times daily, and his food was restricted to milk and meat extracts. Eight hours prior to the operation half a grain of opium was given in pill form, and half an hour prior to the administration of the anæsthetic a hypodermic injection of a third of a grain of morphine hydrochloride and an eightieth of a grain of atropine sulphate was administered. The rectum was washed out twice daily for two days and again on the operating table with a 1 in 2,000 solution of potassium permanganate.

An inquest was held at Scarborough last wtek upon Mrs. Bredon, the wife of Dr. Bredon, who had died from the effects of lead poisoning. It was suggested that the lead was contained in the soda water drunk by the deceased. The result of the analysis of the soda water showed that there was present from 1/16 to 1/20 of a grain per gallon, and that if deceased had drunk two siphons of this soda water a week she would take about a grain of lead in forty weeks.

Dr. Fairley, of Leeds, analyzed precisely the same soda water taken from stock, and his analysis showed that it contained only 0.0007 grain per gallon, which was too little to have any physiological effect.

Dr. Cuff, who attended the deceased at her request during the fortnight before her death, stated that if any one drank soda water containing from 1/16 to 1/12 of a grain per gallon it would certainly have injurious effects. It would not be safe for any person, especially one of delicate health, to regularly drink soda water containing such a percentage of lead. He was satisfied that the cause of death was lead poisoning.

On behalf of the aerated water company it was pointed out that the firm had obtained high commendation at the London Mineral Water Exhibition for the purity of their soda water, and if there had been the slightest trace of lead in their exhibit, it would have been discarded. Assuming, however, that the soda water did contain 1/20 of a grain of lead per gallon, a siphon would contain 1/80 of a grain, and drinking two siphons per week, it would be forty weeks before one grain was absorbed, whereas the dose was from one to five grains, so that in one day a patient would take as much lead into the system as a person drinking two siphons per week would take in from [illegible] years.

Was not the whole thing absurd and preposterous? It would be presumption to say that they had had evidence as to every other possible source from which lead could have got into the system.

The coroner, in his summing up, further told the jury that the town's water and the siphons of soda water were analyzed, and the analysis of the town's water showed that it contained no lead whatever.

The jury, after an absence of twenty minutes, were unanimously of the opinion that death was caused by lead poisoning, but there was not sufficient evidence to show how the lead had got into the system.

Therapeutical Notes.

The Treatment of Amœbic Dysentery. — According to Axisa, who is cited in the *American Journal of the Medical Sciences* from *Therapie der Gegenwart* (1910, li, 263), the usual methods of treating amœbic dysentery are most unsatisfactory. Ipecac, which is considered a specific by many, has the marked disadvantage of causing vomiting, or at least nausea. High irrigations are too painful to be of use in the acute cases, although valuable in the treatment of subacute and chronic cases. Axisa calls attention to a remedy introduced by Legrand under the name of kossam. This remedy has been used in a crude way by the natives of tropical countries as a cure for dysentery for some time. Axisa has used it and speaks very highly of its good effects. The most striking effect is in the rapidity with which the blood disappears from the stools. He ascribes a hæmostatic action to the kossam, and has also used it with success in profuse hæmorrhages in intestinal tuberculosis and bleeding hæmorrhoids. In addition, this remedy also seems to exert a direct action upon the amœbæ. Of thirty-seven stools that were examined, no amœbæ could be found after treatment lasting from eight to ten days. Kossam is not astringent, and as the blood disappears from the stools it is advisable to add intestinal astringents to the treatment. When the process becomes subacute, high irrigations with a 0.5 or 1 per cent. solution of tannin will hasten the cure. He gives the details of a number of cases treated by this method, and says that he has seen a number of cases completely cured in three weeks, a result that could only be obtained in from six to eight weeks by former methods of treatment. For the treatment of subacute and chronic dysentery he advises, in addition to kossam, high irrigations of either a 1 per cent. ichthyol solution or a 0.5 to 1 per cent. solution of tannin. He also advises an occasional purge of sodium sulphate, and finally, when amœbæ are no longer found, the administration of such astringents as bismuth or tannin until there is no longer any diarrhœa.

Antiseptic Tooth Paste.—A novelty in the way of tooth pastes has been proposed by a French physician, who publishes his formula in the *Journal de médecine et de chirurgie*. The novelty consists in the fact that no chalk or similar abrasive agent is employed, pulverized talcum being used to give the proper consistence:

℞ Menthol, ... gr. lxxv;
Solution of formaldehyde, ... gtt. C.
Pulverized talcum, ... 5iii;
Glycerin, sufficient [illegible] paste.
M.

If it is desired to perfume the mass the following furnishes a very pleasant odor:

℞ Oil of [illegible] ..... mxxx;
Ver riphos [illegible] ..... gr. lx.
M.

Nucleogene.—Among the more recent introductions to the materia medica is a compound called nucleogene, formed of nucleinic acid, iron, phosphorus, and arsenic. It is recommended for use in cases where it is desired to increase the red corpuscles and hæmoglobin of the blood.

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THE PUBLIC HEALTH SERVICE.

Without regard to what might eventually be done in the way of concentrating the activities of the general government in matters of sanitation, we have persistently advocated strengthening the hands of the present Public Health and Marine Hospital Service. We have believed that such a course was imperative for the existing needs of the service, and we have felt that it would not prejudice such further legislation as might ultimately be found advisable. We are glad therefore that a bill for the purpose has now been introduced into Congress and that there are indications of its probable passage.

The bill provides for changing the name of the service from the United States Public Health and Marine Hospital Service to the United States Public Health Service. This change seems to us to be desirable, for the present title is cumbrous. The conduct of the marine hospitals will of course remain as important a part of the service as it has been in the past, but the title of the governing body need not be framed on the pattern of a catalogue. The bill provides also for a substantial extension of the duties and prerogatives of the service, such an extension as will enable it to deal more directly and efficiently with public health situations that may at any time prove pressing. It also provides for increasing the pay of the officers of the service. This is a much needed provision, for, as we have repeatedly pointed out, the government cannot expect to secure the services of capable men without granting them adequate remuneration.

The service as at present constituted and organized has done excellent work, and it deserves to be accorded a rank commensurate with its worth. With such enhanced duties and responsibilities as the bill now before Congress contemplates, it cannot fail to prove of increased usefulness to the country. It has held its officers together wonderfully under rather discouraging circumstances, and we look to see it advance still further under the improved conditions which the bill seeks to provide.

THE CONQUEST OF SYPHILIS.

There has been apparent of late a more conservative tendency in the rating of Ehrlich's arsenical preparation as a remedy for syphilis, though it is still acclaimed in some quarters as a sure and speedy cure. The frequent return of the Wassermann reaction within comparatively short periods after injections of salvarsan, as was set forth by Dr. Mac Rae in our issue for December 31st, and as has been witnessed by many observers, has doubtless contributed powerfully toward the assumption of a more or less skeptical attitude on the part of clinicians who have not allowed themselves to be carried away by unreasonable enthusiasm. Nevertheless, the overwhelming mass of testimony is still to the effect that salvarsan is a remedy of wonderful efficiency, even if its effects should turn out to be only temporary.

That in the great majority of instances salvarsan should so speedily and so entirely do away with the manifestations of syphilis, and yet that there should remain or recur indications that the disease is not radically overcome, has seemed to call for an explanation. An explanation which is at least plausible has now been furnished by Dr. Pollitzer, whose article on the general subject will be found in this issue of the *Journal*. The article is of distinct value from all points of view, but it seems to us to be of exceptional importance by reason of the author's ingenious suggestion that, while those spirochætæ that are actively pathogenic are killed by the remedy, there are others which have assumed or may assume a resting stage in which they are not affected by the remedy, but from which they may subsequently emerge with renewed powers for harm. This hypothesis is plentifully supported by analogous occurrences in the life history of other protozoans, and we see no reason to question its adequacy to explain the facts thus far observed.

If it is found that Dr. Pollitzer's hypothesis is well founded, it may presumably be hoped that a fresh resort to the Ehrlich treatment on the recurrence of syphilitic manifestations, repeated as often as may be necessary, will lead to the final extermination of the disease or [illegible]

this should prove to be true, we have indeed in salvarsan a remedy from which almost the eradication of syphilis may be expected to take place ultimately. Thus will be realized, though after a modified course, the hopes of those who now appear somewhat overenthusiastic. A distinct conquest of syphilis will have been effected.

Then there are to be considered the recent reports of successful attempts to prevent syphilis after exposure to the infection. Some months ago we commented on such successes in the United States Navy, and quite recently on young Maisonneuve's heroic submission to an experiment calculated to test the efficacy of the local use of a mercurial preparation in the prevention of syphilitic infection after inoculation. In his case, of course, the test was simplified by the experimenter's definite knowledge of the site of inoculation, whereas in actual practice more extensive surfaces would have to be treated in order to make sure of reaching the point of casual inoculation. We do not expect that the result of these curative and preventive measures will be to banish syphilis from the face of the earth, but surely we may hope for its curtailment to a notable degree.

DYE STUFFS IN MEDICINE.

A coal tar dye is popularly regarded as an aniline dye, but this we know is not true, for picric acid, aurin, eosin, alizarin, indigo, anthrapurpurin, and many other important coloring matters are, strictly speaking, coal tar dyes, though they cannot be described as aniline dyes. All colored organic compounds, such as the quinones, azobenzol derivatives, nitro compounds, etc., are decolorized by reducing agents, and from this we are to infer that "the coloring matters contain elements with incompletely saturated affinities, or that certain of the atoms are present in more intimate association than their retention in the molecule necessitates." These coloring matters are acted upon by salt forming groups, and upon the nature of these groups depends the character of the coloring matter. In the same manner color giving groups are treated with substitution groups in order to form compounds of medicinal or therapeutic value.

Spectroscopic investigations show that no open chain hydrocarbon causes selective absorption, but that benzol, C_6H_6, and allied hydrocarbons are characterized by selective absorption of the most refrangible rays and are thereby distinguished from all other classes. It may be stated that benzol has invisible color which will become visible when the rate of vibration is so slackened that it is possible for the molecule to absorb rays having an oscillation frequency occurring within the limits of visibility. Phenol shows selective absorption in the ultra violet region, but the replacement of three hydrogen atoms by three nitro groups gives the yellow picric acid. The mere fact that an aromatic substance is colored or has dyeing properties does not necessarily mean that it will in consequence show any novel pharmacological action.

Ehrlich employed the aromatic dyes to elucidate the distribution of poisons and drugs in the animal body, or, rather, to throw light on the selective action of the cells. From observations of this character Ehrlich deduced the hypothesis that the various cells of the body took up different chemical substances in a greater or less degree according to their chemical environment. Observations on the physiological action of the organic dye stuffs have also of recent years begun to show results of practical value, and it is quite possible that important developments in therapeutics may result from a further study of these derivatives. Many possess a remarkable bactericidal action and it has been possible to employ them against some of the infections. The parasitic trypanosomata have been shown to be decidedly influenced, both in experimental animals and in man, by treatment with certain dye stuffs, such as malachite green and trypan blue.

The introduction of the nitro group into phenolic substances increases the antiseptic and toxic action. Both are powerful blood poisons and respiratory depressants, especially dinitrocresol, possibly owing to its greater solubility. The group of naphthol nitro derivatives includes Martin's yellow, which is similar in its action to dinitrocresol. The azo dyes are a class of substances which contain as chromophore the group $N = N$. The simplest azo dyes are yellow, and their tint is first dependent on the nature of the auxochrome group, and secondly, on that of the carbon complex. They may be made to pass through red to violet and in certain instances to brown. Those containing the benzol nucleus are yellow, orange, and brown; those containing the naphthaleine are red. Trypan red is a benzidene dye obtained from benzidenemonosulphonic acid by diazotization and combination with the sodium salt of the disulphonic acid of betanaphthylamine. Ehrlich and Shiga experimented with this substance on mice infected with trypanosomiasis. One per cent. solutions were injected subcutaneously in quantities of from 0.5 to 1.0 c.c. They had a very marked though temporary destructive action on the parasites. Animals after cure were protected to a great extent against a second infection.

Trypan blue, though differing in its chemical constitution, has an action similar to that of trypan red on the trypanosomes. Ehrlich states that strains

rendered resistant to the one are also immune to the other, though they may be destroyed by fuchsin or atoxyl. He possesses a strain of trypanosomes which are resistant to all these agents. Thus, if a mouse infected with this strain is cured by a new drug, the latter cannot belong to one of these agents, trypan red or blue.

Pyoctanin and malachite green have been employed by Wendestadt to destroy the trypanosomes of the tsetse fly disease. They have also been employed by F. Loeffler for separating colonies of *Bacillus coli* and the bacillus of typhoid fever. The growth of the former organism was prevented by an admixture of this dye with the culture medium, the colonies of the latter remaining unaffected. Methyl violet is a mixture of the hydrochlorides of the hexamethyl pararosanilines. Methyl violet is a more powerful antiseptic than the yellow pyoctanin, but relatively less toxic. It has been used locally for inoperable cancer. A large number of similar derivatives have been studied and found to have antiseptic properties which differ but slightly from those of the parent dyes.

The antiseptic power of these bodies has not been shown to be in direct relation to their staining properties, but appears to depend upon the presence of the aromatic nuclei. Eosin, the alkali salt of tetrabromfluorescein, has been shown by Noguchi to have the power of neutralizing certain toxic substances occurring in cobra and other snake venoms. Methylene blue has been tried in malaria, but does not compare favorably with quinine. In large doses it is a powerful irritant. Gautrelet and Bernard have shown that in rabbits it causes a fall in urea excretion and some decrease in the activity of the kidneys. Philadelphia yellow is a powerful protoplasmic poison, especially for the protozoan. It is a local irritant. It has been tried as a substitute for quinine in malaria, but does not seem to have been efficient. It is absorbed from the stomach with difficulty. Scarlet red, a very brilliant scarlet dye, is made by the action of diazobenzoldisulphonic acid upon betanaphthol; it has the singular property of producing atypical epithelial proliferation and has therefore been successfully employed in the treatment of indolent ulcers.

THE TASK OF SELECTION

We have always deplored the undue exploitation of medical topics in the newspaper press. Our attitude in this matter has not infrequently been condemned by newspaper editors as narrow and selfish, but this condemnation has been based on a misconception of our views and of our reasons for holding these views. It is of course desirable, even necessary, for newspapers and magazines to help educate the public in matters of prophylaxis and sanitation. The lay press has done and is doing great service to the community in this direction, but that service is offset to a certain extent by the not infrequent excursions of the nonmedical writer into fields with which he is not familiar and in which he might do positive harm.

The specific commendation of a particular medicine or form of treatment in the nonmedical press is dangerous for the reason that many who believe themselves suffering from some particular disease may undertake self medication on the basis of the mistaken diagnosis which they have themselves made of their ailment. This is the most frequent source of trouble from the publication of medical matters to the general public. But there are many other directions in which there is a possibility of harm in publicity. Instances of the possibilities of harm resulting from general publicity given to purely medical matters are furnished by the advertisements which have appeared in the lay press in Germany, in Austria, in Roumania, and latterly in the United States, in which the advertiser has announced his readiness to furnish treatment with salvarsan. In Roumania the matter has been taken into court and the advertiser punished, and we are under the impression that similar action has been taken in Germany.

One of the most flagrant violations in this country of medical ethics in the advertising of the treatment with this remedy is that of a so called institution which undertakes to sell a dose for the sum of $30, accompanying it with simple directions for its administration. One advertising physician applied directly to the sales agents for supplies, which were refused, whereupon he said he would go to a certain wholesale druggist. This druggist was notified of the circumstances by the agents and promptly agreed to withhold supplies.

The importers have been criticised as being indirectly responsible for these advertisements. But we must remember that the marketing of the remedy presents serious problems. We are informed by the American agents that when patients ask for information they are requested to send the names of their attending physicians, and the desired information is sent to these physicians, provided they are licensed and in good standing. To be made available the remedy must be sold, and so long as the sellers restrict the sales to recognized jobbers, to registered pharmacists, and to registered physicians in good standing, and we have their assurance that they do this, they can hardly be held accountable for any subsequent abuse of the remedy.

While we earnestly hope that this remedy will do

all that is expected of it, it is still on trial and the public is prone to expect too much of every new remedy. It is possible that the advertisers here may have ample supplies of the authentic remedy, but we are assured by the authorized distributors here that great pains have been taken to restrict the sale to reputable physicians and those who have had some special training and experience which would fit them to make proper use of the remedy. Even if the advertising doctors have supplies of the authentic remedy and even if it does all that is hoped for, such methods of advertising will discredit the remedy and its use among the medical profession, and will, even in the minds of laymen, produce a feeling of distrust and tend to place the remedy itself in the category of the patent medicine and those who use it in that of the men who prey on the gullibility of the public through exaggerated newspaper advertisements. The widespread publicity which has been given to the studies of Ehrlich in this connection has paved the way for such unprofessional and objectionable advertisements, and the appearance of them is but confirmation of our views as to the harmfulness of publicity along certain lines in medical matters.

It is a question, of course, whether these advertising doctors really have supplies of the remedy, as they profess. Even if they have, their advertisements are generally so exaggerated as to amount to fraud, and if they have not, the fraud is all the greater. We have no doubt that the postal authorities will undertake an active crusade against the circulation of such fraudulent advertising matter.

News Items.

Hospital Benefit.—The charity ball for the benefit of the New York Nursery and Child's Hospital was given at the Waldorf-Astoria on the evening of January 31st. There were 2,700 guests and the net proceeds amounted to about $100,000.

With Peary's Surgeon on the Dash for the Pole is the title of a lecture to be delivered by Dr. J. W. Goodsell, of New Kensington, Pa., on the evening of March 30th, at the New York Academy of Medicine. The lecture will be illustrated.

The American Gastroenterological Association.—The date of the annual meeting of this association has been changed. The meeting will be held in Detroit on April 19th and 20th, under the presidency of Dr. Walter B. Cannon, of Boston.

A Nurses' Dormitory at the Amsterdam, N. Y., Hospital.—The trustees of the Montgomery Hospital Association announce the receipt of a gift of $15,000 from Mr. William Sloane, of New York, for the construction of a nurses' dormitory at the hospital.

The Public Health Our Greatest National Asset was the subject of a lecture delivered in Buffalo, N. Y., on the evening of January 31st, by Dr. Harvey W. Wiley, of Washington, D. C. The meeting was held under the joint auspices of the Buffalo Academy of Medicine, the Western New York Section of the American Chemical Society, the Erie County Medical Society, and the Erie County Pharmaceutical Society. Dr. L. Kauffman presided.

The American School Hygiene Association.—The fifth congress of the American School Hygiene Association was held at the New York Academy of Medicine, on Thursday, Friday, and Saturday, February 2d, 3d, and 4th, under the presidency of Dr. Luther H. Gulick.

No Open Air Schools to be Established in Philadelphia at Present.—The project of establishing open air schools in Philadelphia for tuberculous children, which has been under consideration for some time, has been dropped for the present, on account of lack of funds.

The Harvey Lectures.—The fifth lecture in the course will be delivered by Dr. Thomas B. Osborne, of the Connecticut State Agricultural Experiment Station, on Saturday evening, February 4th, at 8:30 o'clock, at the New York Academy of Medicine. The subject will be The Chemistry of the Proteins.

A New Hospital for Northeastern Philadelphia.—Plans are being prepared for the erection of a hospital at No. 2359 East Allegheny Avenue, Philadelphia, which will be called the Northeast Hospital. The new institution will be about two miles from the nearest hospital or dispensary, and will be situated in an industrial section, where there are many factories.

Medical Work in Nigeria.—In a recent Consular Report Consular W. J. Yerby, of Sierra Leone, states that the medical branch of the Church Missionary Society of England proposes to erect a dispensary in the neighborhood of Onitsha, on the Niger. It will include an out patients' department, an operating hospital, a research laboratory, and a drug store.

The Boston Open Air School for Tuberculous Children has been closed. The trustees of the Hospital for Consumptives, who conducted the school, have been flooded with petitions for its continuance, but have found it impossible to keep up the school under existing circumstances. It seems probable that the friends of the school will undertake to provide for its continuance either by subscription or by securing an appropriation from the municipal authorities.

Pure Milk for Infants.—Announcement is made by Health Commissioner Lederle, that $40,000 will be spent by the city to establish fifteen depots for the dispensing of pure milk for infants. These new stations will not be competitors in any way with those established by Mr. Straus, and will not be placed in neighborhoods in which there are Straus stations. The milk will not be furnished free, but at a very low price. Nurses and assistants will be in attendance at the milk stations.

The German Hospital Alumni Dinner.—The Alumni Association of the German Hospital, New York, held its fourteenth annual banquet at the Hotel Astor, on Saturday evening, January 28th. About seventy-five members were present. Dr. Abraham Goodman, president of the association, was toastmaster, and among those who responded to informal toasts were Dr. Abraham Jacobi, Dr. F. Lange, Dr. Otto G. T. Killiani, Dr. Pius Renn, Dr. E. Gruenig, Dr. Gustav Seliegman, and Dr. De Witt Stetten.

The Clinical Society of the New York Throat, Nose, and Lung Hospital will hold a stated meeting on Monday evening, February 6th, at 8:15 o'clock. Dr. S. Goldstein will report a case of double frontal and ethmoidal sinusitis, presenting the patient, showing the result of the modified Killian operation. Dr. C. J. Imperatori will report a case of chronic ethmoiditis, and two cases of cataract and one case of specific uveitis will be reported by Dr. P. B. Hough. The officers of the society for the year 1911 are: President, Dr. Perry B. Hough; vice-president, Dr. Thomas A. Gonzales; secretary, Dr. Frederick M. Law; treasurer, Dr. Nathan N. Stark.

Lectures on Skin Diseases.—The Governors of the New York Skin and Cancer Hospital announce a course of lectures, to be given in the outpatient hall of the hospital on Wednesday afternoons, at 4:15 o'clock from March 1st to April 26th, inclusive, which will be free to the medical profession, on the presentation of professional cards. Dr. L. Duncan Bulkley will deliver the first seven lectures, the first two to be on eczema, the next two on acne, the fifth on psoriasis, and the sixth and seventh on syphilis. The last two lectures in the series will be delivered by Dr. William Seaman Bainbridge on cancer. The lectures will be abundantly illustrated by means of cases, models, colored plates, etc., and will aim at presenting the subjects in a practical and instructive manner.

Generous Gift to the Norwegian Hospital.—The Norwegian Hospital, of Brooklyn, has received a gift of $15,000 from Jens Skougaard, formerly president and treasurer of its board of managers, and now a resident of his native city, Christiania, Norway. The money will be added to the endowment fund of the hospital, which now amounts to about $25,000.

Improvements in New York Hospitals.—Announcement is made that plans have been made for the erection of a hospital for measles patients at the foot of East Sixteenth Street, at a cost of $200,000, and that a dormitory for employes of the city hospitals, to cost $85,000, would be erected next door to it. On North Brother Island an extension to the tuberculosis hospital will be erected, at a cost of $100,000.

North Dakota Doctors Hold Annual Meeting.—The Northwestern District Medical Society of the North Dakota State Medical Society met in annual session in Minot on January 20th, and elected the following officers for the ensuing year: Dr. A. D. McCannell, of Minot, president; Dr. J. S. Davies, of Granville, vice-president; Dr. J. Roy Ringo, of Minot, secretary-treasurer; and Dr. T. Newlove, of Minot, censor.

The Vermont Tuberculosis Commission.—In an item which appeared in the *Journal* recently reference was made to the appointment by Governor Mead, of Vermont, of a commission to investigate and report on the advisability of establishing in Vermont a sanatorium for advanced cases of tuberculosis. In giving the names of the members of this commission, one important member was omitted, namely, Dr. H. D. Holton, of Brattleboro.

More Floating Hospitals in New York.—A bill was introduced into the State Legislature on January 25th by Assemblyman Ferrell, providing that during the summer months the Department of Health shall maintain as many hospital boats or barges as the Commissioner of Health shall deem necessary for the free treatment of children and their mothers. The bill also provides that trained nurses and at least one physician shall be on duty on each floating hospital.

Cholera in Arabia.—According to newspaper reports cholera has appeared in Arabia, among the recruits recently sent from Constantinople to reinforce the troops who are [illegible] cases among the inhabitants of this place are also reported. As Hodeida is the base for the Turkish operations and the station for supplies and munitions, the outbreak of the disease is likely to add seriously to the difficulties of quelling the insurrection.

Gifts to the College of Physicians of Philadelphia.—At a meeting of the college, held on Wednesday evening, February 1st, Dr. Robert Abbe, of New York, presented to the college the gold watch which belonged to the late Dr. Benjamin Rush, and Dr. W. W. Keen, on behalf of the donors, presented a portrait of Professor William Goodell. Dr. John H. Musser presented a memoir of the late Dr. J. Dutton Steele, and Dr. Hobart Amory Hare read a paper based on his forty years' experience in the teaching of therapeutics.

The Medical Society of the County of Westchester, N. Y., met in White Plains on Tuesday, January 17th. The new officers, who were chosen at the November meeting of the society, were installed in office, and the programme consisted of an informal discussion of matters of interest. The new officers are: Dr. S. O. Myers, of Mount Vernon, president; Dr. W. D. Robinson, of Mount Vernon, vice-president; Dr. E. W. Weber, of White Plains, secretary, and Dr. S. B. Pray, of New Rochelle, treasurer. The board of censors consists of Dr. Andrew F. Currier, Dr. G. A. Peck, and Dr. G. C. Zacharie.

American Urological Association.—The New York Society held a stated meeting on Wednesday evening, February 1st, at the New York Academy of Medicine, in conjunction with a special meeting of the association, called by order of the president, Dr. Hugh Cabot, of Boston, for the purpose of deciding upon the question of a change of date and place for the annual meeting of the American [illegible] was read by Dr. James Pedersen, the subject being Some Clinical Observations in Cases of Prostatic Obstruction. A general discussion followed. Dr. Edward L. Keyes, Jr., is president of the New York Society, and Dr. G. A. De [illegible]

An Epidemic of Typhoid Fever in Ottawa.—It is reported that an epidemic of typhoid fever exists in Ottawa, Canada. All the hospitals are filled to their utmost capacity, and the Geological Survey Building has been converted into an emergency hospital. A special meeting of the Board of Control was called for the purpose of voting money to fight the epidemic, which medical authorities say is caused by the sewage polluted water of the Ottawa River.

New Equipment for the Maryland General Hospital.—Plans are being prepared for quite extensive improvements to the Maryland General Hospital, Baltimore. These improvements include the building of an annex, which will contain two operating rooms and a sun parlor. Seventy-five new beds will be added, making the total capacity of the hospital over two hundred beds. About $20,000 will be spent in making these improvements.

The Medical Association of the Greater City of New York will hold a special meeting under the direction of the chairman for the Borough of Brooklyn, on Monday evening, February 6th, at the Imperial, No. 360 Fulton Street. Dr. James S. Waterman will read a paper on Venesection and Saline Infusion in Pneumonia, which will be discussed by Dr. Glentworth R. Butler, Dr. Raymond Clark, and Dr. Edward F. Cornwall. Dr. Joseph Merzbach will read a paper on Polioencephalitis, which will be discussed by Dr. Henry Koplik, Dr. Arthur C. Brush, and Dr. Leon Louris. A cordial invitation to the meeting is extended to all.

Insanity in New York State.—The annual report of the State Commission in Lunacy, transmitted to the Legislature on January 31st, states that the number of insane in the State on September 30, 1910, was 32,658. The number in the State hospitals was 31,666, in licensed private institutions, 1,052, and in Matteawan and Dannemora institutions for criminals, 1,161. The total number of patients received during the year was 7,063, the net increase for the year in all institutions being 1,110. The total receipts for maintenance amounted to $8,173,793.39, while the disbursements amounted to $7,640,402.04. The annual maintenance cost was $189.14 per capita.

Personal.—Dr. Thomas W. Salmon, passed assistant surgeon in the United States Public Health and Marine Hospital Service, has been appointed a member of the New York State Board of Alienists by the State Commissioner in Lunacy.

Dr. Alfred Stengel, of Philadelphia, for twenty-two years visiting physician to the Philadelphia General Hospital, has resigned, and Dr. William Pepper has been appointed to succeed him.

Dr. Harry M. Goehring, of Pittsburgh, Pa., has been appointed to succeed Dr. Vernon W. Peck, of Philadelphia, as a member of the State medical examining board.

The Philadelphia Neurological Society.—At the annual meeting of this society, held in the College of Physicians on Thursday evening, January 26th, the following officers were elected: Dr. Alfred Reginald Allen, president; Dr. John H. W. Rhein and Dr. Samuel D. Ingham, vice-presidents; Dr. George Price, secretary; Dr. S. D. W. Ludlum, treasurer; Dr. James Hendrie Lloyd, Dr. H. H. Donaldson, and Dr. F. X. Dercum, council. The presidential address was delivered by Dr. H. H. Donaldson, the retiring president, his subject being Studies of the Growth of the Mammalian Nervous System. Others who spoke were Dr. Alfred Gordon, Dr. Charles W. Burr, Dr. Alfred Stengel, Dr. William Pepper, and Dr. William G. Spiller.

The Associated Physicians of Long Island.—The thirty-ninth annual dinner of this organization was held in the Hamilton Club, Brooklyn, on Saturday evening, January 28th. Covers were laid for one hundred, and a very enjoyable evening was spent. Dr. Thomas R. French, of Brooklyn, was toastmaster, and among those who spoke were Dr. Bryson D. Delavan, of Manhattan, Surgeon General Charles F. Stokes, United States Navy, Naval Constructor William Baxter, and Dr. John C. MacEvitt. Preceding the banquet a business meeting was held and officers [illegible] Frank Iverton: first vice-president, Dr. James S. Cooley; second vice-president, Dr. William B. Brinsmade; third

The Late Dr. Lesem.—At a regular meeting of the Eastern Medical Society, held on Friday, January 13th, the attention of the society was called to the sudden and untimely death of one of its members, Dr. William W. Lesem. The society desires to express its deep sense of loss of a man highly esteemed and wishes to convey to his family, as a token of respect and in reverence to his memory, its sincerest sympathies.

(Signed) HARRY E. ISAACS, BENJAMIN ROSENBLUTH, JACOB L. MAYBAUM, Committee.

Milk to be Graded or Pasteurized.—At a meeting of the New York Board of Health, held on January 31st, it was decided that after this year all milk and cream sold in New York must be graded or pasteurized. This is not to include, however, milk used for cooking or manufacturing purposes. It is the intent of the board that milk used for the feeding of infants and children must be certified, guaranteed, or pasteurized under special regulations of the department, and must be sold only in bottles. This is to be known as grade A. The B grade of milk may be used by adults. It may be sold in bottles or containers, but it must not be dipped. It will include the A grade and milk pasteurized under the department's ordinary regulations. No milk inferior to this shall be sold for drinking purposes. The supervision of the department is to be specially concentrated on these two grades. The third or C grade embraces all other milk complying with department regulations and may be sold in bottles or from cans.

The American Medicopolitical Reform League.—Announcement is made that a number of Chicago physicians have organized under the name of the American Medicopolitical Reform League, with the avowed object of "correcting abuses in the medical profession, securing political representation and a general betterment of conditions for physicians and surgeons." The incorporators, who also are the directors, are the following physicians: Dr. J. E. Waggoner, Dr. F. Tice, Dr. Lewis H. Bremerman, Dr. O. Tydings, Dr. Ralph H. Wheeler, Dr. M. G. McHugh, Dr. G. Frank Lydston, Dr. James E. Stubbs, Dr. George F. Butler, Dr. Adolph Gehrman, Dr. Charles C. O'Byrne, Dr. Henry F. Lewis, and Dr. R. R. Duff. The purpose of the league, as set forth in the charter, is in part as follows: "To procure the establishment of a national bureau of health, divorced from politics; the establishment of a uniform standard of medical requirements in the several States of the union; encouragement and cooperation with all movements and legislation for food reform which shall be fair and impartial and founded on scientific premises; encouragement of political preferment of physicians as tending to secure just representation for the profession; encouragement of measures for the correction of hospital and dispensary abuses of charity."

The Late Dr. Alexander.—The following "In Memoriam" of Dr. Samuel Alexander was presented by the committee appointed for that purpose, at the last meeting of the Society of Alumni of Bellevue Hospital:

[redacted] found regret of the untimely death of Dr. Samuel Alexander. Dr. Alexander was born in New York on April 2, 1858. After a short [redacted] was graduated from Princeton University, receiving the degree of Master of Arts in 1879. In 1882 he was graduated from Bellevue Hospital Medical College. He served on the house staff of Bellevue Hospital from 1882 until the spring of 1883. After leaving the hospital he continued his studies in European clinics for two years. He then returned to this country and entered his special field of work. In 1887 he was appointed attending surgeon to Bellevue Hospital, which position he filled until the time of his death. From 1889 until 1898 he was professor of genitourinary surgery at Bellevue Hospital Medical College, and from 1898 until his death he was professor of genitourinary surgery at the Cornell University Medical College.

Doctor Alexander was one of the most earnest and enthusiastic members of this society. He was elected its vice-president in 1897 and he served as its president in 1898-99. He was always most constant in his attendance and energetic in promoting the best interests of this organization. Doctor Alexander's ability in his chosen field of work was preeminent, and his researches made him distinguished not only in this country, but also throughout Europe. His genial manner and ready command of language rendered him remarkably successful as a teacher, and his unselfish and warm hearted disposition endeared him to all those who knew him.

The society feels that in his death it has suffered the loss of one of its most distinguished members who, from its earliest days, did much to bring it to the position it now occupies. In commemoration of its loss and of the sorrow it feels it directs that this tribute to his memory be spread upon the minutes and that a copy be sent to his family and that it be published in the medical press.

The Philadelphia Smallpox Scare.—A rigid quarantine was put in force in Philadelphia on January 30th, on account of the discovery of a case of smallpox in the tenderloin district. That section was roped off, and every one found within the police boundary was compelled to submit to vaccination. The health officers waited until four o'clock in the morning before beginning their work, so as to catch the residents at home. At that hour one hundred physicians, accompanied by large details of policemen, entered the district, which also includes Philadelphia's Chinatown, and began vaccinating. It is estimated that 3,000 persons were vaccinated. While the physicians were inside the ropes, which enclosed a territory of ten blocks, hundreds of policemen stood on guard and permitted no one to escape.

The Health of Chicago.—During the week ending January 21, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 12 cases, 4 deaths; measles, 119 cases, 2 deaths; whooping cough, 12 cases, 0 deaths; scarlet fever, 178 cases, 18 deaths; diphtheria, 173 cases, 18 deaths; chickenpox, 75 cases, 0 deaths; tuberculosis, 161 cases, 73 deaths; pneumonia, 97 cases, 157 deaths. There were 2 cases of German measles, 5 of influenza, 5 of smallpox, 1 of infantile paralysis, 2 from cerebrospinal meningitis, and 45 of contagious diseases of minor importance, making the total number of cases reported 887, as compared with 1,025 for the preceding week and 777 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 33, and there were 34 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 169, of whom 112 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 747, corresponding to an annual death rate of 17.4 in a thousand of population, as compared with a rate of 18.4 for the preceding week, and 15.4 for the corresponding period last year.

Society Meetings for the Coming Week:

MONDAY, *February 6th.*—German Medical Society of the City of New York; Utica, N. Y., Medical Library Association; Niagara Falls, N. Y., Academy of Medicine; Hornell, N. Y., Medical and Surgical Association; Roswell Park Medical Club, Buffalo, N. Y.; Practitioners' Club, Newark, N. J.; Hartford, Conn., Medical Society.

TUESDAY, *February 7th.*—New York Academy of Medicine (Section in Dermatology); New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Ogdensburgh, N. Y., Medical Association; Oswego, N. Y., Academy of Medicine; Syracuse, N. Y., Academy of Medicine; Medical Association of Troy and Vicinity; Long Island Medical Society; Amsterdam City Medical Society; Lockport Academy of Medicine; Society of Alumni of Lebanon Hospital, New York; Hudson County, N. J., Medical Association (Jersey City); Bridgeport, Conn., Medical Association.

WEDNESDAY, *February 8th.*—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital, New York; Alumni Association of the Norwegian Hospital, Brooklyn; Brooklyn Medical [redacted] Pharmaceutical Association; Medical Society of the County of Richmond, N. Y.; Dunkirk and Fredonia Medical Society.

THURSDAY, *February 9th.*—New York Academy of Medicine (Section in Pædiatrics); Brooklyn Pathological Society; Blackwell Medical Society of Rochester, N. Y.; Jenkins Medical Association, Yonkers, N. Y.; Society of Sanitary and Moral Prophylaxis, New York; Auburn City Medical Society; Buffalo Ophthalmological Club; Society of Physicians of the Village of Canandaigua; Gloversville and Johnstown Medical and Surgical Association; Physicians' Club of Middletown, N. Y.; West Side Clinical Society, New York.

FRIDAY, *February 10th.*—New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; New York Academy of Medicine (Section in Otology); Saratoga Springs, N. Y., Medical Society; Society of Clinical Serology, New York; Society of Alumni of St. Luke's Hospital, New York; Society of Ex-Internes of the German Hospital in Brooklyn, N. Y.

SATURDAY, *February 11th.*—Therapeutic Club, New York.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL

January 26, 1911.

1. Herbert Leslie Burrell, M. D. (1856-1910). In Memoriam, Tributes from E. H. Bradford, F. S. Watson, and George H. Monks.
2. The Time and Method for Prostatectomy, By Benjamin Tenney.
3. Some of the Medical Problems of Alcoholism, By Irwin H. Neff.

2. Prostatectomy.—Tenney says that retraction and the cautery knife are now historical. The literature of to-day refers only to the perineal and suprapubic operations. Of the former there are two variations, the urethral and the transcapsular, and in operating by the suprapubic route some prefer removal in one or at most two portions, while others enucleate, as happens to be most easy. Anatomically almost all hypertrophies of the prostate are in part at least intravesical. There is probably no hypertrophied prostate which cannot be removed through a perineal incision, but no large one can be dragged out through the urethra without injury to ejaculatory ducts or sphincter unless in small pieces, and the same must be in less degree true of the transcapsular operation. If twenty per cent. of hypertrophied prostates are in some degree cancerous, the objection to morcellation is evident. If the wound is left entirely open, or a large tube is left from the bladder to the dressing, an ideal drainage is provided, but the importance of this may be overestimated. Recovery from operations through the perinæum has been a little better than from the suprapubic operation, but there is a much greater difference in mortality reported among men doing the same operation than there is between the gross statistics of the two operations, and these gross statistics are coming nearer together each year. It is generally admitted that the late results of the suprapubic operation are more satisfactory. The reported higher mortality of the suprapubic operation is really the only argument against its adoption as the general rule, with the perineal operation for occasional use. The preference of men already experienced in other perineal operating, for perineal prostatectomy, may partly account for a difference in results. In urethral perineal prostatectomy the separation is downward, the finger is hooked over the top, and the masses are dragged out. The same result is accomplished by the retractor and traction forceps in the transcapsular operation. In doing a suprapubic enucleation the natural movement is to use the same hooked finger before the prostate has been fully separated from its upper attachments all around. Doing this, one is likely to peel up a strip of the bladder wall itself and open into the rich plexus of veins. A suprapubic enucleation should be done with a straight finger until the hypertrophied gland is entirely separated from all its lateral attachments.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

January 28, 1911.

1. Occlusion of Large Surgical Arteries with Removable Metallic Bands to Test the Efficiency of the Collateral Circulation, By Rudolph M[illegible].
2. Arteriosclerosis of Uterine Vessels, with a Consideration of Cause of Hæmorrhage and Report of Cases, By Sidney A. Chaffee.
3. An Aspirating Device, By J. H. Williams.
4. Cough during Auscultation in the Diagnosis of Pulmonary Tuberculosis, By F. C. Smith.
5. Pellagra, with Analytical Study of Fifty-five Noninstitutional or Sporadic Cases, By Beverly R. Tucker.
6. The Making of a Surgeon, By George W. Guthrie.
7. Hookworm Disease in Mines in California, By Herbert Gunn.
8. Report of a Case of Splenic Abscess, By A. M. Fauntleroy.
9. Idiosyncrasy to Aspirin, By Cyrus Graham.
10. The Use of Cylindrical Gauze and Cotton Drains in Discharging Ears, By Mark D. Stevenson.
11. Must the Tincture of Guaiac Be freshly Prepared? By Horace W. Soper.
12. An Easy and Painless Method of Removing Adhesive Plaster, By E. J. G. Beardsley.
13. The Treatment of Exophthalmic Goitre with Specific Antiserum, By Alonzo Englebert Taylor.
14. Chronic Influenzal Rhinitis promptly Improved by Vaccine Therapy, By Charles C. Grandy.
15. Röntgenographical Examination of the Bladder, By John M. Garratt.
16. Ureterotubal Anastomosis, By Axel Werelius.
17. The Function of Chorioid Plexuses of the Cerebral Ventricles and Its Relation to That of the Pituitary Gland, By Simon Pendleton Kramer.
18. Optimistic Therapeutics, By George M. Niles.

2. Arteriosclerosis of Uterine Vessels.—Chalfant remarks that proper uterine contraction is essential to the control of uterine bleeding. There is no definite pathological condition present in these cases that is not found in others not giving any history of hæmorrhage, with the probable exception of the increase in number and size of vessels. Some loss of functional power of the uterine muscle is the predisposing cause of bleeding in cases of arteriosclerosis. This loss of functional power is due either to the development of fibrous and elastic tissue from subinvolution, or to the condition which caused this subinvolution. The exciting cases are probably many. He suggests the increase in size and number of vessels, general increase in blood pressure from kidney disease or general arteriosclerosis, passive congestion from heart disease, local congestions, or general muscular weakness.

5. Pellagra.—Tucker concludes from his observations that pellagra may occur at any age from childhood to old age. In the southern States, although the negro forms the majority of the lower class, yet pellagra is most common in the white. The disease, while affecting chiefly the lower classes, is occasionally seen among those of good hygienic and social surroundings. The disease is widely spread and does not occur in local epidemics. The disease, in the cases reported, is more common in rural districts than in the cities. The majority of cases occurred in the spring and early summer. The gastrointestinal symptoms, especially the diarrhœa, are usually the first manifestations of the disease. The ingestion of maize or maize products, whether spoiled or not, is not alone the cause of pellagra. Patients whose constitutions are depleted by pernicious habits or chronic diseases are not rendered thereby more susceptible to pellagra than those not so affected. The backs of the hands are always affected in the cutaneous lesions of pellagra and the lesions are always symmetrical. Exposure

to the sun cannot account for the cutaneous lesions. Stomatitis is almost a constant symptom. The nervous and mental symptoms conform to no known nervous disease or form of insanity or clinical entity. The eye symptoms are not pathognomonic. Emaciation is practically constant. The special senses are only occasionally affected. Pellagra is not *per se* a febrile disease, and when an elevation of temperature occurs it may frequently be accounted for by a complication. A moderate anæmia is found in most of the cases. The heart, lungs, and genitourinary organs do not seem to be particularly affected by pellagra. Examinations of the urine, fæces, and blood show nothing pathognomonic of pellagra. The cause of pellagra is unknown and the study of these cases throws no positive light on the ætiology. Patients may have pellagra who do not eat corn products. Sunlight does not account for the condition. In these cases no parasite, toxine, bacteria, nor insect has been isolated as being the causative factor. The disease is not communicable by ordinary contact. Three great systems are affected, the digestive tract, the cutaneous surface, and the cerebrospinal and peripheral nervous systems, and their involvement seems to be in the order named. Remissions occur in over half of the cases. Death frequently occurs in the first attack. It is too early in the study of the disease in this country to estimate the mortality. Probably fifty per cent. die during the first two years. In these cases it cannot be said that any patient is more than apparently cured as it may simply be a remission. No specific cure for the disease has been found, and the remedies in general use are of doubtful value. Hexamethylenamine may possibly have curative properties.

7. **Hookworm Disease in Mines in California.**—Gunn says that hookworm disease is endemic in certain mines of California. From fifty to eighty per cent. of those working in these mines are infected. The infection undoubtedly is present in practically all of the gold mines of California, and in those just over the border of Nevada. He believes that hookworm disease is endemic in many mines in various parts of the United States. In many of the so called cold mines, portions are found where the temperature is constantly high and moisture is present. In all probability most of the mines of the country have been exposed to infection, for in nearly all of them may be found Hungarians, Austrians, Italians, or Cornishmen, some of whom are certain to have brought the infection with them from the mines of their countries.

MEDICAL RECORD

January 28, 1911.

1. Personal Experience with a Very Restricted Diet (Rice) in Acute Inflammatory Disease of the Skin, By L. Duncan Bulkley.
2. The Surgical Aspects of Filariasis, By Charles F. Stokes.
3. Camphor in Large Doses in Pneumonia, By Leonard Weber.
4. Infant Mortality in New York City, By Wilbur C. Phillips.
5. Concealed Chancre of the Male Urethra, with a Study of Thirty-eight Cases, By Charles M. Whitney.
6. Treatment of Peritonitis Consecutive to Appendicitis, By J. J. Buchanan.
7. Inebriety, Its Treatment and Curability, By T. D. Crothers.

1. **Rice Diet in Inflammatory Diseases of the Skin.**—Bulkley describes his own case: On August 20th he began to suffer with itching and tension in the right hand with deep papulovesicles about the root of the little finger, necessitating the removal of a ring. This increased, day by day, affecting other fingers, also of the left hand. By the 24th he was exceedingly uncomfortable, and deep seated vesicles had formed on the sides of the middle finger, third, and little finger of both hands, also small, deep seated vesicles on the backs of some of the fingers and on the back of the right hand. As he had had a similar trouble at about the same season of the year for a number of years past, he did not pay much attention to it, but used some simple remedies, including a calamine and zinc lotion, which had been of some service in former attacks. When the eruption first occurred, some years ago, he attributed it to poison ivy, which was abundant around his country home, but after a year or so this was excluded, as the eruption did not run the course of that trouble, and also he had sedulously avoided all contact with the vine. Nor did the disease seem to be eczema, for the whole course of the eruption had always been different from that affection, and, even at its height or afterward, there had never been any tendency whatever to develop eczematous surfaces; when bullæ formed they were tense and hard, with very thick coverings which were ruptured only with great difficulty, and often became somewhat hæmorrhagic. Nor did the eruption quite correspond to the course and appearance of dysidrosis or pompholyx. As it seemed, in other years, to come on late in the summer, when he had eaten many peaches, he sometimes ascribed it possibly to that cause; but this year he had eaten hardly a single peach. He could attribute it only to some gouty and nervous condition, to which he was subject; curiously enough, it affected mainly the ulnar side of both hands, or at least its greatest intensity was there. He placed himself on greatly restricted diet, consisting solely of rice, boiled in water, bread, butter, water, and absolutely nothing else. This diet he continued for five days, at each meal, three times daily. He used no other medical treatment, external or internal, except that he continued a mild mixture of potassium acetate, nux vomica, and quassia, which he had been taking for some time as a tonic, and which had had no effect on the eruption. The result of this sudden and radical change in the diet was remarkable; within twenty-four hours the tension, together with the burning and itching of the hands, was lessened, and there were no spasms of itching. In forty-eight hours there was further marked improvement, and he had very little discomfort, even on washing and wiping the hands. By the end of four days the blebs were flaccid and the swelling of the hands quite gone; there had been no new production of lesions after instituting the diet, and the disease seemed entirely checked. He continued the absolute diet, however, for one day more, in order to complete the five days which he had commonly found it best for patients to maintain strictly this

plan of treatment. One week later most of the surfaces badly affected had exfoliated, leaving smooth, almost normal skin.

6. **Treatment of Peritonitis Consecutive to Appendicitis.**—Buchanan concludes from his experience that cases in which the pus is generally diffused among the coils of the bowel, without any or with insignificant adhesions, peritonitis having existed for not longer than two days, are best treated by removal of the appendix, dry mopping of fluid within easy reach, and closure without peritoneal drainage. The mortality here is insignificant. So far no cases of this character have been lost in the writer's experience by the closed method. Cases in which, in addition to general diffusion, there is pocketing of pus here and there through the peritoneal sac, will react differently according to the general condition present. It is essential that all enclosing adhesions be released and that the pocketed pus be taken care of by dry mopping or turned into the general cavity where it will be absorbed in favorable cases. In cases far gone with sepsis, on the other hand, this procedure is followed by a quickly fatal result. Cases in which diffuse peritonitis still exists, but the physical signs point to an impending localization which will almost surely convert the case into one of localized abscess, may be left to the Ochsner treatment. These are the three and four day cases, and only the most careful discrimination will serve to distinguish them from the progressive ones with multiple foci. As experience with the closed method increases the Ochsner cases become rarer. Patients apparently moribund, in whom resistance has all but ceased, with blue, leaky skin, thready or absent pulse, subnormal temperature, and barrellike abdomen, with loss of peristalsis, have nearly all died, whatever the treatment; the few exceptions being saved by a waiting policy with subsequent localization and drainage of abscesses.

BRITISH MEDICAL JOURNAL

January [illegible]

1. Cardiac Arrhythmia, By A. J. Jex-Blake.
2. Theory and Practice in the Treatment of Pulmonary Tuberculosis [illegible]
3. A Series of One Thousand Inoculations, Chiefly in Private Practice, By H. Warren Crowe.
4. Typhoid Infection, By John Arthur Mills.
5. Myasthenia with Enlargement of the Thymus Gland. By J. Odery Symes.
6. [illegible] Action of Arsenic. By James A. Gunn and Walter J. [illegible]

2. Treatment of Pulmonary Tuberculosis.—Bosanquet says that there is no specific remedy or universal mode of treatment for tuberculosis of the lungs. Neither tuberculin nor rest nor work nor mountain air nor a sea voyage nor a sanatorium is an infallible remedy to be administered to all, as we give quinine for malaria or mercury for syphilis. We have to study the individual patient, his circumstances and his idiosyncrasies, and, armed with this knowledge, to try to raise his resistance to the bacillus and its poisons. Fortunately the human organism has considerable powers of resistance, if it is not debilitated by adverse conditions; and though we must, above all, endeavor to recognize cases early, before the disease has advanced far, yet even in advanced cases there is always hope of arrest of the disease or at least of a temporary reprieve and prolongation of life.

3. One Thousand Inoculations.—Crowe reports a series of 1,000 inoculations. The first group, thirty-two cases, deals with infections in which the chief agent was a staphylococcus; the second group, four cases, deals with streptococcus infections; the third group, six cases, with infections due to *Bacillus coli communis;* the fourth group, eight cases, with infection of the respiratory passages, other than tuberculous, and caused by the pneumococcus, the *Micrococcus catarrhalis,* bacillus of Friedlander, and the bacillus of influenza; the fifth group, thirty-seven cases, with tubercle bacillus. He remarks that tuberculin has done for his patients what no other treatment could have done. He calls special attention to two points: The first is that he does not think it can be too often insisted upon, notwithstanding all that Spengler and Wilkinson may say to the contrary, that in the hands of the ordinary medical man there is grave danger associated with the exhibition of tuberculin in phthisis while patients are walking about and pursuing their ordinary avocations. It is only a matter of common sense after all. Tuberculin causes hyperæmia, and the more hyperæmic the lesion the more easily will a dangerous autoinoculation be induced by exercise. True, the cure may be through autoinoculations; but if autoinoculations are allowed to become excessive, as they will become excessive if tuberculin and exercise are combined, then inevitably will the disease extend. The second point is as to the length of time that it is necesary to continue treatment. Too little is known of the diagnostic tests of Calmette, Wolff-Eisner, Moro, and von Pirquet, to adjudge their value as trustworthy guides on this question. Two excellent indications, however, remain to us, and both should be utilized before giving a definite opinion: 1. The patient should be able to take 1/5000 T. R. without any effect noticeable, either in the temperature or in the opsonic index. 2. After sufficient exercise to cause thorough exhaustion there should be no sign of an autoinoculation; that is to say, that the opsonic index, a far more reliable test than any subjective sensations and many times more delicate than the temperature, should not fluctuate.

6. Antihæmolytic Action of Arsenic.—Gunn and Feltham draw the following conclusions from their experiments: Arsenic, whether in the form of sodium arsenite or sodium arsenate, exerts on the red blood corpuscles an action antagonistic to that of certain hæmolytic agents. The experiments, therefore, afford additional proof in favor of the view that a protective action on the formed red blood corpuscles against normal or abnormal hæmolytic processes may, in part at least, account for the as yet imperfectly explained benefit which results from the medicinal administration of arsenic in blood diseases.

MEDIZINISCHE KLINIK

January 8, 1911.

1. [illegible] By [illegible]
2. Pathogenesis and Ætiology of Chronic Intestinal Catarrh, By A. Schmidt.
3. Multiple Sclerosis and Hysteria in Their Mutual Relation [illegible]

4. Should the General Practitioner Perform Diagnostic Tests of the Functions of the Stomach? By Franz Goldschwend.
5. Sarcoma at the Junction of the Pharynx and Œsophagus Operated on successfully after Preliminary Gastrostomy, By Snoy.
6. Digitalisatum Buerger in Sterile Ampullæ as a Preparation of Digitalis which Can Be Injected Subcutaneously without Pain and Produce the Effect of Digitalis completely and quickly, By R. Wernicke.
7. The Serodiagnosis of Syphilis by Means of Precipitation of Sodium Glycocholate under the Influence of Cholesterin, By Otto Hermann and Alfred Ferutz.

2. Pathogenesis and Ætiology of Chronic Intestinal Catarrh.—Schmidt first deals with the diagnosis of chronic intestinal catarrh in general. The most important symptom is the appearance of mucus in the fæces, mixed under some circumstances with pus and blood. It is absent only in the rare cases of isolated catarrh of the small intestine without involvement of the colon, and in those very mild forms in which the involvement of the intestinal wall results in thin, albuminous, putrefactive stools. The latter condition has been erroneously called nervous diarrhœa. Dissolved albumin in the stools in adults comes almost exclusively from the intestinal wall. The examination of the stools microscopically for albumin is sometimes necessary, but resort to a chemical examination is useless. The quantity of the mucus evacuated does not serve as a measure of the intensity of the catarrh; much clear mucus may be evacuated when the intensity and extent of the inflammation is slight, but when the mucus is rich in cells the inflammation is greater than when it is poor. Accompanying pus and blood indicate more severe inflammation, but not necessarily that it is associated with ulceration. The writer then proceeds to an analysis of the clinical term chronic intestinal catarrh and shows that it does not refer to a single form of disease. Distinctions should be made with regard to its place of starting, its relations to disturbances of intestinal digestion, and its ætiological factors. The most important point to determine anatomically is whether the colon is affected alone, or whether the small intestine is involved. To a certain point the content of mucus in the fæces is a guide to the seat of the catarrh. Large pieces of mucus almost always come from the colon, and the higher in the colon the inflammation is situated the more finely divided will be the flocks of mucus. "Membranes" come, as a rule, from the sigmoid flexure and its neighborhood. Minute particles of mucus in fluid stools, poor in cells but rich in bacteria, especially when bilirubin is present, indicate an origin in the small intestine. Absence in the stools of particles of food recognizable with the naked eye is indicative that the trouble is confined to the colon, presence that the small intestine is involved, the patient having previously been given a test diet. Single segments of both the large and the small intestine are often alone affected. A clinical distinction in this respect is often impossible in catarrh of the small intestine, but quite practicable in the colon. The place of start of the disease is then discussed. Chronic catarrh of the colon often is started from the small intestine, and catarrh of the latter from the stomach, but they may arise from disturbances of defæcation, or from affections of the female genital organs, or otherwise. The relations of chronic intestinal catarrh to disturbances of intestinal digestion are then considered, and then the bacteriological, toxic, and mechanical forms of ætiology.

3. Multiple Sclerosis and Hysteria.—Bendixsohn and Serog report the case of a girl who had for years shown distinct hysteric symptoms, such as hysterical vomiting and spasms, when a symptom complex developed that was suggestive of a cerebral tumor, and finally a diagnosis of multiple sclerosis was made. They then report two other cases in which a similar relation between multiple sclerosis and hysteria seemed to be present. Their discussion of the cases is very full and not complete in the present number.

SOUTHERN CALIFORNIA PRACTITIONER.

January, 1911.

1. Submaxillary Infection. Ludwig's Angina, By W. W. Roblee.
2. The Present Status of Gastric Carcinoma, By W. P. Millspaugh.
3. Infections in Minor Surgery, By W. L. Huggins.
4. The Seventh Year at the Barlow Sanatorium, Los Angeles, Cal., By R. L. Cunningham.
5. Amygdalotomy *vs.* Amygdalectomy with Technique, By C. H. Montgomery.
6. The German Clinics, By Harry L. Lissner.
7. The Finsen Institute in 1910, By Albert Soiland.
8. Atonic and Spastic Constipation, By H. S. Gordon.
9. Alcoholism as a Cause of Disease, By H. A. Hughes.
10. Los Angeles Medicine—An Historical Sketch, By Walter Lindley

1. Submaxillary Infection.—Roblee states that submaxillary infections, including the so called Ludwigs' angina, are pathologically all a part of the same process and not separate entities. The infection travels along definite connective tissue planes and its progress is analogous to that seen in sepsis beneath the palmar fascia of the hand or the plantor fascia in the foot. All these infections are serious and should be carefully watched. Many of them heal rapidly, but, when the infection once reaches the mouth and throat, it is one of the most serious conditions we have to deal with, fully fifty per cent. of the patients dying. Early external incision should be made in all cases where pus is suspected or the symptoms are at all severe.

4. Seventh Year at the Barlow Sanatorium.—Cunningham gives a report for the year 1910 of the Barlow Sanatorium at Los Angeles, California. In treating their tuberculous patients they endeavor to follow what they believe to be the sanest lines of therapeutics, using nothing, with a belief that it is a specific remedy against the disease, and yet employing every means which they conscientiously consider as offering any aid. All patients spend practically all of the time in the open air, for the cottages cannot be closed up to exclude the air. In addition they give plenty of plain, easily digested food, with milk, eggs, olive oil, and special articles of diet where indicated. They are insisting less upon forced feeding, though they give milk between meals and at bedtime. Drugs they employ in the treatment of such symptoms as may be relieved by drugs. Prescribed assignments of light work they have found to be most helpful in afebrile patients and they are trying to have every patient who is fit, do some regular work each day. The effects are

both physical and moral and equally good in both spheres. It is a part of the regular treatment and is so recognized by the patients. In the beginning it was difficult to present the requirement in that light, but little trouble is experienced now from this cause, and with a few individuals the danger has been rather that they will do too much than that they will shirk what is assigned them. No general rule can be stated as to what work each one is required to do, as that varies greatly and is not always capable of exact measurement. Within the past few months they have given a number of patients sterile preparations of iron and of arsenic hypodermically. They cannot report that work at the present time as it is not yet sufficiently determined in their minds how great a value the treatment has. With regard to tuberculin therapy they are still unconvinced. They think it is the least important of available means of combating the disease, though they have several patients who get tuberculin in addition to the hygienic dietetic measures common to all. In using it they always start with a very small initial dose, generally about 0.00000001 gramme, and increase the dose with each later injection, avoiding all reactions, both local and systemic. In some instances they give tuberculin once a week and in some twice a week. The results in four cases were, one patient apparently cured, disease arrested in one, improved in one, unimproved, one. They have seen no apparent effect upon the number of acid fast bacilli in the sputum following the use of tuberculin. As to whether tuberculin treatment influences the permanency of cure they cannot as yet draw any conclusions. They admit that several cases now under treatment, or discharged since September 1st, give a more favorable impression of the use of this particular therapeutic agent than do the few cases properly included in this communication. They do not use tuberculin with those patients who are in the early stage of tuberculosis, nor in those individuals who present a favorable prognosis. They select those who are not doing satisfactorily without tuberculin and give it to such in the hope that it may stimulate to improvement. The large proportion of advanced cases, notoriously unsuited to tuberculin therapy, limits the material at hand for systematic trial of its usefulness in the sanatorium.

7. **The Finsen Institute.**—Lissner visited the Finsen Institute in 1910. He remarks that the work is divided as follows: All uncomplicated cases of lupus vulgaris and erythematosis are treated with the Finsen light. The mixed infections, the cutaneous tuberculides and epitheliomata are exposed to the Röntgen rays. In this department there are four modern coil inductors, with protective screens and diaphragmed tube holders which are in active operation all day long. The x ray treatments being so much shorter in duration that the light treatments make it possible to handle almost as many patients each day as in the light clinic. Every precaution is taken to guard both the patient and operator against untoward x ray effects. Sabouroud's pastilles are used exclusively to determine the proper x ray dosage. These have been found the most satisfactory and least complicated of all the devices originated to register the amount of x ray energy transmitted to the living tissues. In the department devoted to treatment of internal diseases many cases of perverted metabolism, cardiac, renal, circulatory, and nerve disorders are successfully handled. Neuralgias, myalgias, and scleroses have also been found to yield, together with other conditions that do not submit readily to medicinal treatment alone. Powerful naked arc lights are made to illuminate the body from different angles. The heat is controlled by ingenious water screens which offer very little obstruction to the chemical rays. Incandescent cabinet baths are also employed together with hydropathic measures in suitable cases. The d'Arsonval current and the Tesla coil play a prominent part in the work.

PRACTITIONER.

January, 1911.

1. Neurasthenia and Some Associated Conditions, By F. W. Mott.
2. Neurasthenia and Drugs, By David Ferrier.
3. Traumatic Neurasthenia, By Wilfred Harris.
4. Neurasthenia and Eye Strain, By Ernest Clarke.
5. Neurasthenia and Gastralgia, By Robert A. Fleming.
6. Neurasthenia in Children, By Clive Riviere.
7. The Sexual Element in the Neurasthenia of Men, By Gordon Holmes.
8. The Sexual Element in the Neurasthenia of Women, By H. Macnaughton Jones.
9. Mental Therapeutics in Neurasthenia, By H. Campbell Thomson.
10. Neurasthenia and Insanity, By A. F. Tredgold.
11. Neurasthenia and Movable Kidney, By C. W. Suckling.
12. Neurasthenia Minor, By P. C. Campbell Smith.
13. The more Certain Control of Traumatic Neurosis, By Tom A. Williams.
14. The Treatment of Neurasthenia by Diet, By D. Nöel Paton.
15. The Educational Treatment of Neurasthenia, By Fletcher Beach.
16. The Treatment of Neurasthenia by Rest, Diet, and Massage, By Charles W. Buckley.
17. Electrical Treatment of Neurasthenia, By Stéphane Leduc.
18. The Climatic, Balenotherapeutic, and Sanatorium Treatment of Neurasthenia, By Neville Wood.
19. The Treatment of Neurasthenia by Physical Methods, By J. A. Rivière.
20. Treatment of Neurasthenia by Hypnotism and Suggestion, By Charles Lloyd Tuckey.

The January number of the *Practitioner* is devoted to the subject of neurasthenia.

GLASGOW MEDICAL JOURNAL

January, 1911

1. The Unfit, By W. J. H. Sinclair.
2. The Dr. James Watson Lectures on Recent Advances in Hæmatology, By Walter K. Hunter.
3. Graduated Labor at Bellefield Sanatorium, By James W. Allan.

1. **The Unfit.**—Sinclair states that there is a large and increasing number of unfit people at large. The influence of those people while at large is hurtful to the community, leading to the production of undesirable stock and to large public expense. Legislation for the care and control of the unfit in their own interest and in the interest of the race is urgently called for. The physically capable and noncriminal among the unfit would probably be suitably dealt with in farm and labor colonies. Notification and registration is probably necessary as a preliminary to the proper care and control of epileptics. Much attention should be bestowed on the

health and training of epileptic children, when possible by parents, otherwise by the State. The marriage of an epileptic should be prohibited by law. Epileptics improperly cared for by their relatives should be put under care and treatment in epileptic colonies. The shutting up for the natural term of their lives of incorrigible and irresponsible inebriates is highly desirable in their own interests and in the interests of the community. A simple and easy method of finding the feeble minded such as notification is probably practicable. Legislation to facilitate certification and to provide for the continued confinement of the feeble minded is urgently required.

3. **Graduated Labor.**—Allan reviews the beneficial results produced by graduated labor in consumptives, treated at the Bellefield Sanatorium.

DUBLIN JOURNAL OF MEDICAL SCIENCES.

January, 1911

1. The Treatment of Fractures by Ancient and Modern Methods, By W. I. de C. Wheeler.
2. Some Recent Clinical Experiences (Second Series), By Sir John Moore.

1. **Treatment of Fractures by Ancient and Modern Methods.**—Wheeler remarks in this paper while speaking on the treatment of fractures by ancient methods that the most antiquated surgical appliances ever discovered, with the exception of some ancient instruments for circumcision, were two sets of splints found applied to the bones of two mummies, proved to date about 3000 B. C., in rock cut tombs of the fifth dynasty in Egypt. The first case was that of a girl, aged about fourteen, who sustained a comminuted compound fracture of the middle of the shaft of the right femur. This was treated by the application of one anterior, one posterior, and two lateral splints, fashioned from the midrib of the date palm. It is of special interest that the splints only reached a point about three inches above the site of fracture, although inferiorly they were carried to a level seven inches below the knee joint. The splints were carefully padded with folds of linen bandage, and were held in position by like material tied in reef knots. A single pad was found just below the site of fracture covered with rustlike stains which, notwithstanding the lapse of nearly five thousand years, had the appearance of remarkable freshness. That these were blood stains is undoubted from the circumstances under which they were found in numerous instances. The pad was probably employed to cover the wound in the soft parts and to control hæmorrhage. The presence of blood was extremely significant, for in ante mortem fractures the broken ends of the bones were copiously stained, and, on the other hand, when a fracture had been produced post mortem by plunderers of a tomb, the blood marks were conspicuous by their absence. The second case, a fracture of the forearm found with splints *in situ*, was discovered by a strange coincidence in the same cemetery, for together these two cases constitute the only known splints applied to living patients earlier than the Christian era. As in the first case, this fracture was probably compound, for a stained pad of vegetable fibre was found pushed into the medullary cavity of the ulna. Probably the fracture was treated as follows: The wound was first plugged with the pad of vegetable fibre. A bandage (also found in good condition) of much finer material was wound carefully round the forearm, and the splints were then applied. Each had a natural curve, forming with its fellows a tubular casing for the forearm. A gap between the splints at the back was filled in with a bundle of coarse grass. The whole was bound to the arm with broad linen, secured by tapes of folded bandage. Our author concludes that it is clear from the study of these two cases that splints were used by the ancients more as a protection from external injury than as a means of holding the bones in position. This is particularly evident in the first case, where they only reached about three inches above the site of fracture. It is impossible to tell how generally splints were used at these periods in the world's history, but the presumption is, from a study of many hundreds of fractures to which they were found applied only twice, that their employment was extremely limited.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

February, 1911

1. The Medicinal Treatment of Diabetes Mellitus, By F. Forchheimer.
2. The Dietetic Treatment of Diabetes Mellitus, By Nellis B. Foster.
3. A Résumé of Vaccine Therapy, By H. W. Stoner.
4. Malignant Disease as a Problem of Modern Surgery, By John B. Deaver.
5. The Thenar and Hypothenar Types of Neural Atrophy of the Hand, By J. Ramsay Hunt.
6. The Association of Suppurative Disease of the Nasal Accessory Sinuses and Acute Otitis Media in Adults, By Cornelius G. Coakley.
7. The Metabolic Changes in Hæmatoporphyrinuria not of Drug Origin, By Charles L. Dana.
8. A Metabolic Study of Myotonia Atrophica, By Ralph Pemberton.
9. Chronic Influenza and Its Relation to Neuropathy, By Glenn I. Jones.

1. **Medical Treatment of Diabetes Mellitus.**—Forchheimer states that, at present, diabetic coma is looked upon as an acidosis due to the presence of large quantities of oxybutyric and, possibly, diacetic acid in the blood—the result of which is that first the ordinary alkalies are bound to them for elimination by the urine, and when these are no longer sufficient, ammonia is formed from ultimate metabolic changes of albumin which usually leads only to urea. This ammonia combines with the harmful acids and is found in the urine. Indeed, the amount of ammonia found in the urine may be looked upon as a quantitative estimate of the acidosis. From this it would seem that the solution of this therapeutic problem should be easy; add alkalies to control the acids. As a matter of fact, this is what has been done. Sodium carbonate or bicarbonate have been administered by the mouth, the rectum, and intravenously in large quantities, varying from fifteen to eighty-four grammes in twenty-four hours. And yet, simple as is the ratiocination, this treatment has remained singularly ineffective. He has never seen a patient recover from true diabetic coma when it has been thoroughly established. He has seen diabetics recover from coma due to other causes, as has every one who has seen many diabetics, and this line of demarcation between coma in diabetes and diabetic coma should be carefully drawn in the reports of cases. Moreover, even

when one neutralizes the urine, the coma being developed, the patient does not recover, which shows that eventually this whole process is something more that a simple question of acidity and alkalinity. The urine, being more alkaline, shows that in all probability the blood is also alkaline. But we have no evidence that the tissues are favorably affected by this alkalinity or that the alkalinity is of the proper nature. To overcome this, it might be well to try other ions beside those of sodium when diabetic coma is well developed. But even this seems hopeless when we consider that tissue changes go on which probably are irremediable, because of the time required to remove them. On the other hand, when the first symptoms of coma are recognized, the therapeutic results are fairly good with sodium treatment. The indications for the administration of sodium bicarbonate are the occurrence of large quantities of acetone or ammonia in the urine. This should always be followed by the internal administration of sodium bicarbonate in quantities sufficient to make the urine neutral or slightly alkaline; when the remedy is withdrawn and the previous urinary condition again develops, the indication should again be carried out. In addition, the patient should be put upon the proper diet. For practical purposes, it may be accepted that fats and albumin principally produce acetone bodies and acidosis; therefore these patients should be put upon carbohydrates, irrespective of the degree of glycosuria, as the prevention of the full development of diabetic coma is, for the time being, the paramount indication. Large quantities of oatmeal or potato may be given, but according to Naunyn's experience, which he found true from personal experience, milk in sufficient quantity as an exclusive food seems to be the best that can be done dietetically. He states the fact that in treating diabetics for sugar tolerance great care must be taken not to produce coma. This does occur, and it is not a pleasant experience. There are two ways to avoid it; the first is by taking into consideration the results of urine analysis, the second is to give patients sodium bicarbonate during the testing period, as was first recommended by von Noorden.

3. **A Résumé of Vaccine Therapy.**—Stoner has collected 2,332 cases treated by vaccine therapy. Of these, 2,000, or eighty-six per cent., were cured or improved; 251, or ten per cent., were not benefited; and the remaining seventy-nine cases discontinued treatment, or were lost. Three hundred and six of the cases were general infections, and of these, 274, or eighty-eight per cent., were cured or improved, and twenty-eight, or about nine per cent., not benefited. The series includes sixty-seven different conditions. These figures point out the tremendous, almost unlimited, field that vaccine therapy may cover. In no instance was serious harm caused by the use of vaccines. Of uniformity of doses Stoner states that it is realized that in order to arrive at just what is the proper dose of dead bacteria to employ in a given condition, it is necessary to study the effect of various sized doses. It is also true that the number of bacteria inoculated at one time depends upon the nature of the disease, whether it is acute or chronic, on the interval between doses, and on the condition of the individual. However, in reviewing the literature, it is often found that one observer treats furunculosis with 10,000,000 dead staphylococci at a dose, while another gives doses of 1,000,000,000; or one author gives 5,000,000 dead gonococci and another 500,000,000 in an identical condition. The question arises, whether the too large doses may not do harm or the too small ones be of no benefit; at least, it would seem that under the same circumstances, better results might have been obtained had more uniform doses been employed. Stoner is preparing an analysis of the various doses employed by different observers, and the results achieved, in the hopes of arriving at something near a standard dose of the various organisms. About the same applies to the intervals between doses as has been described for the size of the doses, both as regards the disease and the condition of the patient. Some authors advise daily injections, while others allow intervals of two weeks, or even a month, between inoculations. Here, too, better results might have been obtained if more uniformity had been followed. Of course, in much of the work done the opsonic index has been used as a guide, but this is subject to such wide variations, that it has only served to complicate matters, and it is now generally believed that the opsonic index is of little value except in the hands of experts.

6. **Association of Suppurative Disease.**—Coakley observes that otologists agree that the infection in a large percentage of cases of acute otitis media proceeds through the Eustachian tube, complicating acute rhinitis and acute nasopharyngitis. He believes that the severer types of acute rhinitis accompanied by acute infection of the nasal accessory sinuses are far more apt to be complicated by aural disease than the milder types of acute rhinitis. It is extremely rare for a patient with acute sinus disease, coming to the otologist in the early stages, before acute otitis media has developed, to be attacked subsequently, during the course of the treatment, with acute otitis media. He is convinced that the early recognition of acute sinus disease, and appropriate treatment for its relief, will prevent many a patient from being attacked with acute otitis media. The fact that acute otitis media usually occurs on the same side as the sinus disease inclines Coakley to the belief that the pus from the various sinuses bathes the pharyngeal orifice of the Eustachian tube and is thence forced into and infects the tympanum. In cases of acute otitis media, associated with nasal accessory sinus disease, such a degree of mastoiditis is more likely to develop as to require a mastoid operation than otitis cases not complicated by nasal accessory sinusitis. One explanation of this may be in the more severe character of the infection. He believes that some patients would repair the damage to the tympanum and mastoid if relieved of the added burden of the nasal disease. Patients suffering from chronic suppuration in the nasal sinuses are much less prone to acute otitis media than those having acute sinusitis. In the light of modern bacteriology this may be accounted for in two ways: 1. The bacteria found in the pus in many cases of chronic sinusitis grow very poorly on any nutrient media; they seem to have lost much of their virulency. Should they be forced

into the tympanum through the Eustachian tube, they may not infect the ear. 2. It is also probable that the antibodies formed in the chronic cases are a prevention against inciting a new infection. It is a well known fact that after any operation, intranasal or external, on a case of chronic sinusitis, the virulency of the bacteria is greatly increased, owing to the wound secretions forming an excellent nutrient medium; hence the cellulitis or erysipelas which develops after some of our external operations in cases of chronic nasal accessory sinus disease.

Proceedings of Societies.

TRI-STATE MEDICAL ASSOCIATION OF MISSISSIPPI, ARKANSAS, AND TENNESSEE.

Twenty-seventh Annual Meeting, held in Memphis, Tenn., November 15, 16, and 17, 1910.

The President, Dr. J. S. Rawlins, of Dancyville, Tenn., in the Chair.

The Injection Treatment of Infected Joints.—Dr. M. G. Thompson, of Hot Springs, Arkansas, related the case of a boy, nineteen years of age, thin and pale, who had had gonorrhœal arthritis which had resulted in ankylosis of the right knee of eleven months' duration. Under local anæsthesia a needle was thrust deep enough to enter the capsule, but no synovial fluid escaped. An injection of the Murphy fluid (formalin and glycerin) was given. The next day the knee was more painful. The patient had some fever and was very much depressed mentally, but he was assured that in a day or two he would have a general anæsthetic and the adhesions be broken up. On the fourth day this was done, and after breaking up the adhesions and flexing the knee the needle was thrust into it at the same point and to the same depth as at first, and the synovial fluid ran out freely. The injection of the Murphy fluid was then made, and the knee flexed several times. That evening the patient was better and said he had flexed the knee a thousand times during the day. This flexion very much relieved the pain from which he had suffered. Although the knee was weak, in two weeks he could walk, and the knee had returned almost to its normal size. The boy returned home and was slowly recovering, and Thompson thought the knee would return to its normal condition.

Dr. Bernard Asman, of Hot Springs, stated that at the Ozark Sanitarium in the past several months twelve or fifteen cases had been treated by the Murphy method, in all of which satisfactory results had been obtained. The solution used was invariably the one recommended by Dr. Murphy, namely, two per cent. formalin in glycerin.

Dr. John L. Jelks, of Memphis, said that he pointed out ten years ago that infection by the *Staphylococcus pyogenes aureus*, by the staphylococcus, and by the tubercle bacillus could be positively controlled with formalin, although the profession did not believe it. Dr. Krauss, of Memphis, had verified this by observation of some of his own cases in which formalin was used.

Poliomyelitis.—Dr. W. J. Waddington, of Memphis, stated that this disease was preeminently one of early childhood, occurring in midsummer and early autumn. It attacked all classes, the healthy as well as the delicate. It might follow moderate trauma, overexertion, sudden chilling, and the various toxæmias. He mentioned the eight clinical types of the disease as given by Wakeman, who studied the Swedish epidemic. The spinal type was the most frequent. Treatment during the active period was practically unavailable. Active elimination through all channels of the body should be promoted. Special attention should be given to the application of apparatus to prevent contraction of the unantagonized or the overstretched paralyzed muscles. Such apparatus should be light, simple, and easily applied, and should not interfere with the circulation. With tenotomy, osteotomy, arthrodesis, joint erosion, and stiffening of the relaxed joints by periosteal flaps and silk ligatures, much had been accomplished.

The After Care of Anterior Poliomyelitis.—Dr. Willis C. Campbell, of Memphis, reported four cases of the disease, and in recapitulation said: 1. The spine should be immobilized during the period of muscular excitability, the same as we would any acutely inflamed joint with muscular spasm. 2. The anatomical relation of the joint surfaces should be maintained to prevent deformities from muscular contraction. 3. Deformities, when present, should be corrected by surgical procedures. 4. Massage and electricity were dangerous measures in inexperienced hands. 5. Light braces, which should maintain the parts in correct position, should be used. 6. Operative measures gave brilliant results in well selected cases. 7. Rarely a perfect functional result could be obtained, but all patients could be materially benefited. Marked practical improvement would enhance the general health of the patient and his economical value.

Dr. G. G. Buford, of Memphis, said it had been his experience to find nearly as many cases of this disease in adults as in infants. In the adult cases there was an infectious condition, resulting from anything which would produce a toxine in the economy. It had been his privilege in the last five years to see many of these cases.

Dr. W. T. Pride, of Memphis, said that anterior poliomyelitis was an infection, and as typhoid fever bacilli selected the intestinal glands for infection, so the infective organism of anterior poliomyelitis selected the ganglion cells, especially the giant cells, of the anterior horns of the spinal cord. The disease was more prevalent in summer than in winter. An operation in a great many cases was satisfactory. By transplantation of the tendons a useless arm or a useless leg had been made partially useful. When the case was diagnosticated early and paralysis had occurred, the general practitioner should send the patient to an orthopædic surgeon.

Anxiety Neuroses.—Dr. S. T. Rucker, of Memphis, said that anxiety and worry were distressing symptoms in many of the so called neuroses, but were most common and constant in neurasthenia, hysteria, melancholia, and psychasthenia. In many cases of hysteria, anxiety, and worry were annoying symptoms. The patient might constantly refer to some sensation which she interpreted as an in-

curable malady. One patient, whose appetite and digestion were good, complained incessantly that she had an incurable stomach trouble. Another patient had a morbid fear of dying. In melancholia and psychasthenia, anxiety took the form of a fixed obsession or hallucination, and its manifestation was often distressing to witness. When anxiety and worry were symptoms in the illness of patients, there was no drug or remedy that would take the place of psychotherapy. The physician who had the ability to put his patients in a cheerful frame of mind and fix the belief that they would recover had at his command a most effective therapeutic procedure.

Bacterial Vaccines a Factor in Therapeutics.—Dr. WILLIAM LITTERER, of Nashville, did not hesitate to say that in no instance had he failed to observe improvement in any mixed tuberculous infection. It was not the purpose of his paper to prove that vaccines only effected a cure, but rather to encourage the use of vaccines as an adjunct to medical and surgical procedures in certain types of infections which until now had stubbornly resisted all curative measures. He believed that every patient in whom a sinus or fistula of long standing had existed, whether tuberculous or not, should unquestionably be given the benefit of vaccine therapy. Autogenous vaccines should be used when possible. Stock vaccines were uncertain, but they might be used when there was delay in securing autogenous vaccines. Chronic infections yielded more readily to the use of vaccines than acute fulminating infections, and local processes were more easily controlled than general infections. In every case of mixed tuberculosis (pulmonary or other) beneficial results had been obtained by employing the autogenous vaccines and tuberculin.

The Surgical Treatment of Goitre.—Dr. W. T. BLACK, of Memphis, stated that thyreoidectomy was the usual procedure in hyperthyreoidism, but ligation as a curative and palliative means would often increase the patient's chances. Ligation in cases where there were symptoms of beginning hyperthyreoidectomy, or where the symptoms were not severe enough to call for thyreoidectomy, would often cure the patient. It was also indicated in every acute case and in chronic cases that had resisted other forms of treatment and were accompanied by secondary changes in other organs. These patients would improve so that in three months they had gained in weight and their symptoms improved to such an extent that thyreoidectomy might be safely performed. Ligation might be performed under either general or local anæsthesia.

Dr. B. F. TURNER, of Memphis said that the surgery of the thyreoid gland involved one other branch of medicine which heretofore had been frequently overlooked. It had come to be recognized that the effect of hyperthyreoidism in causing dementia had not received the attention that it deserved, and, stimulated by the operations that had caused so much interest in the field of surgery, alienists were beginning to recognize that here and there was a patient who was a proper subject for the surgical infirmary rather than for the detention house for the insane. The operations that had been performed in this class of cases had given satisfactory results.

The Importance of Elimination.—Dr. D. M. HALL, of Memphis, believed that there were countless thousands of human beings who would be better citizens and better men morally, mentally, and physically if they could throw off the benumbing clutch of their chronic toxæmias. The question arose as to what could be done to prevent this condition and to relieve those suffering from it. The answer was, by aiding and stimulating elimination by clean, healthful living. We should teach people, especially the children at school, the value of hygiene, diet, exercise, and fresh air. By these means one could prevent overtaxation of the organs of elimination, enable every organ of the body to perform its function properly, and greatly increase the resisting power of all the tissues of the body.

The Diagnosis and Treatment of Kidney Stones.—Dr. W. S. ANDERSON, of Memphis, stated that the x ray as a means of diagnosis marked the most important advance made in kidney and ureteral stone surgery in modern times. A careful study of the urine was of the greatest importance in cases of suspected stones. The author described the technique of the operation for the removal of a stone from the kidney. If the kidney was found much diseased, it was best to remove it at the time of the first operation rather than to attempt it later, for this was usually a difficult as well as a dangerous operation, on account of many adhesions.

Dr. E. M. HOLDER, of Memphis, said that the ordinary x ray without a focusing device made a picture that was not well defined, and led one to doubt whether or not there was a stone in the kidney, but with modern focusing devices one was able to get a clean cut, clear, well defined picture, not only of stone in the kidney, but of stone in the bladder when it was present.

Dr. FRANK D. SMYTH, of Memphis, spoke of one condition that had prevented him from making a correct diagnosis of stone in the kidney, namely, acute torsion of the pedicle of an ovarian cyst. A prominent physician and able diagnostician had treated the case for days and regarded it as one of stone in the kidney. Examination of the urine revealed a stone in the kidney or ureter, and he was called in consultation to perform the operation. The patient was suffering terribly, and he regarded it as the result of peritonitis due to rupture of some organ producing infection, and advised an immediate operation. On making an opening he found an ovarian cyst as large as a fœtal head, with two or two and a half twists in the pedicle, with rupture of the bloodvessels, the cyst undergoing gangrene.

Making a Neurological Diagnosis.—Dr. G. G. BUFORD, of Memphis, said that cell function depended upon nutrition, which in turn was dependent upon the quality and quantity of the nutritive blood elements. A hæmorrhage into the cord from a myelitis destroyed the reflex in the myelomere supplied by nerves from this arc, but not above or below, unless the entire cord was involved, which was seldom the case. Certain tremors were diagnostic of certain lesions. They were best classified as toxic, obstructive, and terminal tremors.

Dr. William Glassell Somerville, of Memphis, stated that one could understand nervous diseases only by a thorough knowledge of the anatomy and physiology of the nervous system. It was the groundwork without which one was always at sea when he came to interpret the symptoms which he found in nervous patients. Certain skin eruptions were due to trouble in the ganglia of the posterior roots. The fact was well established that herpes was always due to some disturbance or lesion in the posterior root ganglion. It was important to make a thorough and systematic examination of patients who presented themselves suffering from some form of nervous disorder.

Dr. Buford said that in interpreting the phenomena of nervous conditions we asked a patient if he had headaches. This question stood out prominently. A patient might have headache as the result of a toxic condition or an irritation of the nucleus or cortex, or as the result of an irritation in the region of the pneumogastric or fifth nerve. A patient might have headache resulting from depression of a bone or from adhesions or from a meningitis. He might have headache resulting from a tumor pressing against the dura, but in all headaches the patient must have interference somewhere with the sensation that was conveyed to the dura by the branches from the fifth and pneumogastric nerves.

Pistol Shot Wound through the Head.—Dr. Joseph T. Seymour, of Whiteville, Tenn., reported a case of pistol shot wound through the head. The patient was a boy, fifteen years of age, who accidentally shot himself through the head while examining a pistol. The ball entered the head on the right side, near the external angular process of the frontal bone, just above the supraorbital ridge, passing through the skull and brain on a straight line, making its exit at the junction of the parietal, the occipital, and the mastoid portion of the temporal bone. The opening at the point of exit was of about the size of a nickel, being much larger than at the point of entrance. Free drainage was established, and the patient made a good recovery.

Dr. J. W. Barksdale, of Winona, Miss., stated that six or seven years ago an interesting case came under his observation. A man was shot with a forty-four calibre Smith & Wesson pistol. The bullet passed through the right eye and through the entire thickness of the frontal lobe of the brain, emerging just anterior to the outer central fissure. He saw the man three minutes after the reception of the injury. There was no loss of consciousness, no paralysis, except at the time the man was under the anæsthetic, and there was never any symptom suggestive of brain injury during the entire time other than the physical fact of the injury. After his recovery, which was uneventful, the patient had several convulsive seizures in the succeeding two or three years, and died four years later of tuberculosis.

Dr. John Darrington, of Yazoo City, Miss., related a case in which the skull was crushed over an area of an inch and a half in diameter, with pressure upon the brain. The pressure was relieved and the man recovered.

Dr. J. N. Murray, of Ripley, Miss., reported a case in which a negro was kicked on the side of the head by a mule. Two or three tablespoonfuls of brain substance escaped. The boy had had epileptic convulsions previous to the injury. He trephined, and removed a spicule of bone from the inner table an inch and a half long, and the boy made a recovery from the operation and had not had an epileptic convulsion since.

The Arylarsonates in the Treatment of Syphilis and Pellagra.—Dr. E. H. Martin, of Hot Springs, Ark., said that in a recent case of cerebral syphilis with tumor and choked disc, one eyeball being actually protuberant, he secured perfect restoration of vision and orbital replacement by a series of injections of soamin and mercury, only one and a half grain each on alternate days. The patient also gained twenty pounds in weight. This case was especially interesting from the fact that before he came to Hot Springs he had had such a vigorous treatment that his mouth was in a disgusting condition from ptyalism, and he had recently suffered from an iodide dermatitis which duplicated scarlatina. The patient received no mercury or iodides whatever from him. On the other hand, there occurred many cases of syphilis that did not respond promptly, and a few that were not affected at all by the accepted treatment. He had not met with one of those cases which did not improve promptly on soamin, given either alone or alternately with injections of mercury. In nearly all such cases he gave the iodides also until the symptoms were under control.

Coming to pellagra, we had in this group of remedies the only hope for a successful treatment. He had under his care eight cases of pronounced pellagra and five of suspected pellagra. In the five suspected cases the patients were promptly relieved of their suspicious symptoms by a few injections of soamin. In the eight pronounced cases, the patients were too nearly dead when he first saw them to have any chance; in fact, the treatment was instituted in only one of these cases, and the patient died within a week of her arrival at Hot Springs. In the five other pronounced cases the patients made apparent recoveries within a few weeks. Only one case had been under observation for more than a year, giving time for the only relapse. In this case the relapse was not waited for, but injections of small doses of soamin were given during the past summer. The patient was now enjoying good health and intended to stop treatment for the winter now that the weather was cooler. The four patients apparently cured during the past summer were given soamin in small doses at longer intervals after returning to their homes, and were all now in apparent good health.

Benign Tumors of the Uterus.—Dr. E. M. Holder, of Memphis, said that resort to early operation would effect a saving of twenty-five per cent. to thirty per cent. in mortality. The attitude of the textbooks should be reversed, and the rule of practice should be to remove all fibroids which came under observation, unless in a particular case there seemed to be some good reason for temporizing, due either to the small size of the fibroid or to the advanced age of the patient or to her poor general health. When pregnancy was found to be complicated by a fibroid tumor, it was

best to allow pregnancy to go to term as long as the mother's health was not seriously in danger. If, at the onset of labor or shortly before, it seemed certain that the tumor would cause obstruction to the birth of the child, Cæsarean section, possibly followed by hysterectomy, should be performed. In cases in which the death of the child made it necessary to interfere in the earlier months, abdominal section should be performed and an attempt made to enucleate the tumor. If under these circumstances myomectomy was found to be dangerous, hysterectomy should be performed.

The Prevention of Infantile Diarrhœa.—Dr. A. G. JACOBS, of Memphis, said that the prevention of diarrhœa in babies depended upon three factors: 1. Proper care of mothers' milk. 2. If this failed, a wet nurse. 3. If human milk could not be secured, properly modified, pure, uncontaminated cows' milk should be given. If this method of proceeding was followed, the terrifying death rate from infantile diarrhœa would, he was sure, dwindle down to so low a point as one fifth of its present proportion.

The Treatment of Acute Middle Ear Suppuration.—Dr. W. L. SIMPSON, of Memphis, drew the following conclusions: 1. Early free antiseptic opening of the drum was to be recommended. 2. In acute middle ear suppuration, if adenoids were present, we should not wait until the suppuration became chronic, the hearing impaired, etc., before the removal, but should operate at once. 3. The mastoid operation in acute middle ear suppuration was not to be a life saving procedure, but should be done early to save hearing, prevent chronic suppuration, brain or labyrinthine complications, etc. 4. The doctor who allowed an acute suppuration in the middle ear to become chronic without frequent good treatments should be personally liable for the existing condition.

Dr. EUGENE ROSAMOND, of Memphis, emphasized the importance of the general practitioner's being equipped so as to be able to do paracentesis of the drum membrane in acute suppurations of the middle ear. There was no excuse for a doctor's not having a head mirror with a set of specula as a part of his armamentarium. With an ordinary electric light, even with the bright light of a window in daytime, with a good head mirror, there was no trouble in seeing the ear drum, if we were patient and careful and took time enough to cleanse the canal.

Dr. W. S. ANDERSON, of Memphis, emphasized the advantage of paracentesis of the drum membrane in cases of acute suppuration of the middle ear. In the case of his little girl, in whom paracentesis was resorted to by Dr. Simpson, at the end of two weeks there was complete cessation of the discharge. The mastoid was found normal, and there had been no bad after effect.

Dr. B. L. BRANCH, of Collierville, Tenn., recommended an ordinary pipette instead of the usual ear syringe for the purpose of cleansing the ear, as one could control the force which was used in throwing the water into the ear to greater advantage than with the ordinary ear syringe, and it did not cause any pain.

Buboes and their Treatment.—Dr. GEORGE R. LIVERMORE, of Memphis, read a paper on this subject in which he laid stress on the Hayden operation for the relief of buboes. He related a case in which a man had had several incisions made on either side and was confined to bed for months with suppurating inguinal adenitis, and yet following the Hayden operation the man was able to be up in a week or ten days.

Dr. W. S. ANDERSON, of Memphis, said the advantages of the Hayden operation were very pronounced. He had resorted to it in a number of cases with very satisfactory results.

Dr. WILLIAM KRAUSS, of Memphis, said it might be of interest to mention a case of bubo that had been under the care of a number of specialists without relief. The patient had induration and softening of the skin over the bubo, with a little reddening, and from time to time it became very painful. On account of the fact that very competent men had tried to relieve this man, but failed to do so, he thought it would be a good case for vaccine treatment. The patient received five injections of the combined vaccines, and he was now entirely well. It took this man just two weeks to get well from a condition that had lasted for eight years.

Plaster of Paris as a Primary Dressing for Fractures.—Dr. J. W. BARKSDALE, of Winona, Miss., said that in using plaster as a primary dressing a strip of ordinary bandage should be laid lengthwise along the limb, preferably along the front, between the padding and the plaster. As soon as the dressing had been applied, before hardening was complete, the plaster should be cut completely through over its entire length, this being rendered easy of accomplishment by cutting down upon the roller bandage, which was pulled up into the cut plaster, thereby facilitating the manœuvre. After being cut, the roller bandage should be run firmly around the limb so as to keep the plaster snug and prevent splitting. The ends of the fingers and toes should be left exposed so as to permit of frequent inspection, and should the swelling create discomfort or threaten gangrene, the roller was to be taken off and the plaster sprung so as to accommodate the increased bulk. As the swelling subsided the bandage could be drawn as tight as desired, so that the enveloping material at all times would keep up an even pressure and secure coaptation. If the use of this material as a primary dressing had a drawback, he had thus far failed to discover it.

The Treatment of Failing Compensation in Cardiovascular Disease.—Dr. BRYCE W. FONTAINE, of Memphis, said that in this paper he referred to the severe cases only. To relieve the distressing symptoms one must decrease the work of the heart and increase its strength and restore its functions to proper working order. Late teaching in the study of cardiac diseases emphasized the importance of accurate blood pressure determinations in diagnosis and as a guide to therapeutics. There was no single measure so important in the treatment of some cases as venesection. The presence of hydrothorax must never be overlooked. Careful physical examination would often reveal its presence, and paracentesis would give immediate relief. The specific effect of digitalis in the stimulation and restoration of tone to the heart muscle had yet to be approached by any other drug. Its

action was remarkable in that it stimulated specifically several different functions of the heart muscle. It was indicated in every case of failing compensation except perhaps a few cases of extreme mitral stenosis, and in cases of marked arteriosclerosis. It should be given in doses of one grain every two hours until its physiological effect was noticed, slowing of the pulse and diuresis, then discontinued and resumed in five to seven days if dyspnœa and œdema were not diminished. In cases due to arteriosclerosis and accompanied with high blood pressure, vasodilators were necessary, and were often very efficiently used in conjunction with heart stimulants. Carefully regulated exercises and carbonated baths aided in the peripheral circulation and markedly increased the tone of the heart muscle. In our efforts to reduce the anasarca and to relieve dyspnœa, we must not forget the beneficial effect of restful sleep.

Dr. Frank A. Jones, of Memphis, stated that with reference to the treatment of renal, cardiac, or cardiorenal lesions, the time had come when we were not so prone to administer too large quantities of digitalis and the large doses of salines we formerly did, but he had come to realize in his individual work that he had no better agent than the Nauheim bath, and the Nauheim bath could be improvised in any home where there was an available bath tub. As to the use of digitalis, there was but one valve lesion on which it had any marked effect, and that was mitral insufficiency when failing compensation took place.

Our Relation toward the Peritonitides.—Dr. J. A. Crisler, of Memphis, referred to the Ochsner starvation treatment in cases of appendicitis and to the Murphy treatment of suppurative peritonitis. He outlined the principles as expounded by Murphy, namely, early operation; speedy operation; abstinence from flushing, sponging or irrigating; closure of any opening of the alimentary canal that might have caused or enhanced infection; drainage; proctoclysis, using the drip method; the Fowler position; and the administration of streptolytic serum. While no case of even general diffuse peritonitis was necessarily helpless or hopeless under the improved methods of treatment, so long as the patient had any resistance and was not actually dying, at the same time it was infinitely better that the onset of diffuse infections of the peritonæum be recognized at the earliest possible moment, when the patients could nearly all be saved.

Dr. Battle Malone, of Memphis, said that thousands of patients with suppurative peritonitis were saved to-day by the Ochsner and Murphy methods of treatment who would formerly have been lost. He did not think any good surgeon at the present time would hesitate to operate promptly in cases of perforation of any of the hollow viscera, and especially in a case of perforation of the appendix where it was free in the abdominal cavity, provided he saw the patient early.

Dr. John Darrington, of Yazoo City, Miss., stated that the essayist had emphasized the importance of making an early diagnosis of general peritonitis. Who was going to make that early diagnosis? Necessarily the family physician. It was more important that the family physician be thoroughly informed regarding the symptoms of early peritonitis than the surgeon, because the general practitioner stood between the patient and the surgeon, and it depended upon the general practitioner when the surgeon was called. The general practitioner should watch for perforation in case of typhoid fever or in gastric or duodenal ulcer, and when it occurred call in a surgeon promptly.

Dr. Frank D. Smythe, of Memphis, believed strongly in the efficacy of the treatment originated by Murphy, and was prepared to say that the mortality attending the treatment of cases of general suppurative peritonitis in his hands at the present time, as compared with former treatment of similar cases, was perhaps from five to ten per cent., whereas ten years ago practitioners had a mortality of ninety per cent. The results of such treatment of general suppurative peritonitis, even in one man's practice, could hardly be appreciated. Peritonitis was secondary to some other affection or lesion, and every patient with acute general peritonitis should be operated on immediately.

Dr. W. T. Black, of Memphis, described the Murphy method of treatment of cases of suppurative peritonitis, and said he had used it in several cases with very gratifying results.

A Form of Primary Nasal Diphtheria.—Dr. E. C. Ellett, of Memphis, called attention to nasal diphtheria. The cases had all occurred in children, and in those from four to ten years of age. All the cases he had seen in his office, the children not being apparently sick, but thought to be suffering from a cold. The symptoms were expressed in that sentence, "The child apparently had a cold which persisted, and nothing else." There was no elevation of temperature; no glandular involvement; nose bleed was frequent from detaching of the membrane by blowing and picking, and there was excoriation of the upper lip and nostril. Cultures showed the characteristic bacilli. The treatment by antitoxine, even at the end of two or three weeks, was very effective. All his patients had recovered, and in no case had any postdiphtheritic paralysis occurred.

Dr. Richmond McKinney, of Memphis, said this disease was mildly contagious. He had seen two or three of these cases a year. He had not seen a case in which the diseased process extended to the fauces.

Dr. William Krauss, of Memphis, said an important point in connection with these cases was that, on account of the fact that the little patient was not very ill, the condition was overlooked, but as soon as the organisms were transplanted into another soil they might give rise to more virulent diphtheria and an outbreak in the family.

Dr. W. L. Simpson, of Memphis, stated that the cases of diphtheria of the nose he had seen had tallied with the description given by the essayist. The patient's nose was stopped up either on one side or both, and there was usually some bleeding from the nose, although the child was up and around the house and able to play. He thought smaller doses of antitoxine than those usually given in the ordinary case of diphtheria of the throat would be followed by equally good results as the larger doses.

Dr. W. F. Clary, of Memphis, said the first case

of purely nasal diphtheria he ever saw was about four years ago. He investigated that case very carefully and had cultures made immediately, which showed the Klebs-Loeffler bacillus, and the use of antitoxine cleared up the case in twenty-four or forty-eight hours.

Quinine Hydrochloride.—Dr. ALLEN E. COX, of Helena, Ark., related his experience in the use of quinine hydrochloride with urea in one half to one per cent. solutions as a local analgetic, and stated that he had used it in more than twenty cases, covering local abscesses, ingrowing toenails, circumcisions, hæmorrhoids, and fistula in ano, and in the latter condition he had found this method very satisfactory.

Officers.—The following officers were elected for the ensuing year: President, Dr. J. W. Barksdale, of Winona, Miss.; vice-president for Mississippi, Dr. John Darrington, of Yazoo City; vice-president for Arkansas, Dr. Robert P. Nall, of Armorel; vice-president for Tennessee, Dr. Arthur G. Hudson, of Rein; secretary, Dr. Eugene Rosamond, of Memphis; treasurer, Dr. J. A. Vaughan, of Memphis.

Memphis was selected as the place for holding the next annual meeting, in 1911.

Book Notices.

[*We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.*]

Beiträge zur experimentellen Pathologie und Chemotherapie. Von PAUL EHRLICH, Geh. Mediz.-Rat und Direktor des königl. Instituts für experimentelle Therapie zu Frankfurt a.M. Leipzig: Akademische Verlagsgesellschaft, 1909.

The book before us is a collection of lectures delivered by Paul Ehrlich during the years 1907 and 1908, which testify to the immense amount of labor spent by the German scientist upon questions which are at present of vital interest to the medical profession. The first three chapters contain the Harben lectures for 1907, delivered before the Royal Institute of Public Health in London, which appeared in the journal of the institute for 1907, and were published in New York two years later. Ehrlich speaks here of immunity in its reference to the antigens, of athreptic functions, and of his studies made in chemotherapeutics of trypanosomes, which studies, as is well known, finally led to the discovery of salvarsan and his *therapia magna sterilisans*. The next five lectures were delivered before the Society for Scientific Research for the students of Amsterdam University, on our present knowledge of carcinoma research. In the next lecture, delivered before the German Dermatological Society at its meeting in Frankfort, Ehrlich speaks on chemotherapeutics. The last lecture contains his speech delivered in Stockholm on December 11, 1908, as recipient of the Nobel prize for medicine, the subject being the partial functions of the cell. In this lecture he mentions diamidoarsenobenzol. The book thus contains a good selection of Ehrlich's lectures and makes very interesting reading, and shows, better than any reports we have read, the logical development of his *sterilisatio magna*.

Die Erkrankungen der Nebennieren. Von Hofrat Professor Dr. EDMUND VON NEUSSER, und Privatdozent Dr. JOSEF WIESEL in Wien. Zweite, völlig umgearbeitete und vermehrte Auflage. Mit 13 Abbildungen. Wien und Leipzig: Alfred Hölder, 1910. Pp. 189.

Twelve years have elapsed since the appearance of the first edition of von Neusser's monograph on the adrenals. In this second edition his collaborator has brought the work down to date and has extended it to include all the important additions to our knowledge of these bodies, the significance of which is even yet in many respects obscure and little understood. There are chapters on the anatomy, development, and physiology of the adrenals and their accessories, and full accounts of all recent work in experimental pathology and the physiological action of adrenalin. In this connection there are interesting descriptions of adrenalin glycosuria and the relation of adrenalin to experimental arteriosclerosis. It is believed that this latter condition is due to a selective toxic effect on the vessel wall rather than to high blood pressure. The later chapters are devoted to a consideration of Addison's disease, and it is extraordinary how little can be added to the classical description published by Addison himself in 1855. The therapeutics as then is *nil*. Chronic insufficiency of the adrenals is a progressive and fatal disease.

A Manual of Physiology. With Practical Exercises. By G. N. STEWART, M.A., D.Sc., M.D. Edin., D.P.H. Camb., Professor of Experimental Medicine in Western Reserve University, Cleveland, etc. With Colored Plates and 450 Other Illustrations. Sixth Edition. New York: William Wood & Co., 1910. Pp. xx-1064. (Price, $5.)

The present edition has been extensively revised, and a careful perusal of its pages shows that the revision has been well done. The work is remarkable for its clearness and for its judicial tone. In controversial points the reader is given a fair presentation of both sides and guided by helpful suggestions to form his own conclusions. By the use of smaller type for a discussion of minor points the reader is aided in following the leading thoughts concerning the topic in question; the volume is thereby kept within convenient size. We cordially commend this book to our readers as one of the best presentations of this subject.

The Story of the Bacteria and Their Relation to Health and Disease. By T. MITCHELL PRUDDEN, M.D. Second Edition, Revised and Enlarged. Illustrated. New York: G. P. Putnam's Sons, 1910. Pp. 232. (Price, 75 cents.)

The same features which made Professor Prudden's lectures on pathology so fascinating stand out in the little volume before us and hold us chapter after chapter. Clearness and felicity of expression, apt illustration, logical thought, a strong sense of proportion, these are some of the qualities which have made this author's writings so deservedly popular. While the work is written in simple fashion for the intelligent layman, our medical readers will find much in it to repay perusal.

Die Hautleiden kleiner Kinder. Von Dr. S. JESSNER, Königsberg i. Pr. Dr. Jessner's dermatologische Vorträge [illegible]. Wiesbaden: J. F. Bergmann, 1910. Pp. 91.

Jessner is a prolific writer; his pamphlets are always welcome, and that cannot be said of many an author. In the present book Jessner discusses the dermatological diseases of infants. The very im-

portant subject has been thoroughly treated and the book contains many practical hints; the strong point of our author's essays are his prescriptions, which are quite valuable, although they are essentially German.

Hygiene and Public Health. By GEORGE M. PRICE, M. D., Medical Sanitary Inspector, New York Department of Health, 1895-1904, Author of *A Handbook on Sanitation*, etc. The Medical Epitome Series, edited by VICTOR C. PEDERSEN, A. M., M. D., Attending Genitourinary Surgeon to the People's Hospital, Clinical Assistant in Dermatology, New York Polyclinic Medical School and Hospital, etc. Philadelphia and New York: Lea & Febiger, 1910. Pp. x-255. (Price, $1.)

Dr. Price, who for nearly ten years was medical sanitary inspector of the New York Department of Health, is already well known as the author of several works on hygiene and public health. The little book before us covers the subject in all essentials, although it is a large field to be treated in only 250 pages. The book is divided into twelve chapters, the titles of which will show how well the author has handled the subject: Housing, school, industrial, and federal hygiene; public water, food, and milk supply; disposal of waste matter; public nuisances; prevention of infectious diseases, and sanitary inspection. The book should be read by laymen and physicians alike. We may even say that it should be found in every household.

Physical Examination and Diagnostic Anatomy. By CHARLES B. SLADE, M. D., Chief of Clinic in General Medicine and Instructor in Physical Diagnosis in the University and Bellevue Hospital Medical College, New York. Illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Pp. 146. (Price, $1.25.)

It is conceded generally that the teaching of physical diagnosis must be practical, and the author's purpose in this work is to give that minimum of textbook study that will supply the text for the better understanding of what to observe. There are eleven sections that describe the rules which govern inspection, palpation, percussion, and auscultation, and there are illustrations that elucidate the subject matter. The book is thoroughly practical and will be most helpful to students.

Die Störungen der Sprache. Versuch einer Pathologie der Sprache. Von weil. Dr. ADOLF KUSSMAUL, Professor in Strassburg. Vierte Auflage. Herausgegeben und mit Kommentar versehen von Prof. Dr. HERMANN GUTZMANN, Leiter des Universitätsambulatoriums für Sprachstörungen zu Berlin. Leipzig: F. C. W. Vogel, 1910. Pp. x-409.

In Gutzmann's reediting of Kussmaul's *Disturbances of Speech* we have a labor of love combined with a scientific revision of a unique character. The old text of Kussmaul has been permitted to stay as it was originally written some twenty-five years ago. This occupies 284 pages of the book. Following this the reviser has added 120 pages of comments, suggestions, and amplifications. We thus have the original, which Gutzmann notes is still remarkably up to date, and the newer additions from one of the foremost students of the problems of speech disturbances.

As Kussmaul has been out of print for a number of years, a note concerning the book may be made. The first fourteen chapters, which are short and aphoristic, deal with the general philosophy of speech. The dysarthias and dysphasias are separated one from another, as disturbances of articulation and as disturbances of diction. Kussmaul expressed a similar skepticism concerning speech localization as that now expressed by von Monakoff.

Chapters xv to xxi take up the problems of the localization of the single speech functions, with the development of the anatomical conditions concerned with speech. Then follow the speech disturbances proper, with an exposition of the various theories in which the phenomena of aphasia occupy a prominent place. The final four chapters deal with other speech difficulties, stuttering, stammering, etc.

So far as the aphasia problem is concerned, Gutzmann leaves it open, noting that there are very few serious supports to Marie's hypothesis. In general the notes and comments are short, and offer full bibliographical references, bringing the subject up to date, rather than a working over of the problems. To one working in this field the work will prove a stimulus, and should be owned by all serious students.

Alcohol. A Dangerous and Unnecessary Medicine. How and Why. What Medical Writers Say. By Mrs. MARTHA M. ALLEN, Superintendent of the Department of Medical Temperance for the National Woman's Christian Temperance Union, Marcellus, N. Y.: Department of Medical Temperance, of the National Woman's Christian Temperance Union, 1910. Pp. vii-435. (Price, $1.25.)

Die Uebertreibungen der Abstinenz. Eine diätetische Studie für Mediziner und Nichtmediziner. Von Dr. WILHELM STERNBERG, Spezialarzt für Zucker-und Verdauungskranke in Berlin. 2. Auflage. Würzburg: Curt Kabitzsch, 1911. Pp. xiv-93. (Price, 2.40 M.)

The authors of these two books take two diametrically opposite sides in the alcohol question. The antialcohol writer mentions the gradual decrease of the administration of alcohol in medicine, especially referring to some hospitals in New York. But not only of alcohol has there been, in late years, a decrease of the amount used; the same can b said of all drugs. The therapeutics of to-day is widely different from that of fifty years ago. The older practitioners well remember the large doses formerly prescribed. If we read Mrs. Allen's statements we think that alcohol is not used any more. But there are writers who still believe in the medicinal benefit of alcohol, and these writers are leading men in their profession. There are many good remedies which can only be prepared with alcohol; take, for example, the whole series of tinctures and fluid extracts. The question is an open one. Unquestionably, alcohol in excess is a poison, but tea in excess is also poisonous; the "beer heart" of the Bavarian is as dangerous as the "tea liver" of the London woman. On the other hand, it is right to insist that a man who cannot resist the temptation of overindulgence in alcoholic drinks should rather desist entirely from strong drinks. But the same applies to overindulgence in food, tobacco, love, ambition, even work. And because some men cannot regulate their habits, must all become abstemious? That is as illogical as the title of the book itself. Alcohol is very often a necessary medicine, and the life of many a man has been saved by alcohol. The antialcohol writers forget to caution the public against impure alcohol, as it is now so often

served in drinks. Furthermore, should we give up morphine, chloroform, arsenic, etc., because they are dangerous?

The German writer takes, in our opinion, the right view. The pendulum has swung too far to one side; we should be more impartial and give due credit to the benefit derived from the proper administration of alcohol.

Pellagra. By A. Marie, [illegible] Asylums, Department of the Seine, Editor in Chief, *Archives de neurologie*, and Director of the Laboratory of Pathological Psychology, Ecole des Hautes Etudes, Paris. With Introductory Notes by Prof. Lombroso. Authorized Translation from the French by C. H. Lavinder, M. D., Passed Assistant Surgeon, United States Public Health and Marine Hospital Service, and J. W. Babcock, M. D., Physician and Superintendent, State Hospital for the Insane, Columbia, S. C. With Additions, Illustrations, Bibliography, and Appendices. Columbia, S. C.: The State Company Publishers, 1910. Pp. 434.

There has been a great awakening of interest concerning this disease because of the discovery that it is not at all rare in the Southern States. It may be recalled that one of the prominent alienists at the Thaw trial confessed to never having heard of a psychosis due to pellagra. Certainly no justification for such a statement can be found at the present time, and especially not since we have here been provided with an excellent translation of a most interesting treatise on the subject.

It is to be regretted that the translator should have consented to take Marie's adaptation of Lombroso's 1892 paper, for since that time a number of extremely important studies have been appearing, not only in Italy, but throughout the world. Marie's original endeavored to consider some of these treatises, but on the whole his work was marked by haste and not by careful work. The translators have done much to bring the subject to date by a copious bibliography, and thus give the monograph more weight.

A work of this kind has been needed, and should pave the way to a better one; but as it is it will prove of inestimable service, and the translators are to be congratulated for their excellent piece of work.

Hypnotism and Treatment by Suggestion. By J. Milne Bramwell, M. B., C. M., Author of *Hypnotism, Its History and Practice*. [illegible] Funk & Wagnalls Co., 1910. Pp. xii-216. (Price, $1.85.)

In this little volume there is a brief historical account of hypnotism, with a rather extensive collection of histories of patients treated by that method for various medical and surgical conditions. It is not clear that these will be very helpful, while much aid might be given the student by an amplification of the chapters on the theory of hypnotism, the methods of employing suggestion, the causes that influence suggestibility, and suggestion in ordinary medicine and in quackery. These latter are so interesting and show such wide experience that the reader wishes the author had devoted more space to them.

Thérapeutique usuelle du praticien. Par Albert Robin, professeur de clinique thérapeutique a la Faculté de [illegible] Paris: Masson et Cie, 1910. Pp. 520.

Robin has collected the lectures which he has delivered at the Hôpital Beaujon as professor of clinical therapeutics of the Medical Faculty of Paris. Relating a typical case, he describes the symptoms, takes up the diagnosis, and finally gives the treatment with the results to be expected. He thus treats diseases of the stomach (seven typical cases), the intestines (four cases), the liver (one case), the kidneys (two cases), the bloodvessels (four cases), and the nervous system (nine cases). The book contains many valuable suggestions; the only objection that might be found is the great difference between the drugs available in France and here, so that it will be difficult to have many of the prescriptions advocated in the book prepared with us.

The Conquest of Disease through Animal Experimentation. By James Peter Warbasse, M. D., Surgeon to the German Hospital, Brooklyn, etc. New York: D. Appleton & Co., 1910. Pp. xiii-176.

The author states that his purpose is to give some information about animal experimentation, and he has amplified certain addresses made before scientific bodies in greater New York so as to give a layman information about the relation of the biological sciences to the life of man. There is a careful presentation of facts to show that animal experimentation does not mean cruelty to animals, and it is urged that in our zeal for kindness to animals we should not neglect the greater obligation of humanity to man. It is to be hoped that this volume may reach the audience that will be helped to a clearer and better knowledge by its strong and temperate presentation of this subject.

Diagnostik der Nervenkrankheiten. Von Dr. L. E. Bregman, Oberarzt am städtischen jüdischen Krankenhaus in Warschau. Mit einem Geleitswort von Hofrat Prof. Dr. H. Obersteiner in Wien. Mit 193 Abbildungen und 2 Tabellen. Berlin: S. Karger, 1911. Pp. xvi-535.

Neurology is one of the youngest branches of medicine, and it is universally recognized to be one of the most intricate. During the past twenty years it has developed a technique all of its own, which has necessitated a large number of clinical tests which are quite foreign to other fields in medicine. Hand in hand with these, there has grown up a special symptomatology, the significance of which is not always clear, since the anatomical correlations have not yet been made.

The author has set himself the task of writing a diagnosis of nervous diseases which would bring together the symptoms found in nervous disorders and give an interpretation of their significance. French literature has been more fortunate in having such a comprehensive form of manual in Déjerine's famous Séméiologie, English literature has recently been enriched by a small but useful volume by Purves Stewart, and we now have this extremly valuable work.

He first discusses motor disturbances, taking up the peripheral palsies, then those due to disease within the cord, then those of the cranial nerves, closing with motor disturbances of cerebral origin and of purely muscular causation. Here it may be noted that the motor disturbances directly due to cerebellar disturbance and to midbrain lesions are not mentioned.

Ataxias, synergistic movements, and tremors are dealt with in a further section. This is a very valuable summary of our present knowledge, stated in

didactic form. The particular feature of labyrinthine tonus and labyrinthine ataxias are mentioned in another chapter, but could have been more extensively dealt with here.

Irritative motor phenomena are next taken up. Here the epilepsies, tics, cramps, convulsions, tetanies, myotonias, myoclonias, etc., are discussed. The relation of calcium metabolism to tetany is omitted. This is not a satisfactory chapter, as the author has not described the various movements so clearly as he might.

Sensory disturbances make up the next section. The author is apparently not acquainted with Head's work on sensibility, for his discussion passes over very important features that have become necessities in English neurology. The old fashioned notions of hysterical sensory disturbances are reproduced.

Disturbances of the Reflexes, of the Organs of Special Sense, of Speech, Psychic Disturbances, Vasomotor and Trophic Disturbances, Modifications of the Bladder, Intestine and Sexual Functions, of the Internal Viscera, and the Skull and Spinal Column, with a final chapter on Puncture of the Spinal and Brain Cavities are the titles of the further chapter headings.

Taken as a whole, the work will prove of great service. From the clinical side it is not to be compared with Déjerine for completeness or for interest, and it is not so well founded on anatomical correlations as Stewart's shorter work, but it supplements the work of these other authors in a highly commendatory manner. The illustrations could be somewhat improved, but on the whole are excellent.

MEDICOLITERARY NOTES

The young society women of Mr. Chambers's The Common Law are of astonishing erudition. A young matron speaks slightingly of Tupper's *Proverbial Philosophy*, and her audience of contemporaries understands. We cannot believe that the average girl knows anything of that remarkable literary humbug of our grandparents save through the novels of Marie Corelli and Hall Caine, who have apparently drunk with relish at that source. Tupper was Podsnap and Joseph Prudhomme rolled into one, an incarnation of bourgeois imbecility with his trite and superobvious platitudes.

* * *

In the opinion of the Governor of Alabama, prohibition has divided parties, separated and estranged friends, worked serious harm to the church, and cast an evil influence even over the family circle. He might have added that it has increased the sale of alcohol, mainly in the form of imitation whiskey with poisonous qualities. We are shortly to be favored in this State with a crusade against the cigarette, which will have equal success, and do no real good except to the manufacturers of chewing tobacco.

* * *

"I read with interest," remarked Dr. Ben Trovato, "of the fancy ball for the aid of the lying-in hospital. Beautiful as many of the costumes were, it seemed to me that they might have been more appropriate. How striking and how important historically would have been the appearance of dancers costumed as Falloppius, Credé, Tarnier, Bandl, Porro, and, last but not least, Mrs. Gamp."

NEW PUBLICATIONS.

Lorenz Koch-Hansen, Friedrich.—Untersuchungen uber Rhachitis und Osteomalacie. Mit 127 Abbildungen auf 41 Tafeln. Text und Atlas. Jena: Gustav Fischer, 1910. Pp. x-574.

Gorton, David Allen.—The History of Medicine. Philosophical and Critical, from Its Origin to the Twentieth Century. In Two Volumes. New York and London: G. P. Putnam's Sons, 1910.

Wullstein und Wilms. Lehrbuch der Chirurgie. Bearbeitet von Prof. Klapp, Berlin, Prof. Küttner, Breslau, Prof. Lange, München, Prof. Lanz, Amsterdam, et al. Zweite umgearbetitet Auflage. Dritter Band: Extremitäten, Erkrankungen und Verletzungen der Weichteile, Deformitäten, Missbildungen, Verletzungen und Gelenke, Amputationen. Mit 5 Tafeln und 448 zum Teil mehrfarbigen Abbildungen. Jena: Gustav Fischer, 1910. Pp. 602.

Bandler, S. Wyllis.—Vaginal Cœliotomy. With 148 Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 450. (Price, $5.)

Sahli, Hermann.—A Treatise on Diagnostic Methods of Examination. Edited, with Additions, by Nathaniel Bowditch Potter, M. D. Second Edition, Revised. Authorized Translation from the Fifth Revised and Enlarged German Edition. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 1229. (Price, $6.50.)

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Schmidt, Rudolf.—Interne Klinik der bösartigen Neubildungen der Bauchorgane. Mit einer farbigen Tafel. Berlin und Wien: Urban & Schwarzenberg, 1911. (Through Rebman Company, New York.) Pp. viii-355.

Aarons, S. Jervois.—Gynæcological Therapeutics. With Foreword by Sir Halliday Croom, M. D., F. R. C. P., F. R. C. S., Professor of Midwifery in the University of Edinburgh, New York: William Wood & Co., 1910. Pp. xiv-178. (Price, $2.)

Yonge, Eugene S.—Hay Fever and Paroxysmal Sneezing (Vasomotor Rhinitis). With Two Colored Plates. New York: William Wood & Co., 1910. Pp. 150. (Price, $2.)

Fothergill, W. E.—Manual of Diseases of Women. With 144 Illustrations in the Text. New York: William Wood & Co., 1910. Pp. xix-433. (Price, $3.)

Hepburn, W. Bruce.—Notes on Dental Metallurgy. For the Use of Dental Students and Practitioners. New York: William Wood & Co., 1911. Pp. viii-213. (Price, $2.)

The Harvey Lectures. Delivered under the Auspices of the Harvey Society of New York, 1909—10, by Professor Richard M. Pearce, Professor Otto Cohnheim, Professor T. G. Brodie, Professor G. Carl Huber, Professor Ludwig Hektoen, Professor Eugene L. Opie, Professor Adolf Meyer, and Professor A. Magnus-Levy. Philadelphia and London: J. B. Lippincott Company, 1910. Pp. 276.

Constitution, By-laws, Officers, and List of Members of the Society of Alumni of Bellevue Hospital. 1910-1911. New York. Pp. 74.

Columbia University Bulletin of Information. Catalogue and General Announcement. 1910-1911. Pp. 497.

Lumsden, L. L.—Report of an Outbreak of Typhoid Fever at Omaha, Nebraska, 1909-1910. Hygienic Laboratory Bulletin No. 72. Washington: Government Printing Office, 1910. Pp. 52.

Frost, W. H.—The Water Supply of Williamson, W. Va., and Its Relation to an Epidemic of Typhoid Fever. Hygienic Laboratory Bulletin No. 72. Washington: Government Printing Office, 1910. Pp. 53-90.

Rudberg, Hans.—Om Thymusinvolutionen efter Röntgenbestrakning jämte nagra lakttagelser, ofver Leukolysen i Ofright hos röntgenbestralade Djur. Akademisk Afhandling som med Tillstånd af medicinska Fakulteten I Uppsala för Vinnande af Medicine Doktorsgrad framställes till offentlig Granskning. A pysiologiska Lärosalen, Lördagen

'en Februari 1909 kl. 10 f. m. Uppsala: Almquist & Boktryckeri, 1909. Pp. 100.

Bergmark, Gustaf.—Bidgar till de cerebrala Förlamningarnas Symptomalogi. Akademisk Afhandling som med Tillstånd af medicinska Fakulteten i Uppsala för Vinnande af Medicine Doktorsgrad, framställes till offentlig Granskning a fysiologiska Lärosalen, Fredagen den 27 November 1908 kl. 10 f. m. Uppsala: Almquist & Wiksells Boktryckeri A. B., 1908. Pp. 205.

Report of the Commissioner of Education for the Year Ending June 30, 1910. Volume I. Washington: Government Printing Office, 1910. Pp. viii-662.

Second Annual Report of the Committee on Prevention of Blindness of the New York Association for the Blind. November 1, 1910. Pp. 9.

Porter, Eugene H.—Unity in Health Work. An Address Delivered before the Conference of Mayors at Schenectady, June 24, 1910. Albany: New York State Department of Health, Division of Publicity and Education, 1910. Pp. 11.

Report Relating to the Registration of Births, Marriages, and Deaths in the Province of Ontario, Canada, for the Year Ending December 31, 1908. Being the Thirty-ninth Annual Report. Toronto: Printed by Order of the Legislative Assembly of Ontario, 1910. Pp. ccliv.

Emerson, Harrington.—Securing Efficiency in Railroad Work. Story of an Attempt to Apply Scientific Management to Some Departments. A Lecture Delivered at Harvard on November 16, 1910. Pp. 38.

Twenty-first Annual Report of the State Commission in Lunacy of the State of New York. Statistics of the Insane. 1908-1909. Albany, 1910. Pp. 85.

Publications of the Massachusetts General Hospital, Boston Medical and Surgical Papers. Volume III. Number 3. Pp. 374.

Publication No. 2 issued by the Medical Faculty of Queen's University, Kingston, Canada. Pp. 55.

Frost, W. H.—The Field Investigation of Epidemic Poliomyelitis. What the Health Officer Can Do toward Solving a National Problem. Reprint from Public Health Reports, No. 55. Washington: Government Printing Office, 1910. Pp. 19.

Black, O. F., and Alsberg, C. L.—The Determination of the Deterioration of Maize, with Incidental Reference to Pellagra. U. S. Department of Agriculture, Bureau of Plant Industry, Bulletin No. 199. Pp. 36.

Annual Report of the Mount Sinai Hospital, of Boston, for the Eighth Year. Pp. 29.

Report of the Secretary for Mines for the Year Ending December 31, 1909. Including Reports of the Inspectors of Mines, Government Geologist, Mount Cameron Water Race Board, etc. Tasmania, 1910. Pp. 225.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox have been reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending January 27, 1911

Place.	Date.	Cases.	Deaths.
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

HAMILTON, H. J., Acting Assistant Surgeon. Leave of absence for five days from January 9, 1911, amended to read five days from January 11, 1911; granted five days' leave of absence from January 24, 1911, under paragraph 210, Service Regulations.

KNIGHT, C. P., Assistant Surgeon. Granted three days' leave of absence from January 14, 1911, on account of sickness.

MCKEON, F. H., Passed Assistant Surgeon. Directed to report to Passed Assistant Surgeon M. W. Glover for duty in the medical examination of arriving aliens.

MOORE, DUNLOP, Passed Assistant Surgeon. Granted seven days' leave of absence from January 18, 1911, under paragraph 191, Service Regulations.

SCHERESCHEWSKY, J. W., Passed Assistant Surgeon. Directed to report at Bureau on special temporary duty.

SIMPSON, FRIENCH, Assistant Surgeon. Granted one month and fifteen days' leave of absence from February 6, 1911.

SLAUGHTER, A. W., Acting Assistant Surgeon. Granted seven days' leave of absence from January 8, 1911, under paragraph 210, Service Regulations.

VOGEL, C. W., Passed Assistant Surgeon. Granted four days' leave of absence from January 25, 1911.

WILLIAMS, L. L., Surgeon. Granted two days' leave of absence, January 23 and 24, 1911, under paragraph 189, Service Regulations.

Board Convened:

Board of medical officers convened to meet at the Bureau upon call of the chairman for the purpose of preparing a new *Nomenclature of Diseases*. Detail for the board: Assistant Surgeon General J. W. Trask, chairman; Passed Assistant Surgeon Joseph Goldberger; Passed Assistant Surgeon Joseph Schereschewsky, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending January 28, 1911:

ARTHUR, WILLIAM H., Lieutenant Colonel, Medical Corps. Relieved from duty at the Walter Reed General Hospital, effective at expiration of leave of absence, and directed to proceed to San Francisco, Cal., for transportation to Manila, P. I., on transport sailing August 5, 1911; upon arrival will report in person to the Commanding General of Philippines Division for assignment to duty.

BLANCHARD, R. M., Captain, Medical Corps. Left temporary duty at Fort Thomas, Ky., on thirty days' leave of absence with permission to apply for thirty days' extension.

CASPER, JOSEPH, Lieutenant, Medical Corps. Ordered to remain on temporary duty at Fort Slocum, N. Y., to February 15, 1911.

CUTLIFFE, WILLIAM O., Lieutenant, Medical Reserve Corps. Sick leave of absence extended two months.

ELIOT, HENRY W., Lieutenant, Medical Reserve Corps. Left Fort McKinley, Maine, on ten days' leave of absence.

HOWELL, PARK, Captain, Medical Corps. Honorably discharged from the service of the United States.

KOYLE, FRED T., Lieutenant, Medical Reserve Corps. Upon abandonment of Fort Mansfield, R. I., ordered to proceed to Fort H. G. Wright, N. Y., for station and duty.

MABEE, JAMES I., Captain, Medical Corps. Relieved from duty at Jefferson Barracks, Mo., and ordered to Fort Huachuca, Arizona, for duty.

MILLS, FREDERICK H., Lieutenant, Medical Reserve Corps. Leave of absence extended one month.

PIPES, HENRY F., Captain, Medical Corps. Granted four months' leave of absence to take effect about June 1, 1911

SHERWOOD, JOHN W., Lieutenant, Medical Reserve Corps. Granted two months' leave of absence.

WORTHINGTON, JOSEPH A., Lieutenant, Medical Reserve Corps. Upon arrival in the United States from the Philippine Islands, will proceed to the Presidio of San Francisco, Cal., for duty at that station.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending January 28, 1911:

HEINER, R. G., Passed Assistant Surgeon. Detached from the Naval Academy and ordered to duty at the Naval Hospital, Annapolis, Md.

RANSDELL, R. C., Passed Assistant Surgeon. Detached from the *Texas* and ordered to the *Baltimore*.

WIERZBIKI, S., Pharmacist. Appointed a pharmacist from January 19, 1911.

Births, Marriages, and Deaths.

Died.

BASKERVILLE.—In Dublin, Virginia, on Wednesday, January 18th, Dr. John B. Baskerville, aged sixty-six years.

BINDER.—In St. Paul, Minnesota, on Sunday, January 15th, Dr. George A. Binder, aged forty-six years.

BOND.—In Toledo, Ohio, on Monday, January 23d, Dr. John W. Bond, aged eighty-six years.

BOYD.—In Valatie, New York, on Sunday, January 22d, Dr. Donald Boyd, aged about thirty-two years.

CORLETT.—In Cleveland, Ohio, on Monday, January 23d, Dr. C. E. Corlett, aged thirty-three years.

DEAN.—In Spartanburg, South Carolina, on Tuesday, January 17th, Dr. George Roswell Dean, aged sixty-seven years.

DEWITT.—In St. Georges, Delaware, on Sunday, January 22d, Dr. J. W. Dewitt, aged seventy years.

DIEMERT.—In Cleveland, Ohio, on Sunday, January 22d, Dr. Joseph Diemert, aged fifty-four years.

DODDS.—In Long Beach, California, on Friday, January 20th, Dr. Susanna W. Dodds, aged eighty years.

FISKE.—In West Sand Lake, New York, on Sunday, January 22d, Dr. Frank H. Fiske.

FOX.—In Baltimore, on Monday, January 23d, Dr. Addison C. Fox, aged seventy-five years.

GRAHAM.—In St. James, Beaver Island, Michigan, on Thursday, January 19th, Dr. Thomas Graham, aged thirty-five years.

HARDCASTLE.—In Denton, Maryland, on Tuesday, January 24th, Dr. Alexander Hardcastle, aged eighty-six years.

HEATH.—In Benton Harbor, Michigan, on Monday, January 16th, Dr. Clarence W. Heath, aged forty years.

MAYER.—In New Orleans, on Saturday, January 14th, Dr. Albert J. Mayer, aged thirty-three years.

MOORE.—In St. Louis, Missouri, on Monday, January 23d, Dr. Bernard Moore, aged thirty-nine years.

MOREHOUSE.—In New York, on Monday, January 23d, Dr. Charles Louis Morehouse, aged eighty-nine years.

NEER.—In Park Ridge, New Jersey, on Friday, January 27th, Dr. Henry C. Neer, aged seventy-two years.

POLK.—In Philadelphia, on Tuesday, January 24th, Dr. Charles G. Polk.

RANDALL.—In Bay City, Michigan, on Friday, January 20th, Dr. Isaac E. Randall, aged sixty-six years.

RANSHAW.—In Mammoth Cave, Kentucky, on Wednesday, January 18th, Dr. Willis W. Ranshaw, aged forty years.

RIGGS.—In Bryan, Ohio, on Tuesday, January 17th, Dr. John Upton Riggs, aged sixty-five years.

SHERWOOD.—In Ithaca, New York, on Wednesday, January 25th, Dr. F. G. Sherwood, of Albion, aged sixty years.

SOMMERHOFF.—In Bloomfield, New Jersey, on Wednesday, January 25th, Dr. Joseph F. Sommerhoff, aged forty-five years.

SWEET.—In Unadilla, New York, on Friday, January 13th, Dr. Joshua J. Sweet, aged seventy-six years.

VOSE.—In Portland, Maine, on Friday, January 13th, Dr. Edwin Faxon Vose, aged sixty years.

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Original Communications.

A CONTRIBUTION TO THE STUDY OF FATS AND LIPOIDS IN ANIMAL TISSUE.

I. *Fat in the Tonsils.*

BY JONATHAN WRIGHT, M. D.,
New York.

Owing to an interest in the matter from various points of view derived from much previous work, and owing to the great ease with which in connection with our laboratory at the Manhattan Eye, Ear, and Throat Hospital fresh material could be secured for examination, during the last year a systematic study of the existence of fat and lipoids in the faucial tonsils was begun. While the work is still far from being complete[1] notes upon that already done, consisting largely of simple morphological examinations by means of the tinctorial reactions, have accumulated to such an extent that it seems desirable to publish them now rather than to await the results of the further progress of the work along experimental and chemical lines, which I hope can be arrived at by future endeavor.

Advance in the technique of the stains for the fats and lipoids has been marked, but it is chiefly of very recent date that the subject of the presence of fat and lipoids in lymphoid structure has been very little exploited in literature.

I select some excerpts from the recent work of Stheemann[1] as being especially pertinent to the work immediately in hand. From a histological point of view we must look upon the tonsils simply as a part of the general lymphatic system.

"Several facts indicate that between fat absorption and its movements on the one hand and the lymphatic system on the other, there is a certain relationship. Clinically we observe a parallel between fat tissue and lymph tissue in the so called lymphatic diathesis. In the hypertrophy of the fatty tissue there occurs an increase in size of all the lymph glands . . . Dietetic treatment of obesity is effective also in causing the retrogression of the lymph organs. An anatomical support for the view that they are interdependent lies in the fact that at all times, even in conditions of extreme inanition, when all superfluous fat has disappeared, the lymph glands remain imbedded in fat. . . . I have often had occasion to observe, in my histological examinations of fœtal lymph glands, that in certain phases of the development there remains no anatomical border line between lymph tissue and fat tissue." Poulain thinks that the lymph glands regulate not only the movements of the fat but their storage in reserve depots. The macrophages bring the fat to the lymph glands for elaboration and also carry it to the other fat depots, the nervous system intervening somewhat. He believes that the lymph glands show a "lipasic activity" bringing about a number of divisions and syntheses whereby the fatty intake of the food is transformed from a foreign to a native fat suitable to the organism concerned. Under certain pathological conditions he believes the lipasic activity of the lymph glands is diminished in proportion to its proximity to the site of the lesions.

This observation of Poulain, quoted by Stheemann, in regard to the macrophages as fat carriers is supported by my own, but its interpretation that fat is carried to lymph glands for elaboration is a teleological deduction which is not justified, since all forms of fat and lipoids, recognizable by tinctorial methods, are seen in the wandering cells of the connective tissue and in the blood vessels themselves.

Hammerschlag[2] also has arrived at very similar conclusions as to the relationship existing between the fat depots and the lymph glands.

Stheemann has repeated and amplified Poulain's work and after examination of much lymph glandular material of children concludes, among other things:

"The lymph glands always contain fat, partly in cells, partly free. The follicles are free from it but the cells of the sinus contain it, and it is there also extracellular. The macrophages are derived from the endothelium of the glands and the fat is also found in the free wandering cells. They work upon it by emulsifying it and saponifying it. When taken up as a soap, the soap may be turned back into fat by the cells or into lipoids. Fat taken up into the cells falls into granular form. Even in the embryo the lymph glands have this lipolytic faculty."

He supports Poulain's pathogenic observations on the lipolytic function of the lymph gland. In subcutaneous injection the glands take up fat and show it both as soap and as fat.

"Another part of the fat (taken up in circulation) doubtless goes through the glands and undergoes the described changes (that is, into soap, fatty acids, lipoids). A part of the saponified fat is taken up in the endothelium, another part in the wander-

[1] Histologische Untersuchungen uber die Beziehung [illegible] posits. This new formation, he infers, is also a fact in regions [illegible] depots.

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ing cells; *the principal part is carried away in the lymph stream, and, as a fine emulsion, whose separate particles are surrounded by a soapy hull or by that of one of the fatty acids*[3] is carried into the thoracic duct and is there mixed with the fat which has been absorbed and carried to it unchanged. There, on account of its soapy character, it helped to emulsify the rest."

It is the free cells in the lymph gland tissue which he believes are chiefly responsible for the metabolism of the fats, and this, it may be premised, has received some support from my own observation, as will subsequently appear. These cells have a great affinity perhaps for the fats and lipoids, but there are indications which I hope to furnish which render it probable that different individuals of these cells, or these cells in different phases of their life and activities, have an affinity for different phases of the fats and lipoids. So far as the tonsils are concerned, however, while in a general way the observations quoted above correspond with my own, I am unable to acquiesce in the view that any lipolytic or lipasic function which they may possess is specific to them until more exhaustive research has compared the conditions noted in other localities. In the testicle, for instance, the fat, soap, and the lipoids are found all mixed together in cells of an entirely different kind.

Having made, some five or six years ago, an attempt to study the question of fat in the tonsils and having been discouraged by the meager clues to it furnished by the technique as then developed, being confined to the use of osmic acid, it was determined first to repeat some of the work done at that time. We have learned to distrust data derived exclusively from the osmic acid method, and a freezing of lymphoid tissue without preliminary fixation furnishes on sectioning a material in which little can be made out by Sudan III or scharlach roth methods, while, of course, the tissue hardened and subsequently treated by alcohol and other fat dissolving agents is worthless. Although tinctorial methods for the detection of fat in lymphoid tissue are still far from satisfactory either by themselves or conjointly, the introduction of the stains for the lipoids and the extension of those for neutral fat, fatty acids and soap now furnish means for differential study and comparison, which elicit, I think, matters of much interest. The matter can best be dealt with under the headings of neutral fat, fatty acids or soaps, cholesterin, lecithin. I intend in this paper to deal with the neutral fats of the tonsil as they have been studied by me in preparations in which osmic acid and the Sudan III and scharlach roth stains were used to demonstrate their presence.

Neutral fat: Its reaction to osmic acid (OsO_4). All fat is not stained by osmic acid. It seems probable it stains other things besides fat. By "staining" we mean the reduction and precipitation from solution of osmic acid and its absorption to fat particles, thereby giving them a blacker or darker tinge than it gives other parts of the protoplasm.

Neutral fat is demonstrated by chemical means to be present in the tissues in the form of olein, of palmitin, of stearin, glycerols of their respective fatty acids. but it is insisted by most authors that osmic acid only stains the olein of these, and on the other hand stains some other bodies, perhaps some of the lipoids, though if it stains these it would seem to be after a prolonged or secondary action, and then the black is of a less deep tinge. It is claimed by Wellman,[4] for instance, that it is the palmatin and the stearin (for I leave out of account here, as I am dealing with entirely fresh tissue, the presence of free fatty acids), which gives this fainter or secondary dark color to certain drops intracellular and extracellular. It may be, however, that these paler drops, whose existence I also have noted, may represent an intermediate stage between glycogen and the fats, and thus represent morphologically a derivation from the carbohydrates which has not yet been fully identified, but fully accepted for other reasons. It has also been suggested, on insufficient evidence quite in keeping with the uncertainty that reigns in the whole subject, that these paler drops represent the transition stage from albumen to fat.

It has been suggested that soap and the lipoids, cholesterin, lecithin, take the osmic acid stain after prolonged contact, but there does not seem any morphological evidence for this as far as my observations go; indeed, Stheemann expressly declares that after saponification the osmic acid technique does not stain the fats and this saponification, as well as emulsion, he seems to think, goes on within the lymphoid tissue. It has been said that these light gray drops are more quickly decolorized in xyol, chloroform, and bergamot oil than the deep black bodies. Arnold's studies of the eosinophil cells[5] have become classical. While it is probable that there is a close relationship in origin of all Altmann's granules to fat, and while it is certain that neither osmic acid nor Sudan III reveal it all, Arnold's observation does not allow us to assume that they are all, or even that the chief ingredient of all of them is of a fatty nature. In the study of osmic acid preparations of the eosinophils, he remarked: "While some granules were tinted a deep black, others an intensive red (with the eosin), many showed a smoky gray or a dirty red color, as though the ingredients of the granules were mixed in different proportions." Ciaccio, to whose work[6] I shall have occasion to refer more at length hereafter, reminds us that while Altmann concluded that only olein and oleic acid reduced the osmic acid and that stearin and palmitin remain unaffected by it, Unna showed that the latter do reduce it, but only slowly and faintly. In other words, it is a matter of time, temperature, and physical condition. This has been denied by others for the pure form of these fats. It is stated that lecithin, even when containing a little olein, does not take the osmic acid, but Ciaccio declares that lecithin when it contains olein strongly reduces osmic acid. As to this I cannot say. I should think it unlikely from my own observations, but the lecithin or perhaps lipoid granules and globules after the specimen has been treated with Ciaccio's formulæ do take the scharlach roth stain as well as the Sudan III.

It is supposed that the affinity of the olein, alone

[3] The italics are mine to emphasize the statement in regard to the

[4] Wellman. *Virchows Archiv*, clxxxix, p. 282, 1907.
Virchows Archiv, clxii, 1, 1901, *et al. idem.*

[5] Ciaccio. *Archiv für Zellforschung*, v, 2, 1910, *et alibiem.*

of the group of fats, for osmic acid and Sudan III is due to the presence of an unsaturated carbon molecule in its chemical structure. Rossi, according to Prénant,[7] has shown that even olein only has this action in a colloid albuminous environment. Neubauer extends the power of reducing osmic acid to all organic matter (neurine, adrenalin, etc.) which has an unsaturated radical. Lorain-Smith and others have drawn attention to the fact that exposure to air quickly changes the fats to fatty acids, while we have been warned that almost any effort of technique alters the physical and chemical reaction of the lipoids and fats to osmic acid and other fat reagents. While this is highly significant of the important part these labile agents in vital actions play, it is profoundly discouraging to the histologist in his attempts to gauge their condition *in situ* and *intra vitam*.

In my own work with the osmic acid methods, small, fresh bits of tonsil were left for varying periods of time in the Flemming solution or some of its modifications. The exposure of sections to the vapor of osmic acid was not successful, but demonstrations of granules and droplets both in and out of cells are easily secured by the former methods, while stains of irregular areas of fat in the connective tissue strands and unformed detritus masses are abundantly seen, and they may be localized by a little hæmatoxylon stain, though it is better to work without it. Since the repetition of work, published in this *Journal* a number of years ago, resulted in practically the same observations, an excerpt from it will suffice.

In the series of cases in which excised tonsils were examined for their fat contents no selection of cases was resorted to. Ten or twelve cases were taken as they came in the routine of my clinic, and the excised tonsils (both sides) were immediately put in osmic acid solutions or subjected to the process necessary for staining with Sudan III and scharlach roth, viz.: Short preliminary hardening in formalin and subsequent freezing for sectioning. The latter process was unsatisfactory, and for the most part the observations were made on the osmic acid specimens.

Invariably a short search of every section, with 1/12 oil immersion, revealed fat droplets in the cells as well as in the intracellular spaces both of the stroma and of the lymphoid tissue. How long after a meal or what the last meal consisted of, was unfortunately not ascertained. For the most part, the operation was performed about 2.30 p. m. The cases were children of both sexes; the results were practically uniform. Constant as were these droplets, they were not abundant in any one microscopical field, and in some were entirely absent. Very few clumps or acicular masses were found, but when found they were almost exclusively noted as in the interfollicular connective tissue. The small droplets were seen most frequently in the isolated disintegrated cell bodies, but also in cell bodies apparently healthy. Singular to say, they were markedly less frequent in and in the neighborhood of the surface epithelium, except near a plugged crypt, containing a large amount of fat in its detritus. In keratosis of the surface epithelium, which I am accustomed to regard as a hyaline degeneration, fat droplets were no more frequently seen than elsewhere. Some areas, otherwise indistinguishable, of the lymphoid structure were markedly more thickly sprinkled with the black spots, intracellular and extracellular, than others. The cause of this was not apparent. The arteriole walls in all their coats exhibited them with more or less regularity but without significant frequency. Fig. 1 shows fairly well the distribution in an average field in which they are noted.

Mention has been made of the fact that [illegible] plugged crypts showed among the detritus a large amount of fat, both in the form of many fine droplets and of a few acicular masses. It could not be determined in what cellular constituents of the lacunar contents either form had its origin. The exceptional number of droplets in the lymphoid cells around such a crypt suggested the probability of its absorption from the dead tissue within the crypt, but its origin in the latter locality is far from clear, as I have

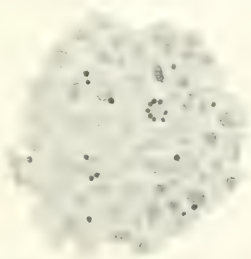


Fig. 1.—Showing distribution of fat droplets in an osmic acid section of the faucal tonsil. Oil immersion 1/12.

no data upon which to gauge the amount of fat which might have lodged there from the food before the mouth of the crypt became occluded, or which might have been absorbed from the surface. I am free to say the appearance here is that of a metamorphosis of proteid into fat; yet many fragments of cells could be made out containing no fat.

Indeed, thus far I was impressed with the idea that proteid may, when it disintegrates, change into fat, or it may not. It certainly is more frequently though not invariably, found in disintegrating cellular protoplasm than in morphologically intact protoplasm. The intracellular droplets stained with the osmic acid usually are paler than the extracellular droplets. In the deeper areolar planes and to a less extent in the fibrous frame-work of the tonsil, the large globular masses or "splotches" of fat were met with, but never in the lymph nodes themselves. After becoming familiar with the appearance of fat in the tonsils under ordinary conditions, a series of ten cases or more were taken as before, without selection from the routine of the clinic. In these one or both tonsils were smeared with butter ten or fifteen minutes before a tonsillotomy. In these cases the distribution of the fat was relatively exactly the same as in the other cases, but the increase in amount was everywhere very decided. It was especially more abundant in the granular protoplasm of cells that were disintegrating. No doubt could be left in the mind of the observer that fat in the form of droplets may migrate into degenerating as well as into normal cells. It is natural, therefore, to conclude that some at least of the intracellular fat is normally derived from the passing food, but I am unable to assert that it all comes from this source. While perhaps it might be thought there was a larger amount of extracellular droplets in the buttered tonsils, there was the same tendency to grouping around the nuclei of degenerated cells. There was no greater amount of fat in or just beneath the surface epithelium, but on the surface such fat as existed was invariably in the form of minute droplets. It had been immediately saponified or emulsified, and this was a preliminary to absorption.

Evidently the rapidity of the absorption of fat by the tonsillar epithelium is greater even than that of dust.[8]

These droplets were some of them much darker than others, some had a dark periphery and a light center and vice versa. Later I hope to elaborate more *in extenso* than is possible here experimental work on surface absorption which is in progress. I will, therefore, not now supplement that part of my previous work. In comparing the results attained with other neutral fat stains, I may remark that the tendency for the osmic acid fat droplets to cling around

[7] Prénant: Journal de l'Anatomie et de la Physiologie, No. [illegible]

[8] The Difference in the Behavior of Dust and That of Bacteria in [illegible]

the nuclei more than the red stained bodies may have something to do with the ether administered during operation, since in the second series of observations, after I became aware of the changes thus produced and examined tonsils not exposed to ether vapor *intra vitam*, I failed to see so many of the perinuclear globules. I also had occasion to remark that with the osmic acid stain a much greater difference was noted in the amount of fat showing in degenerated cells than with the Sudan III. The remarks in regard to the supposed conversion of proteid into fat, made in the former paper, may be allowed to stand. That is still a subject which has been in no degree elucidated in the literature of the last five years. It may be remarked, though, that the assertion that proteid is converted into fat in the body no longer elicits the vehemence of denial that it once did.

I have referred to the small droplets shown by the osmic acid within and outside of the cell body. To this I may add that in renewed work with the osmic acid process prolonged search has occasionally revealed the globular[9] form of droplet, of which I will speak more in detail when I come to describe the appearance of the structures stained for soap and the lipoids. The reduction of the osmic acid by these globules may mean that we have a lipoid or a soap globule whose external coating is of a material which reduces osmic acid. This material may be fat or something else, but it is not probable that the globule is all pure fat. While a few of the erythrocytes in and out of the vessels have dark droplets around their periphery, as I have shown for the nuclei of the lymphocytes in Fig. 1, there is not the regular stain of the erythrocytes with the osmic acid, such as is noted for the Sudan III in the stain for neutral fat, nor in the stains for cholesterin and lecithin and occasionally for soap, nor is there ever noted anything but a distant resemblance to the various kinds of "stipple cell" revealed by these stains, though such granulocytes are occasionally dimly seen tinged with osmic acid. I will refrain from further remark here except to say that it has become quite apparent to me in subsequent experience with other neutral fat stains, so called, that in the case of osmic acid bodies I had to do chiefly with material of other morphology and other distribution and other chemical affinities, however nearly related the latter were in chemical genesis.

The tonsillar material, on which the observations referred to in this paper were made, was taken from about thirty patients at the time of operation and immediately put in fixing agents. In addition a large number of controls of normal tissue from animals and of various pathological tissues was employed.[10]

[9] [illegible] of matter so small their shape cannot be distinctly made out by the use of the oil immersion, 1/12 objective; by "droplets" a slightly larger order of fat form, symmetrical and round, but markedly smaller than the "globules." There seems, indeed, to be quite a jump in size between the droplet and the globule, intermediate sizes being rare. The droplet may be said to have a diameter up to one micron or two at most, while the globule ranges from five to forty micra, usually above ten. These are purely arbitrary standards chosen to facilitate expression and are not meant in themselves to express any genetic or structural differences.

[10] It is important for me to remark here that in the controls, though they were not studied with the care devoted to the tonsillar tissue, it was quite apparent that the distribution of the fat and lipoids followed rules more or less specific for each organ, so that what I say for the tonsil must not be applied unreservedly to conditions under which these bodies are found in other organs.

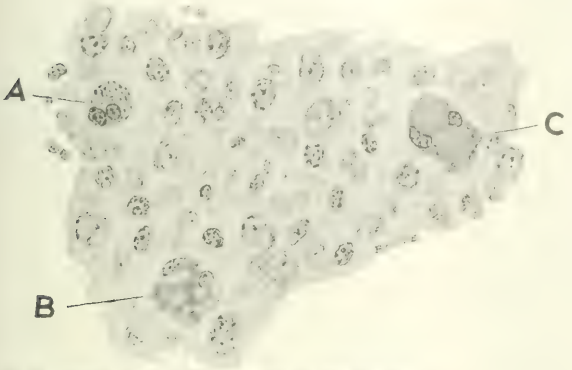
Neutral fat: Its reaction to the Sudan III and the scharlach roth stains. We have for the most part made use of the Sudan III or scharlach roth in an alcoholic solution from sixty-five per cent. to eighty-five per cent. In the study of the supposedly pure neutral fat or in the study of the structures in which it is supposed to predominate, preliminary fixing in ten per cent. formalin, from twenty-four to forty-eight hours was employed, which renders the lymphoid tissue resistant to the freezing process and its examination practicable by frozen sections, which, after eight or ten minutes in the stain are washed out in water and counterstained with hæmatoxylin and mounted in glycerin, or, better, in lævulose syrup or gelatine.

Much work done with the Ciaccio method of demonstrating the presence of lecithin, to be described later, has convinced me that the neutral fat persists or is associated with lecithin in some structures, since exactly the same morphological evidence is noted in the "stipple cells" when in a binuclear state, after prolonged treatment with fat dissolving agents in the Ciaccio process. As was said for the osmic acid, so for the other methods, this is not a satisfactory demonstration of all the forms of fat. As for differentiating it from fatty acid, there is no perfectly differentiating stain for neutral fat, though the Nile blue as used by Lorain-Smith[11] has not yet been thoroughly tested. It is supposed to stain neutral fat red, and fatty acids blue, but why should we use it in fresh tonsils, since free fatty acid, according to the investigations of Fischler and Gross, aside from the decomposition products of dying tissue, does not occur in the animal organism in a morphologically demonstrable form? It is said that after exposing sections, which formerly showed only neutral fat, to the actions of acids or even to the oxydation of the carbon dioxide of the air they take basic anilin stains, which before they would not, the neutral fats having been converted into fatty acids. Whether this accounts for the rapidity which the selective stains for neutral fat fade out I do not know. Suffice it to say that such a fading occurs after a few days for some tissues, and after a week markedly in the sections of lymphoid tissue. No attempt was made to avoid this, though certain methods have been devised to make permanent preparations.

At the first glance at a section of a tonsil stained with scharlach roth in the manner indicated above, it is seen, under the $^1/_{12}$ oil immersion, that the structures most deeply and universally stained, though they also vary much in different sections and even in different parts of the same section, are the erythrocytes. The red blood cells, whether within or without a vessel, and there is always much effused blood being phagocyted in the tonsil, have taken a more or less brilliant red stain, even when the sections have been treated with oxalic acid to remove the iron from the cells, since this is said to fix the fat stains. The intensity of the stain and its various nuances are matters of considerable importance in the study of the structures which have taken it. In the blood vessels the color of the erythrocytes runs from a translucent red through

[11] [illegible] Journ. of Physiology and Path., vol. i

pale rose pink to yellowish pink. These colors outside of the vessel, and sometimes within, especially if the erythrocytes have become a little granular, vary to a dull brick red and this is seen to be the color inside the phagocytes of the disintegrated remnants; with their complete destruction, the color entirely disappears. It does not form any gradations of form or color with the appearance of structures now to be described.



[illegible] Showing at A a binuclear stippled [illegible] en either with the process for staining neutral fat or [illegible] with [illegible]

If the reader will refer to the cell in Fig. II marked "A" he will see a cell which might perhaps have been represented a little more accurately by the artist for the average, as more cuboidal than globular, but when intact it is almost never oblong or pear shaped or with irregular pseudopodia. The nucleus is always double. The cytoplasma contains bright, shining, deep red granules just at the limit of vision at this magnification. Now these cells are also often seen among the erythocytes in a thrombosed vessel and even with a deeper staining of the erythrocytes it stands out by virtue of its different shade of red among them. It can be found attached by a pseudopodium to the vessel wall, but there is no other indication of its genesis from the endothelium, though that is said by many histologists to be the origin of the lymphocyte among the elements of the larger vessel walls. It is seen outside of them, especially in the fibrous stroma of the tonsil. It is never seen in this binuclear fatty granule condition in the center of the germinal lymph node, nor, so far as I have observed, in any part of it. It has been often seen just beneath the epithelium and amidst its basal layers. In this latter situation it is seen very abundantly in very striking pictures in the hypertrophied mucous membranes of the turbinated nasal bones. In the tonsil stained for neutral fat it often requires considerable search to find it in those layers of epithelium external to the basal layer, though it is sometimes found even on the surface. The binuclear condition and its cuboidal shape differentiate it from the granulocytes seen with the lipoid stain. It is true there are some exceptions to these statements.

As to the binuclear condition, rarely some forms are seen which do not show it, but so rarely that the question arises whether the section has not fallen between the two nuclei. Again it is sometimes missed when the other exception occurs; that is, in the ovoid or oblong shape of the cell, such as will be shown for the lipoid granulocytes. When the neutral fat stain shows a granulocyte of this character (mononuclear) the granules are not so thickly crowded together at one end and there has been a rupture of the external cell mem-

[illegible] bright in the granules, as though some metamorphosis or degeneration or yielding to the pressure of the environment was taking place. These, the erythrocytes and the granulocytes with the described characteristics, are the chief forms in which the scharlach roth or Sudan III stain are seen in intracellular bodies. It will be observed that there is little resemblance to the osmic acid preparation. Faint stipple cells are rarely seen with the osmic acid preparations, but when they do occur they resemble the granulocytes to be described in dealing with the lipoid stains.

The neutral fat stain is betrayed in a diffused condition in the fibrous tissue in places. Sometimes the red stains reveal with a pale pink color the presence of globules, the deepness of the color varying with the size of the globule. Some detritus is observed, often the result of artefact or of some accidental introduction.

I must here allude to the variation noted as due to the administration of ether, though it applies to the other stains as well. Tonsils removed during the administration of ether show less of the stain, and for the neutral fat stain especially, a diffusion of it in the intracellular granules, as though the fat in them was partially dissolved. While normally the variation of fat demonstrated is great, it seemed to me on the average the number of fat containing granulocytes was markedly diminished. There is always an appreciable amount of coarse fat granules present in the lymph spaces of the fibrous stroma, but from various indications in my material, that has seemed to vary with the amount of violence done in removing the tonsil or in handling it after removal. I admit that it is not certain that all of the structureless masses free in the tissue can be due to this because in other material which I have used for control, for instance, the internal organs of animals where care was taken in handling and removal, a certain amount of loose fat is seen in the lymph spaces and probably exists naturally in this state in the body fluids. It is, however, much increased by handling and pressing of the tissue, and since a certain amount of this is unavoidable, especially the freezing and sectioning, there remains considerable doubt in my mind how much is to be ascribed to the normally free fat and how much to artefact. I refer especially to the irregular fragments and masses, not to droplets and globules.

While this consideration of artificial morphological conditions represents a large factor of uncertainty in all histological observation, and leaves a

large field for the imagination as to the real state of things *intra vitam*, this is in no other respect so emphasized as in the morphological study of the fats. It seems to me we should accept with great reserve any evidence pointing to the presence of fat free of the erythrocytes and leucocytes in the circulating fluids. It seems likely that normally such fat as exists in the connective tissue outside of the cells, is gathered in the form of globules and that the scattered irregular masses of various sizes and irregular shapes, whether shown by neutral fat or by lipoid stains, are in reality artefacts. Neutral fat is seen in certain cells in the connective tissue which may be endothelial, but it is not as a rule seen in the endothelium of the bloodvessels, nor am I convinced that the wandering white cells of the blood which contain the fat are derived from the endothelium, as some insist. I have seen a nucleated red blood cell whose cytoplasm contained granules red with the scharlach roth stain. While the stipple cells or granulocytes holding fat are most abundant in the fibrous connective tissue strands, I have been unable to detect any granular fat in the fixed connective tissue cell itself. The phagocytes or wandering cells are often seen, as I have remarked, with disintegrating erythrocytes in their cytoplasm, and the conclusion is unavoidable that the fat which the erythrocytes regularly held may thus gain access to the phagocyte in the form of neutral fat, but the evidence points, if we are to assume that this is the origin of the bright fat granules seen in the stipple cells, to some change in the chemistry of the fat thus phagocyted, since the color reaction and the grouping in the cytoplasm are entirely different from that of the partially disintegrated erythrocyte. We might just as well assume that it disappears totally into unrecognizable material and what we see in the granulocytes has some other origin. Perfectly plain pictures are seen of phagocytosis of the erythrocytes by the epithelium also, and it is possible that this may be the origin of the cholesterin there, but, as neutral fat, it is not seen after the thorough disintegration of the erythrocyte, so far as the stains can reveal neutral fat. Neutral fat stipple cells, the wandering granulocytes are seen in the basal epithelial layers, especially where, according to Stöhr and his school, the epithelium is being destroyed by the phagocytes. They are found (rarely) among the detritus of the crypts.

The regularity with which a divided nucleus is seen in these cells whose cytoplasmic granules take the Sudan III or scharlach roth stain is very interesting. It is most beautifully seen in the dropsical cells of a nasal polyp. There I have seen it persist to the stage of cytoplasmic division, but only while the two cells are still joined together. After they are once separate and the cell is a mononuclear it is the lipoid stains which show the granules. In this amitotic division it is noted with the Ciaccio process for lecithin, but in these preparations which show karyokinetic figures beautifully, the latter never show either the red granules of neutral fat nor the lecithin, but always the deep dark color of the hæmotoxylon counterstain. It seems to me, whatever other significance may be given to this observation, the evidence points strongly to the presence of lipasic ferments in the stipple cells, which elaborate from the protoplasm, perhaps from its albumin, more probably from other kinds of fat or possibly from the carbohydrates, the kind of fat which has the affinity for the red stains, which outside of the body have been shown to stain only the olein of the neutral fats.

Little has been said of the presence of fat in the lymphoid cells themselves, in those cellular structures which are born in the lymph glands. For the most part it is impossible to demonstrate the narrow rim of cytoplasm which surrounds these young cells. Occasionally, however, this can be made out, and I have seen some in which a fat granule seemed to lie up against the nucleus within this narrow rim, but I am not convinced this was not artefact. Suffice it to say, even loose fat granules are rarely seen near the nodes or in the germinal centres.

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UNSOLVED HEALTH PROBLEMS PECULIAR TO THE PHILIPPINES.*

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(*Under the Imprimatur of the American Society of Tropical Medicine.*)

Many of the modern problems of hygiene and sanitation are the same the world over whether found in tropical or temperate zones.

There are certain characteristic phases of tropical hygiene and sanitation, however, which have received most gratifying attention in recent medical literature and which we cannot but interpret as a very general interest and desire to make these portions of the world compare well in healthfulness with those heretofore believed to be more favorably situated. But in addition to these general problems, common to all tropical countries, there are additional difficulties and handicaps peculiar to each country or peoples, which have required special consideration.

It is the object of this paper not only to present the problems and theories with which you are already familiar, for it is desirable that you should know what we also are doing along these lines, but more especially to put before you the peculiar conditions which have seemed to hinder our more rapid progress and which are still blocking the way to better sanitation and hygiene in the Philippine Islands.

In general, we have first a poverty stricken people with a poor physical inheritance, people strongly imbued with superstitions and habits, the antithesis of the simplest health doctrines and practices, a people lacking ambition to till in an active manner the fertile soil, a people the masses of whom are apparently content in their ignorance and poverty and resigned to and uncomplaining of their many ailments. Work among them is handicapped by the inaccessibility of many of the islands, roads which though being improved at a remarkable rate, are

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yet unfit for travel in many instances during portions of the year. It is further handicapped by the lack of a common language, for many dialects are spoken among the tao or peasant classes to whom neither Spanish or English is intelligible. It is handicapped by the lack of medical employees who are sufficiently interested in the cause of humanity to undergo the innumerable hardships and discomforts which accompany most of the health work in the provinces. Untold credit is due those who are at present carrying on the work the burdens of which fall more heavily upon them because of their limited numbers. We are also handicapped by a treasury of which it is quite possible at times to see the bottom, so that it is not put to us "do all you can regardless of expenditure," but "your expenditures must not go beyond this or this; do the best you can with it." So our very largest problem is that of discrimination; shall we devote our energies to this question or that question? we cannot do all; shall we attempt this one and abandon that, or do a little toward each? Thus far it has been our policy to do a little toward each.

Malaria.—The malaria problem is a very large one. For instance, in the province of Ambos Camarines, which has a population of 233,472 persons, there were 745 deaths from this disease reported for the year ended June 30, 1909. A conservative estimate of ten cases for each death with an illness of ten days makes 74,500 days loss, which, valued at only $0.25, United States currency, a day, would amount to $37,250 a year; this being for only one out of thirty provinces, we can conservatively multiply it by twenty, which would make an economic loss to the country of $745,000. If a human life can be economically valued at $1,000 or $500 or $100 in this country, making deductions for children, etc., we find ourselves confronting a loss of at least $5,000,000 per annum from this disease alone, and yet this represents a small portion of the total loss which can be attributed to preventable diseases.

The number of malarial cases has been greatly decreased, however, by instituting drainage wherever possible, by the free distribution of quinine, and by campaigns of education, particularly in the schools where pupils are taught the value of mosquito nets, the danger from mosquitoes, and how they may be destroyed, etc.

Mosquitoes.—There has recently been an active newspaper agitation concerning the eradication of mosquitoes in Manila, but few persons realize the obstacles that block our way in such an undertaking. Manila is on low land, much of its area being below sea level in fact. To bring the city to a drainable level would be a necessity in such a proposition, and is estimated to cost $4,000,000 at least. When we reflect that the annual income of the city is under $3,000,000, we naturally pause before recommending a measure which would be so costly, especially when some authorities consider such an undertaking problematical, and more especially since there is practically no reliable data on hand to show that the mosquitoes of Manila are responsible for the transmission of disease. We can well imagine how a similar proposition would be received in the United States or any other country. Should we expect it of these islands, overburdened as they are with more acute problems? It seems to the writer more logical to begin mosquito elimination in Manila, at least, by educating the individual householders to make the breeding of mosquitoes on his premises impossible, and then by an organized inspection service enforce regulations which will compel the use of such knowledge. In the meantime a definite engineering project should be adopted and drainage, filling, and oiling should be carried out with the regular sanitary force as far as possible.

Water supply.—The water supply of the Philippines is another serious question. All surface waters found in the islands except the thermal or those strongly charged with certain minerals are amœba infected. Improved health conditions in Manila can to a certain extent be traced to the new city water supply, which now comes from a comparatively uninhabited watershed, but even as tap water it should be boiled for all but the most ordinary purposes. Fortunately, artesian well water is as a rule free from amœbæ, and is in every way an ideal drinking water. In towns where artesian well water is almost exclusively used the death rate has fallen fifty per cent. These wells are being drilled as rapidly as possible, but there are many localities where they are impracticable, so that the question of how to make available for the people an unlimited and safe water supply exclusive of artesian well water must be considered one of our unsolved problems.

Disposal of excreta.—We are still pondering the practical disposal of excreta. Many plans have been proposed, all more theoretical than practical. Of those who are familiar with local conditions and who realize the resources and limitations of the average community, but who are seriously searching for a practical solution, none as yet have put forth a well defined scheme.

In large communities where water carriage of sewage is possible, septic tanks are used successfully. In communities in which cholera has prevailed, the pail system, the digging of pits, and covering of excreta with lime or clean earth at regular intervals, has been found effective, but the cost of maintenance of inspection is prohibitive and only warranted by emergency conditions.

Some years ago the writer suggested a plan of installing a pail system with an after treatment of the night soil which would render it suitable for fertilizing mulberry trees, thus promoting the silk industry, the income from which would in a short time place this particular sanitary measure upon a self paying basis.

The plan followed in many Oriental countries of letting out private contracts for the collection of night soil from private residences is not believed to be a safe one. It is an established custom to use such night soil for fertilizing vegetables, and it is believed that the consumption of such raw vegetables thus fertilized has had much to do with the spread of amœbic dysentery, cholera, hookworm, and other intestinal diseases.

Smallpox.—Smallpox, once so formidable a proposition to us, has at least been reduced to insignificant proportions. Over 6,000,000 persons have been vaccinated by the Bureau of Health within the

past five years. The unvaccinated are in remote regions where as yet it has been found impossible to convey vaccine in a potent condition.

The ordinary glycerinized lymph at present in use will not keep for more than from seven to ten days at the temperature which prevails here. As many of the sections to be reached are in traveling time from two to three weeks away from the point to which ice can be sent or cold storage is available, it is obvious that a vaccine is necessary which will retain its potency for a longer period of time than any now obtainable. Vaccine in powdered form has been tried, also dry points, but the percentage of success is so small and danger of infection so great that their use is restricted.

The acute phase of this problem then is either to manufacture a more effective vaccine or to find a way of transporting it successfully. Observations point to the conclusion that ordinary cowpox vaccine is not as effective in the dark as in the white skinned races. The writer has personally observed that out of more than one hundred cases of smallpox or varioloid among white people, not one case occurred in a person who had been vaccinated within five preceding years, while there have been many cases of smallpox among Filipinos of whose successful vaccinations within one preceding year there could be little doubt.

It has been interesting to observe a demonstration of this at Bilibid Prison, where all prisoners are vaccinated upon admittance, and regularly once a year or oftener thereafter. Yet smallpox has made its appearance there each year and many cases have occurred in persons who show the typical pits accepted as characteristic of previous attacks of smallpox.

Tuberculosis.—Tuberculosis is another of our problems. We estimate that it claims as many victims here as in other portions of the globe, and it will require the same activity here as elsewhere to hold it in check. The introduction of outpatient tuberculosis dispensaries, the construction of shacks in the mountains, the opening of night camps near Manila, arrangements for the hospitalization of the helpless sick, and prophylactic instruction in the public school, the usual methods in fact that are employed elsewhere, are now under way here; but the tuberculosis problem has its peculiar and complicating features in the Philippines, viz., the unsuitable dietary of the people, their peculiar superstitions concerning the contraction of the disease, their almost unshakable fear of night air as a poisonous thing, a fear which has kept their houses tightly closed at night for generations past, their habit of chewing betel nut which has made the custom of expectorating in public and private a universal and, we sometimes fear, an unbreakable habit. Added to this is their utter resignation to the disease as a thing incurable and inevitable. Therefore not only have we the ordinary preventative and curative measures of tuberculosis to organize and enforce, but we must devise ways of cooking and preparing native products into a suitably nourishing and popular dietary, and then educate the masses into not only the ways of doing it but to an earnest desire for it. They will have to be first cured of their superstitions, which is as great a task as converting them to a new religion; houses will have to be opened at night, betel nut gradually abolished, and then a gigantic antispitting crusade begun, and last of all comes the Herculean task of rousing them out of their inertia and convincing them that not only is tuberculosis curable, but that they are responsible for the spread of the disease and able to themselves accomplish the cure.

Cholera.—Cholera is still with us in spite of the active measures which are constantly being taken to eradicate it. Though we have been so far successful in promptly suppressing outbreaks, whenever they appear, yet it is constantly occurring in sporadic form over widely separated sections of the islands. The puzzling question is this: When no possible connection with any previous case is discoverable, where are the cases of cholera contracted that appear so spasmodically over these widely separated regions? Where it is lying dormant during the periods of time when no cases are reported is yet to be determined. Some years ago the writer drew attention to the fact that logical deduction indicated that there was a morphological change in the cholera organism which made it difficult to recognize at certain stages. Research work done in the meantime strengthens this view. There is also a strong probability that cholera carriers are responsible for some outbreaks. Yet the fact remains that the disease appears frequently at places the origin of which cannot be satisfactorily proved.

Plague.—Plague at present is a stranger to the Philippines. Measures for its eradication were begun in 1900, but it was not until the scheme of dealing with rats heretofore described was used that the disease disappeared. Since April, 1906, no cases have been found in human beings, and no cases in rats since 1907.

On account of the close proximity of China, however, where plague seems to appear every year, special precautions are constantly taken at our ports in order to prevent the reintroduction of this disease. The question, of course, is how to safely accomplish this with a minimum amount of annoyance and loss to the shipping interests and to the travelling public. The present plan is to fumigate all vessels from infected ports twice annually and to keep the interisland vessels free from rats and vermin by systematic fumigation in order that the plague may be at once checked, if by any accident introduced. Wharves have been made rat proof and vessels where docked are required to use rat funnels in order to keep rodents from gaining access to the shore. At the port of departure for these islands vessels are inspected by medical officers of the United States in order to ascertain that there is no plague aboard.

Typhoid fever.—While cases of typhoid fever are undoubtedly contracted in the Philippines, yet it can hardly be said to be prevalent here. To prevent its establishing a foothold regulations were prepared for disinfection of excreta from such cases, for the protection of water supplies, and regulations concerning inspection and sale of milk, also by sanitary measures for the eradication of flies. Whether further and more stringent precautions could be taken at this time or are practicable is a question for consideration.

Infant mortality.—The subject of infant mortality is a vast one. In Manila approximately one half the total number of deaths occur in children under one year of age. From papers read at this meeting and previously it is obvious that the largest share of it is due to improper nourishment. The poverty of the people makes properly marketed cow's milk either fresh or canned an impossibility unless given to them in the form of charity. This for the great mass of people is not only impossible but undesirable. How to bring a cheap milk supply within the reach of the poorer classes seems to be the acute phase of the infant mortality problem. The raising of goats would seem to be the solution. Already experiments in breeding a hardy variety of milk goats have been inaugurated. This problem must not be abandoned, but be rapidly pushed to a solution, for, left unsolved, it involves the heaviest mortality we are at present facing.

Putrefactive changes in foods.—Another complicating feature and cause of illness in the tropics, particularly in the Philippines, is the putrefactive changes in nitrogenous foods, which take place so rapidly in warm climates. The problem is either to provide ways properly to preserve such foods or to find suitable substitutes which will enable us to eliminate them from our tropical dietary.

Unsanitary habits.—The food question brings in its trail another problem that is peculiarly ours and which we know to be the largest factor in the transmission of cholera and intestinal diseases. This is the native and almost universal habit of eating with the fingers. Proper example has done much and the distribution of literature on the subject has helped; but the masses are as yet untouched by either example or precept, and we see years of discouraging struggle ahead of us before they can be broken of so fixed a habit, the menace of which is as yet entirely beyond their comprehension.

Poor statistical information—So much for the particular problems. The entire situation is hindered by our inability to secure proper statistical information. This is due to a lack of officials in the provinces sufficiently skilled to make reliable reports on the causes of death. Whether the municipal officials can be trained and educated to do this remains to be seen. As I told you in the beginning, our work is first one of discrimination, a placing of our heaviest artillery where the enemy is strongest. This we cannot always determine on account of the inaccuracy and incompleteness of available data.

SUMMARY.

To summarize, it is to be understood that the health of these people is the vital question of the islands. To transform them from the weak and feeble race we have found them into the strong, healthy, and enduring people that they may yet become is to lay the foundations for the successful future of the country. But it is not alone the problem of the Bureau of Health. It is an economic and educational question as well. Every branch of the government has its part to perform, and cooperation is essential. Good roads, agricultural improvements, the elimination of rinderpest and other animal diseases, the general development of the country which will gradually bring about a better standard of living, education, particularly along the lines of hygiene and sanitation, to which we give all the aid possible, but for the dissemination of which we will have to depend upon the teachers and the public schools, the special training of the young men and women of the islands in the professions of medicine and nursing, all the foregoing factors with which we, as a bureau, have nothing to do, are as important to the health conditions of the islands as is the actual holding in check of epidemics and disease, the sanitary inspections, enforcement of regulations, etc., the opening and maintenance of hospitals throughout the islands, and the various other things for which the Bureau of Health is directly responsible.

The government is not a rich one. How to do the most and the best with a limited income is still an acute question. You can see what an enormous proportion of that limited income it would take to carry out successfully any one of the various health projects enumerated. To give thorough attention to a particular one would involve an unwarranted neglect of the rest. We have hence concluded we must do the best we can with the entire proposition, going slowly but making headway each year, each month, perhaps each day.

It should be remembered that much of our appropriation is consumed in ways unusual for a health bureau. The maintenance and management of government hospitals falls to our lot and is no small burden. We are practically cleaning up these islands, left foul and unsanitary and diseased by generations of hygienically ignorant peoples. We are stamping out the conflagration of disease started long before American occupation, and not until it is stamped out can we look forward to the modern problems which come so temptingly before us. And so, much of our time, money, and effort is being constantly consumed in works, the glory of which is still behind the clouds. We are draining the land, as it were, before beginning the constructive health projects, which are going to make these people the strong and healthy race we intend them to be.

SOME FURTHER OBSERVATIONS ON IODINE AS AN ANTISEPTIC.

By Major Frank Thomas Woodbury,
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In three articles in 1910, in the *New York Medical Journal*, the writer gave the results of his experience and his technique with tincture of iodine as an antiseptic, both in this country and the tropics. In one of these he stated that he believed himself to be the first to present this valuable action of iodine, viz.: as the exclusive antiseptic for surgical use, at least to the American profession.

This belief was based upon the fact that during a service of over two years in the Philippines, part of which was in the heart of the jungles of Samar Island, where not even a road penetrates, this method of using iodine took form independently and was first tried in November, 1906, when the writer reported two cases; one in the *Therapeutic Gazette*

of January 15, 1908, under the title, Treatment of Tuberculous Osteitis of the Tibia by Iodine and Creosote; the other, a Cæsarean section, was read before the Manila Medical Society in December, 1906, and reported in the *New York Medical Journal* of May 4, 1907; further, since January, 1910, he has collected about seventy-five references to iodine in medical literature, none of which advocated its use as he employs it.

Since publishing his last paper on iodine in the *New York Medical Journal* of December 3, 1910, he has been glad to learn of several other Richmonds in the field. Wollheim's excellent summary in the November number of the *American Journal of Surgery* gives thirty-one references in which Dannreuther is credited with the use of iodine as an antiseptic for wounds in 1908. This collator has possibly overlooked the writer's papers previously quoted. Dr. Nieder, of Geneva, N. Y., writes that he has been using tincture of iodine with unvarying success in all wounds of the surface of the body since 1905, and commends especially its efficacy to prevent tetanus. T. Bryant, of Kensington, London, in the *British Medical Journal* of October 1, 1910, says: "Upon this experience, acquired twenty-seven years before, in 1850, the use of iodine as an antiseptic for general purposes naturally came before me in 1872; and I am pleased to express the opinion, after forty years' experience, that it is without doubt the best antiseptic drug surgeons of the present day possess."

The writer believes that in the light of the testimony referred to and his own independent observations, tincture of iodine is now proved to be the only antiseptic and germicide worthy of mention and use in surgery, because it is the only one which in germicidal strength is not destructive of tissue, and, what is most important, of tissue damaged by traumatism or previous infection.

As with all powerful agents for good, it must be used with reason and judgment. Tincture of iodine may be used in full strength even on the peritonæum, provided, and this is important, that the surface to which it is applied is left a *dry brown*, no excess being allowed to drip down and collect in pockets or crevices. It may be used in solutions of varying strengths to irrigate cavities of wounds or organs, provided the excess is flushed out with normal salt solution. The object desired is, I repeat, to coat the surface infected or likely to be infected without leaving a mischievous excess for absorption. This will overwhelm the germs *in situ* and stimulate phagocytosis, Nature's own antiseptic.

For this reason the injection of pure tincture of iodine into cysts, closed abscesses, inflamed glands or joints, or dropped into wounds, will, it is believed, prove disastrous, for wherever there is more of the drug than is necessary to overcome the germs and stimulate phagocytosis and granulation there will be the same local effect as with any irritant, with gangrene, sloughing, pain, and general iodism as ever present dangers. It may be said in passing that iodoform is a relic of the dark ages and is already on its way to join the dodo.

As to the toxic dangers in this use of iodine, Wollheim has collected few reports in medical literature and agrees with previous authors that these toxic effects are rare. The writer's experience substantiates this opinion and he believes that some of the fatalities were attributed to iodine, whereas it was only an attendant circumstance, the real cause of the trouble having been overlooked or unsearched for. Further, we must distinguish between cases treated with tincture of iodine (U. S. P.) and those where a mixture of iodine with glycerin or benzin or carbolic acid or some other ingredient is used if we expect to put our finger on the cause of untoward results. Before all operations the advice of Krehl should be borne in mind. He examines the thyreoid in all cases where he expects to push iodine or the iodides internally and considers the drug contraindicated in arteriosclerosis with enlarged thyreoid or in the presence of thyreotoxic symptoms, because of the known effect of the iodides in exhilarating this gland to excessive activity. Possibly operations for the relief of hyperthyreoidism would not come in this class as the extirpation of a portion of the goitre immediately reduces the amount of thyreoid formed iodine poured into the circulation. Contrariwise, we would expect patients with hypothyreoidism, such as cretins, to show great toleration for the drug and do very much better than normal persons. This, however, is mere academic speculation.

Armed with this high power weapon the surgeon can confidently push his attack a little further into the enemy's country and conform his tactics to the new conditions. Knowing the effect of iodine on ulcers and remembering the futile attempts with silver nitrate we can suggest that the rational treatment of gastric ulcer would be somewhat as follows. Wash the stomach clear of all food particles and mucus with normal salt solution; empty it by siphonage; introduce a one per cent. iodine salt solution and siphon out immediately or as soon as there is a feeling of warmth in the stomach; wash out with normal salt solution until the washings give no reaction with starch; and finally siphon this out, leaving the stomach empty. Do this daily until the preliminary washings are no longer blood tinged. The usual precautions in this lavage treatment and feeding by the bowel are to be scrupulously observed. It will be recalled that an ulcerated stomach has impaired absorptive powers; testing the saliva with starch paper would be a guide to the quantity and strength of the iodine solution.

As Dannreuther and Goelet have used iodine solutions in the abdominal cavity and as the writer has used pure tincture of iodine on the peritonæum with brilliant results, both as to immediate prompt healing and recovery and as to freedom from postoperative adhesions and obstructions, we are on good firm ground to propose a new but rational procedure in suppurating appendicitis upon the following lines: The abscess cavity is emptied by the usual incision and gentle irrigation with a hot iodine salt solution (teaspoonful to the quart) until the liquid returns clear. The walls of the abscess cavity, which are the agglutinated intestines, are then most carefully and delicately but thoroughly mopped with tincture of iodine, whether already infected or not (the abdominal wound is likewise mopped). The adhesions are now gently separated and each new surface exposed is mopped with the

tincture as it is freed and each bleeding point mopped or ligated with iodized silk sutures, until the remnant of the appendix is found. This should be removed along with any gangrenous areas, the stump, if any, wiped inside and out with the tincture, invaginated, and the cæcum closed with the usual pursestring sutures of iodized silk. Other openings are repaired and the surrounding parts are carefully searched for extension of the inflammation, which should be also mopped. A double drainage tube of glass or rubber should be inserted down into the pelvis, although no discharge or a little serum, perhaps, may be expected if all the inflamed surfaces have been mopped and left a *dry brown*. Should there remain, however, a focus of infection, then irrigation with iodine salt solution followed by normal salt solution is indicated. It goes without saying that the Fowler position and continuous enteroclysis are *sine quibus non* and the intelligent use of an autogenous bacterin a proper supplementary treatment.

An analysis of the various features of appendicular abscess, it is believed, will further demonstrate this unorthodox treatment to be established upon the foundation of good surgical and pathological teaching. The aim of the surgeon is to remove the pus, convert the septic surface into an aseptic one fortified by phagocytosis, and prevent further peritoneal infection by the intestinal contents escaping from the ruptured appendix. Hitherto this aim has been frustrated by the lack of a drug which could be used in efficient bactericidal strength in the abdomen without damaging the peritonæum or poisoning the patient. Tincture of iodine fulfills these requirements, and the surgeon need no longer feel that evacuation and drainage of the abscess is as far as he dare venture in assisting Nature, but can confidently hope to rout those twin curses of postappendicular abscess, fæcal fistula, and intestinal obstruction from adhesions.

The first aid packets with aseptic contents now carried by every soldier in our army, while being a wonderful advance in preventing wound infection and thereby having to their credit many, almost miraculous, recoveries, are not yet ideal because they are not proof against infection from the hand that applies them, nor is the infection, carried into the wound by projectiles, affected by a sterile covering. In considering this very subject in an address before the Association of Military Surgeons, Colonel N. Antelo, of Buenos Ayres, said: "To the 'field dressing' must be added a small flask of adequate form and size containing a quantity of the tincture of iodine sufficient to cover the orifices made by projectiles and the immediately surrounding zone. It must be packed outside of the pieces of dressing material constituting the 'field dressing.' Then the wounded soldier—carefully instructed during peace—should open the little bottle and pour half its contents into each aperture and on the immediately surrounding skin. Afterward he should open the 'field dressing' according to instructions."

We submit that if the treatment of wounds by surgeons and nurses is attended with some danger of accident or infection, how much greater would be the risk where the person applying the treatment is a soldier on the battlefield in acute suffering, faint, frightened, or clumsy. Under such circumstances tincture of iodine might be poured into a wound of the chest or abdomen, for example, with great suffering and serious damage as a result. We need a first aid packet that is fool proof and ignorance proof. Why not carry the idea further? Let the contents of the first aid packet be impregnated with a strong iodine solution, as in the Claudius method for catgut, then the danger from included germs will be lessened by the germicidal effect of the iodine, redissolved by the wound secretions, which can be increased by wetting the dressing after application without danger of an excess.

It will be remembered in this connection that the dressing will be inspected at the dressing station of the ambulance company, at the field hospital, the evacuation hospital, on the hospital train or transport, and finally at the base hospital, so that adequate surgical care will be available once the man is picked up, but the damage is done within the first few minutes after receiving the wound, and it is this weak spot in the course of the treatment that must be strengthened.

The antiseptic treatment of wounds is not in a satisfactory state if we are to judge by the quotation, in a current medical journal, from an address by a well known surgeon before the Medical Association of the Southwest. He said in part: "All fresh wounds were treated in the following manner when they first came in: If the laceration was very extensive, the patient was given a general anæsthetic; if less severe the extremity was immersed in a two per cent. carbolic solution in tepid water, from five to ten minutes. This was an excellent local anæsthetic and made it possible to scrub the parts thoroughly without causing undue pain. They now scrubbed the extremity thoroughly with soap and sterile water by the aid of a brush or pieces of gauze; then washed it off with ether, scrubbed it well with oil of turpentine, swabbed it with tincture of iodine, rinsed it with alcohol, and finally put on a sterile dressing. *If in spite of these precautions or because of their neglect* (the italics are the writer's) septic infection did develop, by instituting and rigidly adhering to a definite plan of treatment we could secure healing, with practically no mortality, rarely if ever losing a member and usually without permanent impairment of function."

If the infection follows anyhow "in spite of these precautions or because of their neglect," why not institute in the first place the definite plan of treatment? Why should surgery adapt the shotgun prescription, long since discarded by the internist, wherewith to go hunting in a swamp of empiric antisepsis when we have in iodine a high power projectile that hits the mark, a drug that does not injure even debilitated tissue in germicidal strength?

The writer is in absolute accord with Dannreuther that iodine has passed the experimental stage as an antiseptic and germicide and he has discarded all other antiseptics in his surgical practice. He believes that others, and particularly the general practitioner, who [illegible] will eventually do likewise.

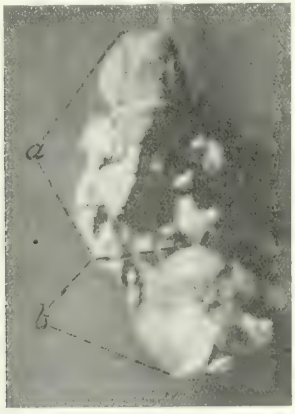
SARCOMA (ROUND CELL) OF THE SUBMAXILLARY GLAND.

Report of a Case.

By J. Dawson Whitall, M. D.,
Philadelphia.

In going over the current literature, one is surprised at the paucity of information in regard to sarcoma of the gland, so that it seems worth while to report cases of this nature. Osler (*Practice of Medicine*), does not mention this condition, nor does J. C. Da Costa (*Modern Surgery*). Bland-Sutton speaks only of chondrifying tumors of the submaxillary gland (Tumors in Keen's *Surgery*), making no mention of the sarcomatous type. Bryant and Buck (*American Practice of Surgery*, p. 306) say that pure sarcoma (round celled) has been seldom observed, that the prognosis is good for encapsulated tumors, that recurrence occurs in one third of all cases. They also state that facial paralysis is not common, but that when present favors malignancy. Coplin (*Manual of Pathology*, p. 646) says that the most common variety of tumor of this gland is the mixed type or fibroadenoma, that sarcoma are sometimes seen, though much more rarely.

Surgical anatomy. The submaxillary gland lies in the submaxillary triangle of the neck, bounded above by the inferior maxilla; posteriorly by the posterior belly of the digastric muscle; anteriorly by the anterior belly of the same muscle. It lies upon the hyoglossus and mylohyoid muscles. The facial artery crosses it, while the submaxillary ganglion is superior to the gland. Branches from



[illegible] gland and growth. Reduced [illegible]

the fifth and seventh nerves form a network about the gland, while the hypoglossal nerve is closely related to it.

Case. The patient, who was referred to me by Dr. Frank O. Steim, gave the following history: T. Z., female, white, aged thirty-eight, married. There was no family history of tuberculosis or malignancy. The patient had always enjoyed a fair degree of health, though had never been robust.

Present trouble: About eight years ago she noticed a small lump on the left side of her neck just below the jaw about the size of a large pea. Until three years ago (1907) it gave her no trouble, but since that time it had grown rapidly. She thought it interfered with swallowing.

Physical examination showed a woman slight in build, very thin and anæmic. Eyes clear, pupil reacted to light and accommodation. Had a slight facial paralysis on the left side. The nasolabial fold was rather obliterated. On the left side just below the ramus of the inferior maxilla was a lump about the size of a small plum. Upon palpation it was found to be much larger than one would have supposed and was decidedly adherent. There were no inflammatory signs, and no other glandular enlargements. The growth was extremely hard but painless. Heart, good muscular element; second sound (aortic) accentuated lungs showed good expansion; no râles, no consolidation in apices. Examination of abdomen was negative, no blood count made.

Diagnosis: Fibroma of the neck undergoing malignant degeneration. Operation advised, accepted, but patient refused to go to the hospital.

Operation. On August 15, 1908, under ether narcosis, general aseptic conditions as good as possible in a private house, a one half inch incision was made, parallel to the maxilla and a half inch below the same, over the growth. With the aid of an Allis dissector, the mass was gradually separated from the surrounding tissues, when it was at once evident that the growth was directly continuous with and a part of the submaxillary gland. To have removed the growth alone (which would have been very simple) would have meant, undoubtedly, recurrence; for the gland was intimately attached to the growth which certainly looked malignant macroscopically. The facial artery was pushed aside, branches of the seventh nerve separated (and a few fibres torn) while the hypoglossal nerve was carefully avoided. The entire growth and the

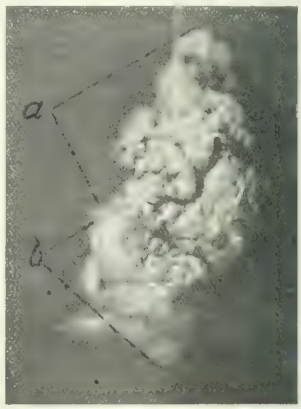


Fig. 2.—Posterior view of normal gland and growth. Reduced [illegible]

submaxillary gland were removed *en masse*. No other glandular involvement noted. Fairly deep chromic sutures (No. 0) were introduced to obliterate the dead space. No drainage used.

Postoperative convalescence: For three days following great difficulty was experienced in deglutition due to a paralysis of the glossopharyngeal nerve. This was the result of trauma, for nothing was divided. Liquids regurgitated. Gradually this cleared up and both solid and liquid food was well borne. There was a decided facial paralysis. The wound healed by primary union, and the sutures were removed on the eighth day.

The pathological report was as follows: Morbid anatomy. The mass consisted of soft tissue combined with a hard, nodular lump. The specimen measured five centimetres in width by nine centimetres in length. The hard area was fairly well encapsulated except where it was continuous with the softer portion, which looked like normal glandular tissue (see photographs).

Preparation: A portion was removed so that a cross section would show both glandular and tumor elements. The tissue was fixed in Heidenhein's solution, dehydrated in ascending strengths of alcohol, cleared in cedar oil, infiltrated in paraffin, blocked, and slides made. These were stained with hæmatoxylon, counterstained with eosin and Van Giesen stain, cleared in creosote, and mounted in balsam.

Microscopical examination: The normal glandular elements were seen, but they showed no activity (proliferation). At the portion of the specimen where the growth began, there was a great deal of round celled infiltration. No capsule could be seen at this point, but there were very large and darkly stained nuclei. The fibrous tissue was very active and had a tendency to form "whirls." The capsule in other areas was much thinned.

Pathological diagnosis: Round celled sarcoma of the submaxillary gland.

Prognosis was guarded.

Subsequent history: Up to the present time, November 1, 1910 (a little over two years since operation), there has been no recurrence and her facial paralysis has cleared up.

2025 Chestnut Street.

CONGENITAL HYPERTROPHIC PYLORIC STENOSIS.

*Posterior Gastroenterostomy with Recovery in an Infant Seven Weeks Old.**

By H. Lowenburg, A. M., M. D.,
Philadelphia,

Instructor in [illegible]
Pædiatrist to the Jewish [illegible]
Hospital; Pædiatrist to the Jewish Seaside Home, Ventnor, N. J.; Formerly Lecturer on Pædiatrics, Medico-Chirurgical College.

Helen L., aged six and a half weeks, was referred to me on June 6, 1910. Mother, twenty-two years. Father, twenty-two years; both in good health. Mother had had no miscarriages, labor had been normal. Weight of infant at birth estimated to be about from nine to nine and a half pounds. Breast fed for two and a half weeks every two hours regularly, but this method was discontinued because the infant started to vomit. At the suggestion of the attending physician various foods were employed together with barley water and prepared beef juice. Vomiting continued. Mouth feeding was suspended and nutrient enemata of pancreatized milk were tried but were expelled. Vomiting occurred at times immediately after feeding and at other times from one half to two hours after, depending upon the quantity fed. On the day of examination the mother stated that the infant had not vomited for twenty-four hours. Vomitus was curded (after milk feeding), sour, and slimy. The bowels were said to be constipated, to have been normal in the beginning, to have never contained curds, and to be small in bulk. The infant was said to have lost weight tremendously, the diagnosis of marasmus having been made.

Examination showed a pale, emaciated, marantic appearing infant with wrinkled skin and senile features. Weight, five pounds, seven ounces. The upper part of the abdomen was decidedly distended, the lower part comparatively flat. Gastric tympany was present as far as two fingers' breadth below the umbilicus and extended far toward the left into the flank. Distinct visible peristaltic waves were noted over the region of gastric tympany proceeding from left to right, and suggested the appearance of a series of successive balls being rolled under the skin. This visible peristaltic action, while spontaneous, could be inaugurated and intensified by light tapping over the stomach. This also produced vomiting which was projectile in character, the stomach contents being ejected without nausea or wretching at least one foot from the infant's crib. Vomiting occurred in a similar manner as well without tapping [illegible] only be palpated with difficulty and without result, so three drops [illegible] held about two inches from the infant's face. This controlled its movement and relaxed its muscles and it was without difficulty that a hard cartilaginous like tumor mass about the size of a small chestnut was palpated just above and to the right of the umbilicus. The mother exhibited a bowel movement which she said was a fair example of the infant's discharges for the past five weeks. It was greenish brown, of no bulk, being simply a stain upon the napkin of what appeared most likely to be bile tinged mucus. Under careful questioning both she and the attending physician declared that the movements had never contained curds.

From the history, symptoms, and physical findings as detailed the diagnosis of congenital hypertrophic pyloric stenosis was made, and as the course had been steadily down grade but as the general strength appeared good, immediate operation was strongly advised and refused. The following treatment was then instituted with no hope of success plainly expressed to the parents. The stomach was washed twice daily with a warm solution of sodium bicarbonate (one drachm to the pint of distilled water) and the following formula for feeding was ordered: Fat, one per cent.; lactose, six per cent.; protein, 0.33 per cent.; one half of one ounce every hour. Later this formula was pancreatized. The utmost care and skill were employed by a trained nurse in the preparation of the food and all hygienic details were observed. The infant continued to vomit. The next day the food was changed to whey made from fat free milk. Two drachms were ordered every hour to be fed with a medicine dropper. Five grains of strontium bromide were given by rectum every four hours. Two nutrient enemata of completely pancreatized milk were expelled. Vomiting continued. Weight, five pounds, six and a half ounces, a loss of one half ounce.

June 9th. Symptoms and treatment continued the same. Weight, five pounds, five and three quarter ounces, a loss of three quarters of an ounce in twenty-four hours. Infant was weaker. I refused to continue in attendance further unless operative measures were undertaken as I regarded the hygienic and dietetic treatment as useless and hopeless.

June 11th. Operation of posterior gastroenterostomy was performed by Dr. Francis T. Stewart at the Pennsylvania Hospital. The pylorus was found to be absolutely impassable, thickened, and hard. The stomach was enormously dilated and the intestines were completely collapsed. At the region of the pylorus was found a small, hard tumor mass consisting of hypertrophied muscle fibre. After operation the infant reacted poorly, and was given small quantities of pancreatized milk by rectum. After two days small quantities of albumin water and pancreatized (fifteen minutes) milk were alternately fed. For the first few days following the operation the infant vomited a greenish bile stained fluid. The bowel movements at once became fæcal in character and contained occasional curds.

June 25th. The baby on this day was nine weeks old and weighed six pounds, thirteen ounces (a gain of one pound and seven and one quarter ounces since operation), was taking one ounce of albumin water and one ounce of pancreatized milk alternately every half hour, or four ounces of fluid every two hours. Did not vomit but occasionally had eructations. Bowels moved three to five times a day. Movements were yellow with curds at times. One half ounce of cane sugar was added to each twenty ounces of food. This consisted of pancreatized milk of which one and one half ounces were given each hour as four ounces every two hours were regarded as too great a quantity to be taken at one time. Infant to be awakened for food during day but not during night.

June 27th. Weight, nine pounds and three ounces (nine weeks and two days old). Ordered formula: Fat, three per cent.; lactose, six per cent.; protein, one per cent; two ounces every two hours; diluent fifty per cent. barley water made from the grain. Discontinued pancreatization, but [illegible] just before feeding. Cod liver oil inunctions ordered daily.

July 9th. [illegible] daily; nile green, some curds. Temperature, 98° F. in rectum. Seemed hungry. Weight, six pounds, twelve and one half ounces (loss of six and one half ounces). Ordered two and one half ounces of same formula every two hours night and day, thereby increasing total quantity of

food from twenty-four to thirty ounces in twenty-four hours.

July 6th. Weight, six pounds and thirteen ounces.

July 8th. Weight, six pounds, fifteen and one half ounces.

July 11th. Weight, seven pounds, one and one half ounces. Bowels moved four to five times daily, slightly green, occasional curds, good odor and consistency. Added pulverized flour ball, one drachm to each bottle.

July 13th. Weight, seven pounds and four ounces.

July 15th. Weight, seven pounds and five and one half ounces. Vomited once.

July 17th. Weight, seven pounds and eight ounces.



Fig. 1.—Present condition of infant, October 11, 1911. Arrow indicates scar from operation.

Temperature, 98° F. in rectum. Sneezed. Bowel movements five, light green but well digested. Made diluent full strength barley water.

July 19th. Stopped formula. Ordered rice water, three ounces and condensed milk, one drachm.

July 20th. Weight, seven pounds and nine and one half ounces. Three bowel movements, thick, yellow. Increased condensed milk to one and one half drachms and added flour ball.

July 23d. Stopped condensed milk. Again ordered: Fat, three per cent.; lactose, six per cent.; protein, one per cent.; diluent full strength barley water. Pancreatized ten minutes. Ordered three ounces every two hours. Discontinued addition of extract of pancreatin and sodium citrate.

July 25th. Weight, seven pounds and twelve and one half ounces. Bowel movements yellow with tinge of green.

July 27th. Weight, eight pounds and two and one half ounces. Movements well digested, good odor and consistency but slightly green. Increased food to three and one half ounces every two hours.

July 29th. Weight, eight pounds, five and one half ounces.

August 1st. Weight, eight pounds and ten ounces. Changed diluent to full strength rice water.

August 6th. Weight, eight pounds and fifteen and one half ounces.

August 10. Weight, nine pounds and four and one half ounces. Two bowel movements daily, well digested, yellow with a tinge of green.

August 17th. Weight, nine pounds and thirteen ounces.

August 22d. Weight, ten pounds and two ounces.

August 27th. Weight, ten pounds and six and one half ounces. Changed formula to: Fat, 3.50 per cent.; lactose, 6.20 per cent; protein, 1.16 per cent. Increased quantity to four and one half ounces every two and one half hours. Movements well digested and yellow.

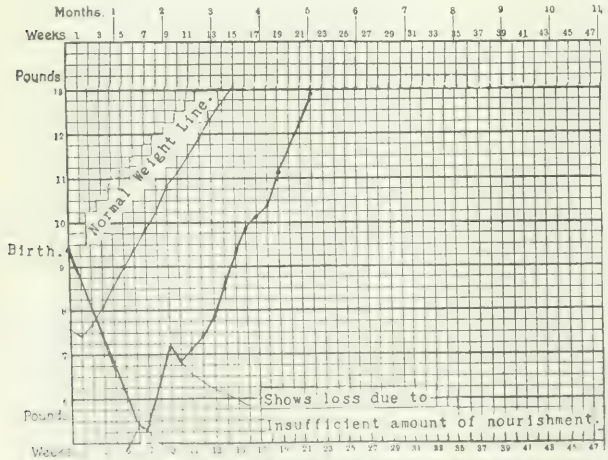
September 6th. Weight, eleven pounds and two ounces. Four bowel movements daily, yellow and digested. Infant was taking forty-five ounces of formula a day together with four drachms of expressed beef blood.

September 27th. Weight, twelve pounds and thirteen ounces. Infant perfectly normal.

The parents removed to Brooklyn in which city I saw the infant on January 25, 1911. She was now nine months old, well developed, and weighed close to seventeen pounds. Her only deficiency appeared to be delayed dentition—not an uncommon condition in bottle fed infants.

It can be seen from the foregoing that the infant's progress was uniformly upward and all present indications seem to point to a continuance of the good result.

Diagnosis: The diagnosis of hypertrophic pyloric stenosis is not difficult if the condition is kept in mind when dealing with marantic appearing infants, especially when vomiting is a prominent feature. Its detection is somewhat more difficult before marked wasting occurs. In these cases vomiting is most often regarded, at first at least, as due simply to digestive errors. Neither does abdominal palpation, in the very young and well nourished infant, give as good results as in those infants in whom a moderate amount of wasting has already taken place. This renders a positive early diagnosis less easy. Pyloric stenosis is confounded with or rather regarded as marasmus more often than with any other condition. Wasting is a symptom of both conditions, but projectile vomiting, visible gastric peristaltic waves, nonfæcal and noncurded bowel movements, together with a palpable tumor mass in the region of the pylorus belong to stenosis alone. Projectile vomiting occurring early and apparently without cause in an otherwise healthy appearing breast fed infant, where it can be proved that the mother's milk is not at fault, should always excite suspicion of this condition.



preceding operation.

Not all cases present a palpable tumor, although is is my belief that

this feature would be more frequently elicited if use were made of a few drops of chloroform when making the initial abdominal examination. It is perfectly harmless and permits of complete palpation of the abdominal contents. Nothing, as attracting the infant's attention or the use of the sugar tit, answers quite so well. It stops crying and completely relaxes the belly wall.

In those cases in which it is impossible to detect a tumor, and yet the diagnosis of obstruction seems certain on account of projectile vomiting, peristaltic waves, and emaciation, the stenosis is probably due to pylorospasm. In these instances the bowel movements may at times be fæcal and contain occasional curds as the obstruction is neither constant nor complete. These cases are exceedingly difficult of diagnosis and not infrequently go on to a slow recovery unrecognized and regarded simply as cases of difficult feeding and delicate digestion.

Treatment: The diagnosis having been made the question of treatment must naturally be settled. Briefly, this may be divided into 1, surgical, and, 2, nonsurgical. Surgical. The indications for either have not been definitely defined. When complete stenosis exists, as in my case, as evidenced by a palpable tumor, there is but one diagnosis, hypertrophic stenosis, and therefore, to my mind, but one logical method of treatment, namely, operation. Operation, while dangerous, offers the only hope for these little patients. Lavage, sedatives, and dietetic manipulation cannot hope to remove a distinct palpable obstruction due to a powerful, truly (numerically) hypertrophied muscle. Operation to be of benefit must be done comparatively early, before the infant's strength is exhausted, but no patient should be regarded as hopeless to surgery unless *in extremis*. As to the choice of operation this must be left to the surgeon's discretion at the time the belly is opened, but statistics seem to prove that the best results are afforded by posterior gastroenterostomy.

Nonsurgical. Cases of projectile vomiting due either to spastic or to intermittent pylorospasm usually recover without operation. Under chloroform the patient does not present a palpable tumor. The best results are obtained by lavage performed twice daily with a warm, weak solution of sodium bicarbonate. Careful manipulation of the food as to strength and quantity and the interval of feeding are important. If they will be retained, nutrient enemata, with no mouth feeding at all for a week or ten days, may serve a useful purpose in overcoming the spasm. Small doses of strontium bromide, either by mouth or by rectum, may be of considerable use. These patients should be weighed daily. If their weight and strength remain the same for days the nonsurgical treatment can be continued. If they show a progressive daily loss in weight and strength operation should not be delayed. Taken as a whole the nonsurgical treatment of this condition is neither reliable nor safe, and it is my belief that any case of projectile vomiting diagnosticated as congenital hypertrophic pyloric stenosis and which recovers without operation is either not stenosis at all or is simply a case of pylorospasm.

1502 Diamond Street.

THE TREATMENT OF OTITIS MEDIA PURULENTA AND MASTOIDITIS IN INFANTS.*

By John Randolph Page, M. D.,
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Observation of the excellent results obtained on this subject at two hospitals with which I am connected leads me to compare them with those generally obtained in private practice, and to remark that the comparison is not in favor of the latter more favorable class for reasons which will be made obvious in this paper.

The number of people in even the better walks of life who are now afflicted with chronic suppurating ears is enough to warrant the serious consideration of this subject by all who are interested in pædiatrics, it being unnecessary to mention the deaf mutes and fatal cases of meningitis, sinus thrombosis, and brain abscess which result from this condition so frequently regarded as trivial.

Sick babies are found in most hospitals and in general practice with middle ear discharge from one or both ears to which little or no attention is paid. The perfunctory irrigations they receive are ineffectual, and during the interval between them the canals, middle ears, and antra are filled with pus, the absorption of which adds to the child's digestive disturbance and the failure of its recuperative powers. This condition too often continues until death occurs with sepsis as a contributing cause, or until a postauricular swelling appears as the "first indication" for operation on the mastoid. The middle ear and mastoid are necrotic for weeks before this indication for operation appears, and the septic absorption continues during all this time. Nature will, in rare instances, overcome such an infection in the mastoid even after external signs of inflammation have appeared, and, unfortunately, because of this people not cognizant of the danger from delay in most cases, are induced through false hope to defer operation until all chance of useful hearing is lost and danger to life is imminent.

The small size of the auditory canal and the tenacious character of the discharge frequently render irrigation alone useless. By instilling hydrogen peroxide and working it into the canal before each irrigation the discharge can be loosened and then washed away.

Despite the fact that the use of hydrogen peroxide in middle ear disease is considered unwise by some authorities, it has been used at the Babies' Hospital with gratifying results, and no other remedy has yet been found as efficacious. The last yearly report from that institution shows that in eighty-seven cases of acute purulent otitis media complicating other diseases, but three were operated on for mastoiditis, and I am told by the resident physician that in all of the cases in which the drum membranes were incised before spontaneous rupture occurred the discharge lasted not longer than three weeks. Throughout the winter the ears are examined in every case, and the red and bulging drum membranes are incised and treated with in-

stillations of hydrogen peroxide and boric acid irrigations from the beginning. All otorrhœas are treated systematically every two, three, or four hours, or less frequently if the amount of discharge warrants it.

No cases could be more unfavorable for treatment than those met with at the Babies' Hospital, yet the large majority of these infants were cured without operation, and of the three operated upon for mastoiditis last year all recovered. Babies are occasionally admitted, however, hopelessly ill with some disease complicated with long continued mastoiditis which requires operation with scant hope of success. Two such cases only recently operated in will make the next yearly report less gratifying.

That mastoiditis can be prevented in all except a small percentage of cases by early evacuation of the middle ear abscess and careful treatment before the infection has had time to become established is the experience of most otologists. But early diagnosis is necessary for this, and it can only be obtained in children by routine examination of the ears in all cases of sickness.

Dr. Gruening, in a recent paper entitled Otiatrics and Pædiatrics (*Laryngoscope*, August, 1910), speaks of the importance of aural examinations in children as a matter of routine, and he lately remarked that he might have added "by one of experience," owing to the difficulty of obtaining a satisfactory view of the drum membrane in some cases.

All will agree that experience, time, and patience are required for satisfactory otoscopic examinations in children, as even the specialist is sometimes deceived by appearances, and the inexperienced are often misled by epithelial scale and drum membranes that are yellow and not red from the pus behind them. The opinion of the physician who occasionally examines the ears of children is of little value, but the one who has perseverance and patience enough to examine their ears as regularly as their chests will in a short time be able to interpret correctly the appearances seen.

To show the prevalence of middle ear suppuration in diseases of infancy and the infrequency with which it is diagnosticated Dr. Gruening calls attention to Ponfick's report of 100 autopsies performed on children under four years of age who had died from various diseases (*Berliner klinische Wochenschrift*, 1897). Of the 100, ninety-one had otitis media purulenta, and nine normal ears. In seventy-seven both ears were affected, and in fourteen one ear. In the ninety-one cases found with purulent otitis media the diagnosis had been made before death in only *ten*. This is certainly a strong argument for the necessity of routine aural examinations in children.

The value of early diagnosis and thorough treatment has been well demonstrated by the results obtained at the Babies' Hospital in that not one persistent discharge of mastoiditis had developed among all those whose drum membranes were incised before rupture occurred. Nevertheless, when mastoiditis *has* developed and the infection has become established to the point where it resists the most thorough treatment through the canal, the attack on it from behind should be considered *before the vitality is additionally lowered by septic absorp-*

Delay for the appearance of external signs over the mastoid is unwarranted when the character of the discharge, its resistance to treatment, and the general condition of the child is considered. Extensive involvement of the bone with necrosis of the inner plate too often occurs without perforation of the cortex or external signs in even very young babies.

The persistence of a profuse discharge after careful treatment has been pursued for a reasonable time warrants the serious consideration of the advisability of providing drainage posteriorly of the mastoid antrum and middle ear. A full appreciation of the fragile mechanism of the young, delicate baby should be held, but the danger from prolonged septic absorption can not be ignored.

The records of the Manhattan Eye, Ear and Throat Hospital show that the mastoid operation is attended with only slight danger to life when performed on babies in an average state of health by men of experience in that special work. For the year ending October, 1909, there were sixty-eight mastoidectomies, simple and complicated, performed on children under three years of age with only two deaths following. One was a private case, and the other infant, thirteen months of age, died in the ward three weeks after the operation.

Although I have no way of comparing these results with those obtained from the same number of mastoidectomies performed on children of the same age in private practice, I think despite the advantage held by the latter from their better condition in life, that the hospital results will compare very favorably with those obtained in private practice, because of the fact that in the hospital less delay is met with in performing an operation when it is indicated. In private practice attention is frequently not called to the ear until dangerous symptoms have developed.

Dr. Kelley, in his article, Surgical Mistakes in Infancy and Childhood (*Journal of the American Medical Association*, September 3, 1910), warns against overestimating the vitality of an infant. Little consideration is given this when a child is left unaided to fight an infection in the mastoid until its resistance has reached a low ebb. Judging from the results obtained in cases in which fairly early operations are performed on the mastoid, I think that in this branch of surgery a child's resistance to infection is more often overestimated than is his ability to withstand operation.

As to care after operation, in spite of what seems to be a fairly general opinion to the contrary, the disturbance caused by dressing is considerably less harmful than that produced by absorption of the secretions when they are allowed to accumulate even for a short time. Dressings left until they are saturated macerate the edges of the wound and the skin, and make the child nervous and fretful. Daily dressing, with careful cleansing of the canal and free use of zinc ointment or Lassar's paste on the skin, prevents irritation and pus absorption and keeps the child's disposition unruffled.

This is a familiar subject, but it has not received the practical attention it should receive from either the specialist or the general practitioner, and I feel warranted in drawing attention to it not only because of the lives lost from delay in operating on the mastoid, but more especially because of the great

number of children whose lives are menaced and whose prospects are limited by deaf and offensive ears which have developed from neglect and improper treatment. To be impressed by the importance of this, one has but to go through a hospital for contagious diseases, or any large hospital, and count the discharging ears which continue to discharge after they are sent home "cured."

Early diagnosis to enable early treatment is the remedy, and this is dependent on routine examination of the ears. In contagious diseases daily examinations are necessary.

A high mortality after operations on the mastoid is more often due to neglect of the ear condition before operation than it is to the operation itself.

27 East Fifty-seventh Street.

TREATMENT OF PNEUMONIA WITH CREOSOTE INHALATIONS.

By Beverley Robinson, M. D.,
New York.

One of the most important things to be constantly borne in mind in the prophylaxis and treatment of pneumonia is, in my judgment, the proper and efficient use of beechwood creosote by means of inhalation. This I have dwelt upon time and time again, and latterly in the last April issue of *American Medicine.* To those who are willing to believe the experience and convictions resulting from life long service, I would earnestly refer them to that article on the treatment of pneumonia. I here reaffirm, there is absolutely nothing so simple, so effective, so harmless in the prophylactic and curative treatment of croupous pneumonia and also catarrhal pneumonia, as inhalations of warm creosote vapors from the ordinary croup kettle filled with water and allowed to simmer over a lamp burner, stove, what not, in a more or less continuous manner during the inception and continuance of pneumonia. Further, I venture to affirm, no nurse or attendant will take it from the patient thus treated.

42 West Thirty-seventh Street.

FURTHER OBSERVATIONS ON CYSTS OF THE PANCREAS.*

By Rufus B. Hall, M. D.,
Cincinnati, Ohio.

Cysts of the pancreas are so infrequent that it is desirable to place every case on record, and, in doing so, even at the expense of being tedious, the important points in the clinical history of each case should be carefully noted.

While a busy operator not infrequently comes in contact with acute pancreatitis, which is becoming more easily diagnosticated than was possible a few years ago, yet the diagnosis of this condition is by no means easy. Yet the same practitioner rarely sees a large cyst of that organ.

The writer reported to this association an interesting case of cyst of the pancreas at its meeting in New Orleans in 1907. He now desires to present another case of equal interest. The anatomical location of the development of cysts of the pancreas, as well as the pathological cause, must always be a source of great anxiety to the operator. If the cyst develops in the tail of the pancreas due to trauma, or even obstruction of the duct by calculi, and the patient recovers from the operation, the patient may have enough of the gland remaining, if the duct is patulous, to sustain life. If, on the other hand, the cause should be obstruction of the duct by a calculus near the head of the pancreas and the operator not be able to discover or remove the obstruction at the time of the operation, the outlook for the ultimate recovery of the patient is very grave. I will grant that the location of the obstruction is not easy to determine before the operation. Indeed, one must decide this largely by the after development in the progress of convalescence as to this condition, which he can do by examination of the fluid discharged from the drainage tube.

The mode of formation of these large cysts is largely speculative. It is supposed that after the inflammatory process resulting from the injury is begun, effusion takes place in the glandular tissue of that organ. The degenerative changes lead to the formation of an adventitious wall of inflammatory material plus the pancreatic tissue, thus forming the sac into which occasional hæmorrhages occur during the progress of the disease. The contents of pancreatic cysts are varied, but usually the fluid is of a brownish red or dark green color. The fluid from the cyst is alkaline in reaction and contains albumin, fat globules, crystals of cholesterin with white and red corpuscles. The size of the pancreatic cyst varies from a small vesicle to an immense sac containing two or more gallons.

The diagnosis of pancreatic cyst is more or less obscure and must always be a source of great anxiety to the operator, and, indeed, it is difficult in many cases *even* after the operation. To confirm the diagnosis, it is necessary, in many cases, to examine the character of the fluid, which, if it is of the pancreas, will reveal the true nature of the cyst. It is a well recognized fact that tumors in the abdomen displace neighboring organs, or become attached to them, thus misleading the operator in his judgment, but, if the contents of the cyst demonstrate the presence of pancreatic fluid, and the anatomical relations are those of a pancreatic cyst, little doubt should remain as to its nature. In a large number of reported cases there is a history more or less definite of an abdominal injury. In many cases the enlargement is observed soon after the injury; in others, after a long period of time has elapsed. In other instances the development of the cyst follows some acute illness, such as typhoid fever. The usual course of pancreatic cyst is comparatively acute, a few weeks covering the entire history, but there are a few instances on record in which the cyst has been known to exist for years without causing much inconvenience until some accident to the cyst like hæmorrhage or rupture of the sac, or intestinal obstruction brings the case to a sudden termination.

Case. The subject of this report, E. B., male, age twenty-one years, married, an iron mill worker, patient of Dr. E. M. Sellards, of Ashland, Ky., was admitted to the hospital on October 6, 1910. He had always enjoyed good health previous to the present attack of illness, which began suddenly nineteen weeks before admission. He gave

*Read before the Southern Surgical and Gynæcological Association, [illegible]

a clinical history of having received an injury while lifting a heavy weight the day preceding his attack of pain.

While at the luncheon hour, the men were showing feats of strength by lifting a large cast iron wheel, each vying with the other to see how high he could lift it up and how long he could hold it by using both hands. Our patient said he could lift it with one hand and put it above his head, which he accomplished. Just as he did so, he said he felt something tear in the upper part of his abdomen. This caused considerable pain at the time and made him somewhat sick and faint for a few minutes. He worked half a day after that, but, in the middle of the night of that day, he was seized with an acute attack of pain, which the physician, who was called, believed to be an attack of gallstone colic. He received three doses of morphine hypodermically before he was relieved of the pain. The following day, he did not work because of the soreness and pain in his abdomen. The second day, he did work, but, was unable to do the full amount of work that was usually performed. He did not work any more, and, on the fifth day from his first attack, he had a second severe attack of pain, lasting for half a day, which required several doses of morphine to relieve him. The doctor now told him that he was mistaken about the first attack being gallstone colic. He believed now that he had appendicitis, and, that if the patient did not improve in a few hours, he would operate upon him. The following day his condition was better, and the doctor still believed the patient was suffering from appendicitis, but did not urge an operation. He told the patient at the time that he had general peritonitis, but that he was going to get well from that attack. He was able to leave the bed in four or five days. He had his third attack of pain, which was not nearly so severe as the first and second, about three weeks after his first illness. This attack required only a couple of doses of morphine to relieve the acute pain. The abdomen was sore and tender always after his first attack. About two weeks after his third attack, making five weeks from the commencement of his illness, the patient first observed a tumor a little to the left of the middle line under the border of the ribs. The patient called the doctor's attention to this and the doctor told him he thought it was gas. This history was all obtained from the patient as the doctor had passed out of the case soon after the tumor was first observed and another doctor assumed charge, who treated him until Dr. Sellards was called. The patient said the tumor gradually increased in size. He noticed about that time that he was losing flesh; that he had lost perceptibly in strength, and he was not surprised on weighing himself to find that he had lost five pounds. He lost flesh rapidly from this time. His appetite failed, he could not digest his food properly, and his general condition gradually grew worse until he came under the care of Dr. Sellards, a few days before he brought the patient to the writer. The patient denied that he had ever had any form of venereal diseases. He had been peculiarly exempt from all illnesses, even the ordinary diseases of childhood. He was foreman in an iron mill and prided himself on his physical strength. He was six feet tall and weighed when well 239½ pounds. When he entered the hospital he weighed 140½ pounds, having lost ninety-nine pounds.

Upon examination, he was very much emaciated, his pulse was 140, his respiration 36, his temperature 98° F., and his physical suffering was very great. The abdomen was enormously distended. The tumor practically occupied the whole of the abdomen, but was more prominent at the upper half and larger on the left side of the middle line. It was of a peculiar shape, not unlike in size and shape of an ordinary coal bucket turned upside down and placed diagonally over the man's abdomen with the large end toward his left ileum. The cartilages of the ribs on the left side were misplaced, pushed upward and formed a shelf like projection over the tumor. The lower part of the abdomen on the right side was not distended from a line drawn from the middle of Poupart's ligament on the left side to a point about two inches above the right anterior superior spine of the ileum. The abdomen below this line was perfectly flat. The cyst commencing here, filling the upper and left side of the abdomen, was very tense and fixed in its position. By palpation, it gave the sensation to the examiner that it was a solid tumor, yet distinct fluctuation could be obtained by percussion. The weight of the cyst was so great and the patient suffered so much from the pressure that he could not be induced to lie on his back long enough to carefully examine him. He could rest more comfortably on his left side, but he could not rest long in any position. The facial expression of the patient was that of one suffering great agony. His lips were drawn over his teeth and his face pinched. The patient had suffered from a diarrhœa with three or four stools daily for about two weeks.

With the great loss of flesh, the enormous tumor in his abdomen, and the complaints of the patient of the great suffering, made a pitiable picture long to be remembered. He said that the sensation to him was that the tumor was likely to burst.

In diagnosticating a case like this, a number of conditions must be considered. The tumor must be one of three or four conditions, and one must take these into consideration, as well as the past history and the present condition, in making a diagnosis. We must consider pancreatic cyst, enlarged spleen, postperitoneal sarcoma, and tumor of the left kidney, and, by eliminating one after the other, both the clinical history combined with the physical condition, must receive careful consideration before final judgment can be reached.

The diagnosis of pancreatic cyst was arrived at by excluding the kidney and the spleen, which was done without much difficulty. In elimination of the kidney, the examination of the urine revealed nothing abnormal, excepting that it contained sugar, just as it should do in cyst of the pancreas. There was no pus or blood in the urine, and frequent examinations made before he came under my observation, showed there had never been any pus or blood in the urine. There were no bladder symptoms.

The tumor outline in itself was so different from that of enlarged kidney, one would be impressed at once that it was not a kidney tumor, it was so out of the ordinary in shape and position. The enlargement occupied the upper left half of the abdomen. The largest part of the cyst was the upper part. Tumors of the kidney usually occupy a different position. They do not crowd upward and toward the middle line like the one under discussion. It would not displace the ribs, while the lower abdomen was not yet distended.

A tumor of the spleen, as large as this one, would likely be a solid tumor. It would not occupy the same position as this tumor. It would project more downward. One would be able to outline a notch along the right border of the tumor, which did not exist in this case. The man had never suffered from malaria. He had never lived in a malarious district. The blood examination was negative.

To exclude a rapidly growing postperitoneal sarcoma was not so easy because every operator knows how easy it is to be deceived and thinks he detects a wave of fluctuation in those tumors, when it does not exist, that he may call a malignant tumor, a cyst, and only correct his diagnosis on the operating table. In this case, the patient had the clinical history of a pancreatic cyst, and many of the symptoms were accentuated. The great loss of flesh and strength, and the disgust for food of every kind were very marked. He would not have those with a postperitoneal sarcoma. In that disease, the patient's appetite, frequently, and, almost always remains comparatively good and the food tastes natural to him even to the last, while in pancreatic cyst, it is quite the rule for the patient not only to lose his appetite,, but, really to detest food in any form. Therefore, I concluded that the cyst was one of the pancreas.

The operation was made on October 7, 1910, in the presence of his physician and Dr. George A. Fackler, of Cincinnati, and the hospital staff.

Under ether anæsthesia, an incision, three inches long, was made in the rectus muscle and the tumor was found not to be adherent to the anterior abdominal wall. A large aspiration trocar was introduced and twenty-three pints of dark, almost chocolate colored, thick, heavy fluid was withdrawn, which upon analysis proved to be pancreatic fluid. The puncture in the cyst wall was enlarged a couple of inches and the cyst explored with the fingers. There were many granular feeling blood clots loose in the cyst, as well as attached to its wall, and a few as large as the finger and an inch long were removed. The cyst wall was stitched to the abdominal wall and drained. The operation was

made as hurriedly as possible, and but little ether was given as it was not required after the patient was thoroughly off. The patient regained consciousness in a few minutes after he was put to bed. He rallied very slowly and it was four hours before his temperature rose to 98° F. His pulse remained from 140 to 130 for twenty-four hours.

The weight of the fluid was twenty-four pounds. This deducted from his weight before the operation would leave his weight at 116½, a loss of 123 pounds.

On the morning following the operation, October 8th, his pulse was 120, his temperature 100° F., and his general condition just the same as before the operation, but, he was greatly relieved by having the weight of the cyst removed. He could lie on his back with comfort. He refused liquid nourishment, but we persuaded him to take a little albumin water several times during the day. He voided his urine. He passed flatus several times during the day. There was no drainage from the cyst.

On the third day, his pulse ranged from 120 to 135, and his temperature from 99° to 99.5° F. He passed flatus several times during the day and had two liquid stools. The patient was turned on his side and drained a pint of fluid from the sac, the same in character and in appearance as that removed at the operation. His general condition appeared better.

On the fourth day, his pulse was down to 105 and his temperature 97° F. per rectum. He refused nourishment, he had several thin stools, and the abdomen was not distended. In the afternoon, his pulse was 138 and his temperature 99° F.

On the fifth day, his temperature and pulse were about the same as the preceding day. The patient seemed to have lost ground in the past twenty-four hours; his intellect was clear; he was very feeble, but he could not take nourishment. He took water sparingly.

On the morning of October 12th, the sixth day after operation, bile came through the wound and flooded the dressings. Bile continued to pass through the wound during his entire illness, showing conclusively that the pancreatic duct was not obstructed, thus permitting the bile to pass through the duct into the cyst cavity out through the drainage tube. I was very hopeful then that he might take a turn for the better, but I was doomed to disappointment. The diarrhœa became so persistent that we were obliged to give him opium to control it. He required fifteen to twenty drops of tincture of opium administered every four or five hours, which checked it. The question of nourishing the patient was a serious one. Feeding him by the rectum was out of the question from the first and anything taken into his stomach would be ejected soon afterward. The patient would try very hard to take what he was asked to, and frequently it would be ejected within a minute or so.

On the seventh day, we commenced the administration by the mouth of extract of pancreatin, in ten grain doses. This acted very nicely. The patient retained it in the stomach better than anything we had given him. It seemed to revive him in every way. The patient himself said it was the first medicine that he had taken that helped him and asked for more of it. The diarrhœa was less persistent and required less opium to control it. By administering this remedy, we hoped the patient would be able to take some nourishment. This treatment was persisted in until the last. But, after the first day or so, it seemed to lose its effect and he steadily grew worse. As the sac contracted and the patient could change his position, the fluid, which was now practically pure pancreatic juice, necessarily came in contact with the skin, keeping the parts bathed with it all of the time.

On October 15th, eight days after the operation, the wound had united and the stitches were removed, but over an area as large as the two hands, the skin was very red and swollen.

On October 17th, over the whole area, the skin had practically disappeared, leaving a large raw surface. The fluid from the cyst had digested the skin. The patient complained more of pain from this condition than from all of his other ailments.

It is not necessary to go into detail farther in the report of this case, than to say that he gradually grew weaker and weaker. His pulse varied from 130 to 140, his temperature from 97° to 99° F., until October 24th, at 5 p. m., seventeen and one half days after the operation, when he died of exhaustion.

I realize that the report is incomplete without an autopsy, but this was out of the question. I could not persuade the family to allow it.

The case was a desperate one when the patient entered the hospital and the operation promised him the only hope he had. He made a surgical recovery and a great part of his physical sufferings were relieved. It was unfortunate that this case could not have been operated on when the tumor was first observed about five weeks after his first attack of pain. It is more than probable that at that time his life could have been saved. The clinical history and the result after the operation sustained the belief that the cause was an injury, probably rupture of the pancreas the day before his first attack of pain.

The fact that bile regurgitated through the pancreatic duct six days after his operation demonstrates that the duct was not obstructed by a calculus, therefore we reason that if he could have been operated upon early and recovered from the operation, he might have had enough of the gland remaining to sustain life. The case emphasizes the great importance of early operation in these cases.

628 Elm Street.

TWO CASES OF TETANUS FOLLOWING VACCINATION.

By B. J. Silverstein, M. D.,
Newark, N. J.

Two cases of tetanus have come under my observation at St. Michael's Hospital. They are especially interesting as they both followed vaccination, within a short period of time, both patients being pupils in the same school. One of these cases was acute, the period of incubation being only four days, the other case was chronic, period of incubation being two weeks.

Case I. History. L. M., school girl, aged nine, was vaccinated previous to Labor Day. A few days later the patient while scratching the vaccination wound with dirty fingers removed the scab. Forty-eight hours after that the arm swelled up. The family physician was called in and treated her for cellulitis of arm. On September 28th patient's parent noticed slight rigidity of lower extremity, this gradually extending to upper extremity, abdomen, neck; stiffness of jaw developed, and patient noticed difficulty on swallowing. Slight convulsions developed, especially after some external stimulation. Urine and fæces were passed voluntarily. Two days prior to admission to the hospital opisthotonus developed, and as patient did not improve but became steadily worse, her physician advised removal to hospital, where she was admitted on October 7th.

Physical examination. Eyes, pupils were contracted, equal, responded to light and accommodation sluggishly. Skin over left arm at point of vaccination was ulcerated, slight discharge present, there was a marked area of inflammation around the ulcer. Breathing was labored. Muscles of abdomen and back were rigid. Recti abdominales muscles were quite prominent. Marked rigidity was present in the muscles of the lower extremity, the lower limbs were fully extended, Babinski's reflex and Oppenheim's sign were absent. Patellar reflex not obtained.—Upper extremity. Left forearm slightly flexed on arm. Right arm and forearm extended. Head was retracted. Muscles of neck hard. Patient was unable to open mouth more than half inch. Tetanic convulsions appeared when patient was disturbed to any great extent.

Bedside notes and treatment. October 7th. Fifteen hundred units of tetanus antitoxine administered hypodermically into right thigh, one eight grain of morphine sulphate hypodermically. Milk by mouth. Patient was semiconscious. Convulsions occurred rather frequently. Urine passed involuntarily in considerable quantity. Patient was quite thirsty. Temperature at time of admission 101° F.

October 8th. Forty-five hundred units injected hypodermically. Chloral and bromides, grs. xv, each, per rectum every six hours. Patient's temperature was normal.

October 9th. Forty-five hundred units injected hypodermically. Chloral and bromides, grs. xv, each. Patient slept for a few hours. Abdominal rigidity very marked. Other symptoms same as on admission. Arm dressed.

October 10th. Antitoxine treatment discontinued. Chloral and bromides, grs. xv, each, every eight hours. Patient was slightly improved. Trismus was same as on admission. Arm dressed. Slight discharge.

October 11th. Chloral and bromides, grs. xv, each, per rectum. Slight discharge from wound.

October 12th. Patient slept well. Bowels were regular. Stiffness of jaw not as marked as on previous day. Wound of arm was healing.

October 13th. Patient felt improved. Chloral and bromide treatment still continued.

October 14th. General rigidity was disappearing. Convulsions are not as frequent as on previous days.

October 15th. Patient could open mouth three quarters inch.

From October 16th patient began to improve steadily. From that time on she was able to take plenty of nourishment. On October 21st patient sat up in bed. Though still weak, patient was out of danger. Rigidity of muscles had disappeared.

Case II. C. P. C., school boy, seven years old. History. Four days prior to admission to hospital patient was vaccinated on his left arm. Two days after the vaccination the arm became swollen. A physician was called in, one day after the appearance of swelling; he diagnosticated it as cellulitis of arm. On his next visit to patient the physician noticed trismus and tetanic convulsions. He advised immediate removal to hospital. Patient admitted on October 15th.

On admission patient was semiconscious. Trismus almost complete. Very marked rigidity of upper extremities. Tetanic convulsions quite frequent, marked rigidity of abdomen and muscles of neck. Lower extremities were semiflexed. Body was curved sideways; pleurosthotonus. The area of entrance of infection was ulcerated, profuse discharge was present, surrounding area was inflamed.

Bedside notes and treatment. October 16th patient could hardly swallow, frequent tetanic convulsions especially in upper extremity were present. Patient voided urine involuntarily. Temperature on admission 99.5° F. Chloral and bromide, grs. xv, each, per rectum. Wound dressed.

October 17th. Rigidity was more marked than on day of admission. Fifteen hundred units of tetanus antitoxine given hypodermically.

October 18th. Temperature 100° F. Patient could not sleep. Chloral and bromide, grs. xv, each, every eight hours. Tetanic convulsions present. Wound dressed, slight discharge present. Patient did not seem to get better. Three thousand units given hypodermically.

October 19th. Five thousand units given subcutaneously. Temperature 101° F. Patient's condition was not improved.

October 20th. Temperature still going up, 102° F. Patient was unconscious. Five thousand units given subcutaneously. Patient took very little nourishment. Wound dressed, healing up. Jaws almost closed, open one quarter inch.

October 21st. Temperature 103° F. Patient cried out at times. Three thousand units hypodermically. As on previous days, chloral and bromides, grs. xv, each, per rectum.

October 22d. Convulsions were not as frequent as on previous days. Antitoxine treatment discontinued. Chloral and bromides, grs. xv, each, per rectum. Patient looked brighter, wound healing rapidly.

October 23d. Temperature went down from 102.6° F. to 99.2° F. Chloral and bromides continued twice a day. Trismus was still present.

From October 24th on patient began to show very marked improvement. Chloral and bromides, grs. v, each, given by mouth twice daily. Temperature was normal. Pleurosthotonus was disappearing.

October 30th. Patient sat up in bed for few hours.

November 2nd. Patient sat in chair for a few hours. Rigidity was gone. Patient took plenty of food. Passed urine voluntarily.[1]

Thus we can see that the first case received only 10,500 units of tetanus antitoxine, the second case 20,100 units. These quantities of antitoxine could not be of any curative value and yet one case had a very short period of incubation. Osler in his *Practice of Medicine* states that: "Although tetanus antitoxine of great concentration can be obtained, its use in treatment of human cases has been disappointing." Tetanus antitoxine has proved to be of great value as a prophylactic, its importance as a curative is still doubtful.

In tetanus the bacilli instead of entering the circulation produce toxines at site of injury that ascend within the nerves and enter the spinal cord and medulla becoming fixed in the nerve cells, and produce symptoms characteristic of the disease. Only a small amount of toxine is taken up by the lymphatics and carried by the blood to the spinal cord. The question arises how can tetanus antitoxine whether given subcutaneously, intravenously, or even intraspinously be of curative value after the toxines have become fixed in the nerve cells, as we usually get those cases after the period of incubation has passed and the toxines have produced symptoms of lockjaw.

TREATMENT OF SINGERS' NODULES OR OF OTHER EXCRESCENCES OF THE VOCAL CORDS BY GALVANOCAUTERIZATION. A NEW PROTECTED CAUTERY.*

By C. J. Kœnig, M. D.,
Paris, France,
Otorhinolaryngologist of the American Hospital of Paris.

Galvanocauterization of singers' nodules or of polypoid excrescences of the vocal cords appeals to me as preferable and easier of execution than excision with forceps or double curette. It allows an exact localization and limitation of the intervention and the destruction of just what is necessary and nothing more, a very important desideratum for a singer. Are we always sure of living up to this last consideration with the forceps or the double curette, the former possibly wrenching away more than necessary, the latter possibly encroaching too much upon the cord?

Another advantage of galvanocauterization is that the bloodvessels and the lymphatics are thus obliterated and the cord is therefore protected against any intercurrent or subsequent infection, be it influenza or any other disease. I had the occasion to observe the case of a female singer from whose right vocal cord, near the anterior commissure, I removed, with a small double curette, a small sessile polypoid growth. The operation in itself was perfect, on in-

[1] Since this article was written both patients left the hospital cured and were able to resume their studies at school.

*Read before the Belgian Society of Laryngology, Brussels, June 12, 1910.



Protected cautery, side view.

spection there remained nothing, and absolute approximation of the cords on phonation was obtained. As luck would have it, two days after the operation the patient contracted a severe influenza, with high fever; the operated cord became the seat of a marked inflammatory infiltration through its entire thickness with marked swelling. It took a long time for the latter to disappear and with the final result that the singing voice was lost. Galvanocauterization gave me very good results in the cases where I used it, a very celebrated singer being one of them.

I submit to your inspection the cauteries which I use and which I had made for the purpose. The platinum is protected by a small flat copper sheath from which protrudes a small ball of platinum which constitutes the cauterizing part. It is very bright and very easy to see when the reflected light falls upon it. The copper background renders it still more visible. The cauterization by this means can be absolutely localized and limited. It is followed by a very slight reaction, a slight redness of the cord, which disappears in a few days. The result upon the voice of three tenors, whom I treated by this method, was perfect after three weeks or one month's complete rest of the vocal organs.

[illegible] LEKOUSNEL.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CVI.—How do you treat obesity? (Closed January 16, 1911.)

CVII.—How do you treat acute otitis media? (Answers due not later than February 15, 1911.)

CVIII.—How do you treat hiccough? (Answers due not later than March 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL *for discussion.*

The prize of $25 for the best essay submitted in answer to question CV was awarded to Dr. J. G. Walker, of Iola, Kansas, whose article appeared on page 179.

PRIZE QUESTION CV.

THE TECHNIQUE FOR PERFORMING CIRCUMCISION.

(Concluded from page [illegible])

Dr. P. A. Smithe, of Enid, Oklahoma, states:

I administer a general anæsthetic to babies and [illegible] children too young to hold still, that is those under ten or twelve years old. In adults and in older children I use a local anæsthetic as described below. Having the patient under the general anæsthetic, or before the local anæsthetic if one is to be used, I retract the foreskin and scrub the whole organ thoroughly with absorbent cotton, green soap, and sterile water, followed by 1 in 1,000 bichloride, and finally alcohol. If under a general anæsthetic I proceed to mark out the area of foreskin to be removed, if a local anæsthetic is to be used I put this off until infiltration is complete. I replace the foreskin and mark with a light cut with blunt pointed scissors on the dorsum of the foreskin, slightly distal to the corona of the glans, then again retract the foreskin and make a similar mark on the infolded portion just behind the corona, on the dorsum of the penis, and far enough from the corona to leave plenty of skin to stitch to. These two marks will include between them the proper amount of skin to remove. If a local anæsthetic is to be used I proceed with it immediately after scrubbing, and mark as previously mentioned as soon as infiltration is complete and sensibility abolished. I prepare a 0.5 per cent. solution of beta eucaine lactate, or cocaine hydrochlorate, adding to one ounce of this solution ten drops of 1 in 1,000 solution of adrenalin chloride. I infiltrate the subcutaneous cellular tissue with this solution by means of an ordinary hypodermic syringe, sterilized of course, making as few punctures as possible, and including in the amount infiltrated approximately all the skin which it appears will have to be removed. I roll the portion of the penis which has been infiltrated between the thumb and forefinger, if the organ is small, otherwise between the two palms, in order that the anæsthetic may be more thoroughly distributed, and wait about two minutes, when the anæsthesia will have become complete. I then proceed to remove the skin, marked off as mentioned, using a straight, blunt pointed Mayo's dissecting scissors, or a similar one, by making two circular cuts through the skin, encircling the organ, and coming nearer together, according to the amount of skin which has to be removed, on the lower surface of the organ. This circular flap is removed by cutting through the infiltrated subcutaneous cellular tissue. Special care is taken to make the circular cuts as smooth as possible to secure exact coaptation of the skin edges. After removal of the flap the skin edges are brought together and sutured with silk in older children or adults (who will hold still to have the stitches removed) and with catgut in babies and younger children, who will not. I have found in practice that healing is complete by the time the catgut suture absorbs. I leave the strings of either kind of sutures long, about two inches on each end, and retie them over a piece of plain sterile gauze, after wiping the organ clean of all blood, very little of which will be lost if the subcutaneous tissue has not been cut through [illegible].

I leave this dressing in place two or three days and then remove and bandage lightly if healing is not quite complete, at the same dressing removing the sutures, unless it appears that the skin union is not strong enough, in which case I leave them two or three days longer. I use no dusting powder. If care is used in marking off the area of skin to be removed, which is partly [illegible] for the [illegible] com-

bined with one's judgment and experience to determine, and if careful asepsis has been observed, this procedure will, in my experience, give results superior to the older clamp operation. By it no skin is bruised, exact coaptation is secured, and the operation in older patients can be completed painlessly except for the first insertion of the needle. The advantage of the circular dressing held in place by the ends of the sutures is that it allows urination without saturating the dressing, and that it will not come off, an important point.

Dr. Maurice Freiman, of New York, remarks:

In performing this operation, the surgical skill depends upon the rapidity of the operation, the avoidance of hæmorrhage, and the proper use of an anæsthetic.

I perform the operation in my office as follows: The patient is placed on the operating chair in the recumbent position. I next examine for any adhesions between the prepuce and frenum, and if any are seen to exist they are quickly broken up. I say quickly so that as little pain as possible is produced. The entire penis is then thoroughly washed with tincture of green soap and water, followed by sterile normal saline or a 1 in 5,000 bichloride of mercury solution. A piece of sterile tape is then wound around the root of the penis. As to anæsthetic, I prefer local to general anæsthesia, and to the various local anæsthetics I prefer two per cent. cocaine to which about twenty drops of adrenalin, 1 in 1,000, has been added to each drachm of the cocaine solution. Inject the cocaine solution as follows, using a syringe which has been previously sterilized: Grasp the body of the penis and inject the cocaine into the prepuce midway between the corona and meatus. This should cause a bleb. Follow this bleb with others so that there is a ring of œdema around the penis, care being taken that the urethra is not injured. Next inject some cocaine into the upper part of the frenum. No more than sixty minims of the solution should be used. After about two or three minutes pull the prepuce to its full length so as to expose the juncture of the mucous membrane and skin; apply a hæmostatic forceps anteriorly and posteriorly at the junction. Now feel for the tip of the glans penis and one eighth inch below apply another hæmostatic forceps obliquely outward. With scissors cut all tissue between these two forceps. The skin will be seen to be retracted and exposed mucous membrane still covering the glans penis. This mucous membrane is to be removed with the scissors to about one eighth of the corona except at the frenum, where a small triangle must be left for fear of wounding the artery. Any bleeding vessel should be clamped and tied. For suture black silk is best. The first suture should be about corresponding to the middle of the anterior part of the corona, then one stitch at the frenum, where if accurate coaptation is not possible at first remove part of the skin to correspond to the part of mucous membrane remaining there. Then two stitches on the sides, and these as a rule will suffice. However, accurate coaptation must be gotten so that the number of sutures varies. The surface is then examined for any excessive bleeding.

For a dressing I personally prefer powder. Stitches can, as a rule, be removed in about four or five days. Needless to say, strict asepsis should be observed as to instruments, suture, etc.

Dr. Samuel Moskowitz, of New York, observes:

A circumcision is performed in two different ways, one method best used in infants and young children and the other in older children and adults.

In infants it is done as follows: After general surgical antisepsis, the foreskin is pulled over the glans with gentle traction, so that the portion of the foreskin to be cut off extends beyond the glans. That portion extending thus is cut off with sharp, straight scissors.

Then with care that portion of the mucosa, which in many cases is adhered is pulled over the glans with a dry piece of gauze and then a dusting powder like bismuth subgallate or iodoform is applied, the penis is bandaged and covered with rubber tissue, a small opening being left for urination. The dressing is changed every day, washed with a diluted antiseptic and powdered with boric acid. The results of this method are very good.

In infants and young children the circumcision can be done without any anæsthetic. In older children cocaine can be injected into the foreskin all around; in extreme cases general anæsthesia may be used.

The best method to be used in an adult or older children is to pull the foreskin over the glans and determine the amount of tissue necessary to be removed by inserting a probe between the glans and foreskin, and cutting off two-thirds of the length measured from within to the external margin of prepuce, but after this amount is cut off tie off with catgut any vessel which may bleed too much, as there may be such, near the frenum or on the sides. Then with a fine catgut suture the skin to internal modified mucosa at about six different points around the circumference. Then powder with bismuth subgallate or iodoform, and apply gauze and rubber tissue, leaving a small opening for urination.

In adults cocaine, one per cent., with adrenalin, 1 in 2,000, equal parts, is used by local hypodermic injection, and is injected all the way around the entire circumference.

Dr. W. L. Grant, of Los Angeles, Cal., writes:

The patient having been anæsthetized and the parts prepared by scrubbing well with soap and water and washing off with an antiseptic solution and then with clear water, the redundant foreskin is grasped by forceps and drawn lightly forward. A snap forceps with blades sufficiently long to reach well beyond the foreskin both front and back is next placed astride it, close in front of the glans penis, and clasped. With sharp knife or scissors the foreskin is then severed as close in front of the closed forceps as possible and the forceps removed The skin, which is the only structure so far divided, will then react to about the level of the corona.

Next the hood of mucous membrane which is seen covering the glans is divided back almost to the sulcus, and the frenum clipped so that traction upon the membrane does not cause traction on the glans. The whole membrane is then trimmed evenly away leaving a frill about an eighth of an inch

in width about the glans. If the artery of the frenum has been divided it should next be ligated with fine catgut, and hot sponges should be applied to check all hæmorrhage in the wounded surface.

Sutures of fine silk should be placed at convenient intervals sufficient to keep skin and mucous membrane in reasonable apposition. A second sponging should now be made and secondary sutures inserted if called for either by unreasonable gaping of the wound or by hæmorrhage.

The patient should be kept on his back for the succeeding twenty-four hours with a dry gauze dressing maintained in position by any suitable means, same to be changed upon each act of urination.

Dr. A. L. McDonald, of Grand Forks, N. D., says:

To insure a successful operation there should be no evidence of ulceration or infection about the glans or foreskin, and careful surgical cleanliness is essential. General anæsthesia, ether or chloroform, is necessary in children, or adults unless one is an expert with local anæsthesia.

The following instruments should be prepared: Knife, scissors, tissue forceps, three mosquito forceps, phymosis forceps, grooved director, probe, small curved cutting needles, and fine catgut. After thorough cleansing with soap and water and antiseptic solution, bichloride of mercury, 1 in 1,000, arrange sterile towels to protect the field of operation.

The foreskin should be of sufficient length to just cover the corona of the glans. If too long the object of the operation will be lost, and if too short may form a tight constriction about the base of the glans. After drawing the foreskin tense, the proper line for incision may be marked with the point of the knife entirely around the penis. The skin is divided along this line and separated from the mucosa to the edge of the foreskin. The skin incision may be made in the groove of the phymosis by a forceps applied on the foreskin and drawn over the end of the glans. The edge of the foreskin is grasped with mosquito forceps on the dorsal surface, and the mucous layer cut with scissors on a grooved director back to the line of skin incision. Any adhesions between the mucosa and glans are broken up with gauze or the probe, and the mucosa cut away along the same line as the skin. This is important to prevent inversion of the skin or eversion of the mucosa. The frenum may be left if the foreskin is not too long, otherwise it should be divided last, and there may be some arterial bleeding which is controlled by a forceps and the first suture. Four sutures of fine catgut, including skin and mucosa, are now placed, one at the frenum, one on the dorsal surface, and one on each side, others as necessary to secure apposition. Dress with antiseptic and analgetic dusting powder and sterile gauze.

Therapeutical Notes.

Santonin in Castor Oil a Dangerous Mixture for Children.—In a note published in the *Semaine médicale* and cited in [illegible] January, 1911, attention is called to the danger attending the administration of santonin to young children. It is a drug which should not be given to children under two years of age. For older children it may be prescribed in doses of grain ⅓ to grain ¼. In combination with castor oil it appears to cause some of the poisonous symptoms observed with oleoresin of aspidium and castor oil, causing complete prostration and blindness. A case is noted where a dose of one half grain of santonin had been given in castor oil to a girl five years old for the expulsion of ascaris lumbricoides. The first dose was immediately rejected by the stomach. A second dose was administered in about two teaspoonfuls of castor oil and the medicine acted eight hours afterward, bringing away a large number of worms, but alarming symptoms developed, the child being completely prostrated for two days, during which she never stirred her limbs or moved her eyes. On the third day she began to show signs of recovery, but it was noted that she had completely lost her sight. She afterward recovered her sight, but in spite of every care and attention several months elapsed before she was completely well.

Observations Concerning the Action of Digitalis.—Von Leyden (*Therapie der Gegenwart*, 1910, li, 482; through *American Journal of the Medical Sciences*, February, 1911) deprecates the tendency to prescribe digitalis as soon as symptoms of cardiac incompetence occur. He says that tolerance soon follows the use of digitalis, and when more serious symptoms of cardiac failure develop no results are obtained from its administration. Measures tending to secure both physical and mental rest for the patient should be employed before the use of digitalis. Von Leyden is of the opinion that digitalis has a greater action upon the left side of the heart, and so may fail to benefit those patients suffering more from a failure of the right heart. In fact, he believes that digitalis may even be harmful in these cases. He also thinks that, due to the action of digitalis principally upon the cardiac muscle, there will be little or no effect in advanced myocarditis or when valvular disease is associated with myocarditis. Von Leyden has not seen much benefit derived from the use of digitalis in fever; in fact, large doses seems to be actually harmful. He prefers the infusion of digitalis, and gives it in smaller doses than those usually prescribed, and discontinues it when its therapeutic effects have been obtained. He believes that digitalis in pill form is untrustworthy and that the tincture is uncertain. Digitalis leaves vary in strength according to where grown and the time of gathering. Age also diminishes their strength.

Application for Tuberculous Ulcers.—At a meeting of the Société des chirurgiens de Paris, reported in the *Presse médicale* for November 5, 1910, Judet said he had used the following as a local application in the treatment of tuberculous ulcer with good result:

[illegible]

The solution should be sterilized when made.

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NEW YORK, SATURDAY, [illegible]

THE FARCE OF TERMINAL DISINFECTION.

The first number of a new monthly journal, the *Journal of the American Public Health Association*, dated January, 1911, is a handsome octavo of seventy-six pages of reading matter. It is to be published monthly, in Columbus, O. Dr. B. R. Rickards, of that city, is the managing editor. We are glad to see that in this initial issue a potent voice, that of Dr. Charles V. Chapin, superintendent of health, Providence, R. I., is raised against the nonsensical performances which most of our municipal boards of health still deem it their duty to enact or cause to be carried out in any dwelling in which a case of the common infectious diseases has terminated. These procedures, farcical in the main, but often tyrannical and cruel in some of their details, have now been going on for many years, although, as Dr. Chapin clearly shows, nothing has been gained by them.

Legislatures have granted almost despotic powers to boards of health, but there is sure to be a reaction which will cramp the boards if they persist in enforcing useless and exasperating measures. Not the least of the considerations that may lead to such a reaction is that of the expense entailed by this terminal disinfection business. Dr. Chapin tells us that during the year 1908 the cost amounted to $20,123.49 in Boston, $55,309.41 in New York, $24,115.75 in Philadelphia, $6,603.78 in Baltimore, and $5,786.00 in Washington—a total of $111,998.43 for the five cities. And all this expenditure was productive of no good whatever.

We have emancipated ourselves from the dread of fomites as transmitters of yellow fever; why should we cling to it in the matter of the commoner infective diseases? Dr. Chapin takes the sensible ground that many pathogenic germs do nothing but die when they are cast off by the organism and that therefore there is no occasion to fight them. He is undoubtedly correct, and there is no excuse for converting the sick room into a barn by stripping it of carpet, rugs, and hanging fabrics. Asepticism is all very well, but when we have finished a battle with disease we need not proceed against the enemy's dead and dying.

We hope that Dr. Chapin's argument will prevail among boards of health and that the day will soon come when the arbitrary inspector will "take a back seat." He is too often an intolerable individual, and the sooner he is recognized as anachronistic the better will it be for the temper of those whom he now delights to torment. It seems to us that the American Public Health Association may well devote a good deal of attention to the matter of terminal disinfection, and we believe that it can hardly fail to be impressed with such considerations as have been brought forward by Dr. Chapin.

THE PREVENTION OF VENEREAL DISEASE IN THE ARMY.

In the February number of the *Military Surgeon* there is an encouraging article by Major William H. Wilson, of the Army Medical Corps, entitled Report of Venereal Disease at Camp Stotsenburg, Pampanga, P. I. Venereal diseases, he remarks, made up from fifty to sixty per cent. of the total sickness at that post prior to the institution of preventive measures, the large number of cases being accounted for by the close proximity of the post to two barrios, one particularly made up of people of the lower class of society and containing many prostitutes, some of whom are run out of Manila by the inspection there.

A soldier who has been exposed by sexual intercourse reports at the hospital as soon as possible. His genitals are carefully washed with soap and water, he urinates, and a solution of a silver colloid is injected into the urethra and held there for five minutes; then a thirty per cent. ointment of calomel is applied thoroughly over the penis. The treatment has proved so effective that Major Wilson firmly believes that it will prevent the development of disease in quite ninety per cent. of instances. Most of the men who did contract infection in spite of the measures were those who did not report promptly, "some not until after taking a two hours' horseback drill, which has a tendency to work any virus into crevices in the mucous membrane and so escape the germicidal effect of the treatment." The treatment as carried out at Pam-

panga seems to be more efficient in the prevention of gonorrhœa than in that of syphilis, "probably because the virus is already absorbed before the application of the calomel ointment."

THE RACE QUESTION IN SOUTH AFRICA.

The United States has long been the target for arrows of bitter criticism on account of the lawlessness displayed in the lynching of colored assaulters of women, which from time to time disgrace our country. As is well known, we have always raised our voice in condemnation of such outrages, but we, in common with most of our fellow countrymen, have felt that, reprehensible and deplorable as such outbursts are, there are existent in the United States conditions which, sometimes at any rate, ought to be taken into consideration, and which certainly are not to be fully understood by those who live in countries where such conditions do not exist. Much of the criticism to which we have referred comes from Great Britain, and it is interesting to note that conditions are now arising in a part of the British dominions that are more or less parallel to those that have long existed here, and that they threaten to result in similar consequences. In South Africa white people are few and Kaffirs numerous; in Rhodesia, it is said, there are barely 20,000 whites to 600,000 Kaffirs. This means that often only two or three white people live in the midst of a Kaffir population; and perforce the male members of the family have to go about their business, leaving their womenfolk unprotected save by Kaffir servants. While the majority of Kaffir servants are said to be trustworthy, there must be many who are not; and by reason of the fundamental psychological difference, which has repeatedly been pointed out in the controversy over the race question in this country, between the white and the black on sexual questions, it is absolutely necessary to have a stern hand of justice inflexibly ready to seize and punish colored violators of women.

According to South African law this crime is legally punishable with death to the black. A native who had assaulted a white woman and had been legally sentenced to death has just been reprieved, in the exercise of the Royal prerogative, by the governor general, Lord Gladstone, who is said to have stated in a private letter to an official in Rhodesia that it was "time the Rhodesian women learned to lock their doors and windows at night." It is needless to say Rhodesia is in a ferment over this action, which is described as the "most dangerous exercise of the prerogative with which the representative of the Crown in South Africa is invested." It is well recognized that if once the fear of certain death is removed from the native mind, his natural sexual propensities, unrestrained by any ethical conceptions, will be given free play, and such crimes of violence instead of being, as hitherto, extremely rare, will become common. The *Daily Mail*, of London, very forcibly summarizes the situation as follows: "We in this country often condemn the American habit of lynching negroes who have assaulted white women. The excuse of Americans is that the law is slow and uncertain. In the British dominions it is swift and sure. Lord Gladstone has taken away that security which has hitherto allowed the law to follow its course. If he is so unwise as to perpetuate this error, the result will be that the people in South Africa will follow the example of America, and lynching will take the place of law. . . . If he has been moved by reasons of humanity, the sooner he is made to understand that what may be humanity in Great Britain is inhumanity in South Africa, the better it will be for the peace of South Africa and for his own reputation." There is nothing, after all, like the *argumentum ad hominem* for bringing home a truth to those who entirely lose sight of the concrete conditions of environment in abstract propositions of generalized truth.

We have written thus by no means with a view of extenuating lynching. It is a brutal resort that should have no place in a civilized community anywhere, and we do not believe that it would continue to have place here if absolute confidence could be placed in the swiftness and unswervingness of legal retribution. The mischief is to be laid at the door of those misguided sentimentalists or inefficient officials through whose opposition or supineness retributive justice is allowed to fail.

THE LEGITIMATE CONSUMPTION OF OPIUM.

There is no question that the inhabitants of the United States use more narcotic drugs than are necessary. But in stating this fact Dr. Hamilton Wright, who represented the United States on the International Opium Commission, has stated it in a manner which is misleading, and, since his statements have been accepted and repeated by practically everyone who comments on the matter, we think that the statistical error involved should be clearly set forth. Dr. Wright and his followers point out that the per capita consumption of opium in the central European states having efficient restrictive legislation is only one tenth of that of the United States. This fact is adduced as conclusive evidence that we use ten times as much opium as we should, a conclusion which is not warranted. Dr. Wright ignores a very important factor, namely, the higher scale of living of Americans as compared with Europeans.

Statistics show that the per capita consumption of tea in the United States is, or was (the figures are not recent), twenty-two times that in France; the per capita consumption of sugar in the United States is over ten times that in Italy; and the per capita consumption of meat in the United States is six times that in Italy. According to Dr. Wright's method of argument it would follow that because we use more tea than France and more sugar and more meat than Italy we are using excessive quantities of these articles.

As a matter of fact, the services of physicians and the use of medicine is affected by the spending power of the individual as much as the consumption of tea or sugar or meat. A comparative study of the per capita consumption of the European nations with that of the citizens of the United States shows that the American consumes much more than the European, and a part of this difference in the consumption of opium on the two continents is therefore entirely legitimate and merely incidental to the more frequent recourse of the American to his physician for treatment.

We consume nine times as much opium per capita as European nations, but, since we also consume more of almost everything else, it would seem more scientific and more accurate to assume that, living on a higher scale in other lines, the American would also legitimately consume a larger quantity, not only of opium but of other medicines. And, indeed, this is the case. Critics of America point out this larger consumption of medicines generally as evidence of a deluded belief on the part of the public in the efficacy of drugs. They do not take into consideration that the use of drugs is in a sense a luxury which increases with the spending power of the people. We believe that Dr. Wright would have come nearer to stating the truth if he had said that the people of the United States consumed thrice as much opium as they should. This figure is suggested as representing approximately the difference in the scale of living of the European and the American.

The fact that the excess of opium used has been exaggerated by Dr. Wright through his ignoring the difference in the scale of living by no means detracts from the force of his arguments. We are quite as anxious as he to reduce the consumption of narcotic drugs to their legitimate quantity, but we believe that a good cause can be injured by exaggerations, and in the publication by the United States Government of documents which are to be used as a basis for discussion throughout the world it is highly important that no misrepresentation should occur even by inadvertence. We should be particularly careful that nothing which reflects on the people of the United States shall be published in an official document unless the statements clearly and fully represent, not only the facts, but those facts in their proper relation to surrounding circumstances. We are confident that Dr. Wright himself will admit that the bald statement that nine tenths of the opium consumed in the United States is used for illegitimate purposes must be modified when we take into consideration the difference of the scale of living of the European and of the American.

THE ROBIN CASE.

A ripple of indignation showed itself at a meeting of one of the sections of the New York Academy of Medicine last week. The occasion was an incident in the case of Joseph G. Robin (formerly known as Robinovitch), a banker in custody under charges of grand larceny. A sister of the accused, Dr. Louise G. Robinovitch, a professed alienist, maintained that Robin was insane, and a number of other alienists, having examined him, agreed that he was mentally affected to such a degree as to be unable to cooperate efficiently with the counsel assigned for his defense. Nevertheless, the jury found that he was sane and in a condition to be put on trial at once. The judge expressed his satisfaction at this decision so emphatically as to congratulate the jury on having "triumphed over the experts."

We have nothing to say concerning the taste displayed by the judge in his outburst, though we may remark that it is easy to "triumph" when one holds all the trumps. But we think that the incident need not be taken seriously, and we doubt if the local profession in general will be moved by it to such a state of excitement as could not fail to produce an unfavorable effect upon the public, which is already none too much disposed to set a high value on the testimony of experts in insanity. There are situations in which it is just as well to keep cool and saying nothing, and this seems to be one of them.

THE PHYSICIANS' MUTUAL AID ASSOCIATION.

At the forty-second annual meeting of the New York Physicians' Mutual Aid Association, held last month, an exceedingly satisfactory financial showing was made. The number of members was 2,074. There had been thirty-seven deaths during the year, fifty-four members had been dropped for nonpayment of dues, and eight had resigned, but there were enough new members to make a gain of 117. Physicians in all parts of the State are eligible, and the membership ought to become very large, for the benefits are exceptionally great.

News Items.

Changes of Address.—Dr. M. R. Bowdoin-Bennett, from 170 West 121st Street, New York, to 311-312 Association Building, Grand Rapids, Mich.

Dr. Dixon Retained as Health Commissioner of Pennsylvania.—Dr. Samuel G. Dixon will remain under the new administration as State health commissioner, a position which he has held since the creation of the health department.

Personal.—Dr. Charles H. May, of New York has been appointed consulting ophthalmologist on the Fourth Division of Bellevue Hospital, New York.

Dr. George W. Crile has been elected visiting surgeon to the Lakeside Hospital, Cleveland, to succeed Dr. Dudley P. Allan, who resigned from the hospital staff last August.

The Buffalo Academy of Medicine.—At a stated meeting of the Academy, held on Tuesday evening, February 7th, under the auspices of the Section in Surgery, the chief feature of the programme was a paper entitled Some Problems in Gastrointestinal Surgery, by Dr. J. M. T. Finney, professor of surgery at the Johns Hopkins University.

New York State Hospital for the Care of Crippled and Deformed Children.—At the regular meeting of the board of managers of the New York State Hospital for the Care of Crippled and Deformed Children, at West Haverstraw, N. Y., Dr. John Joseph Nutt was elected as surgeon in chief to the hospital, *vice* Dr. Newton M. Shaffer, resigned.

The Dinner to Dr. Smith.—Those who wish to attend the dinner to be given in honor of Dr. Stephen Smith, on the occasion of his eighty-eighth birthday, at the Hotel Plaza, on the evening of February 18th, at 7 o'clock, would act wisely to procure tickets without delay, otherwise they may not be able to secure satisfactory seating for the occasion.

The Alumni Association of the Lying-In Hospital of the City of New York will hold a stated meeting at the Harvard Club, No. 27 West Forty-fourth street, on Tuesday evening, February 14, 1911, at 8:15 o'clock. The paper of the evening will be read by Dr. John O. Polak, of Brooklyn, and is entitled, What We Can Expect from the Vaccine Treatment in Puerperal Sepsis.

Tuberculosis in Prisons.—At the two hundred and thirty-fifth regular meeting of the Society of Medical Jurisprudence, which will be held at the New York Academy of Medicine on Monday evening, February 13th, Dr. J. B. Ransom, physician to Clinton Prison, Dannemora, N. Y., will read a paper entitled Tuberculosis in Prisons. Among those who will participate in the discussion are Dr. S. Adolphus Knopf and Dr. Livingston Farrand.

The Umberto I Prize of the Rizzoli Orthopædic Institute of Bologna has been awarded to Professor Wilhelm Schulthuss, of Zurich, for his essay entitled Die Pathologie und Therapie der Rückgratsverkrümmungen. The committee appointed to award the prize was composed of Professor Alessandro Codivilla, of Bologna, Professor George Kirmisson, of Paris, and Professor Oscar Vulpius, of Heidelberg.

The District of Columbia Medical Association met in annual session in Washington on Monday evening, January 2d, and elected the following officers: President, Dr. W. M. Barton; vice-presidents, Dr. Walter A. Wells and Dr. H. T. A. Lemon; treasurer, Dr. C. W. Franzoni; corresponding secretary, Dr. Thomas C. Smith; recording secretary, Dr. H. C. Macatee; Dr. E. L. Morgan, librarian; Dr. D. Olin Leech, Dr. H. B. Deale, Dr. F. R. Hagner, Dr. J. S. Wall, and Dr. J. F. Moran, censors.

The Philadelphia County Medical Society.—At a meeting of the society held on Wednesday, January 25th, the programme consisted of a "symposium" on Nose, Throat, and Ear Diseases, and their Relation to Systemic Diseases. Papers were read as follows: Dr. Ross H. Skillern, The Nasal Sinus and Its Treatment; Dr. B. Alexander Randall, Prophylactic Treatment of Middle Ear Inflammation; Dr. George B. Wood, The Recognition and Treatment of the Tuberculous Lesions of the Nose and Throat, and Dr. Walter Roberts, Tonsil and Adenoid Operation. Dr. Henry Leffmann, the retiring president of the society, was elected to fill the vacancy in the Board of Directors caused by the resignation of Dr. C. B. Longenecker.

The Waterbury, Conn., Medical Society held its annual meeting on Monday evening, January 9th, and elected the following officers for the ensuing year: President, Dr. Thomas J. Kilmartin; vice-president, Dr. Nelson A. Pomeroy; secretary, Dr. James L. Moriarty; treasurer, Dr. C. S. Rodman; member of the executive committee, Dr. E. W. Goodenough; member of the literary committee, Dr. H. S. Anderson.

The Society of Physicians of the Village of Canandaigua, N. Y., held its annual meeting on Thursday evening and elected the following officers for the ensuing year: President, Dr. Robert C. Cook; vice-president, Dr. Orlando J. Hallenbeck; secretary and treasurer, Dr. Alfred W. Armstrong. The principal feature of the programme was a paper by Dr. M. R. Carson, the retiring president, in which he reviewed briefly the history of the village for the past fifty years, during which time he had been a practising physician in that place.

The Society of the Lutheran Hospital.—At a meeting held on Thursday evening, February 9th, the Society of the Lutheran Hospital of the City of New York was organized. This society will be incorporated, and will have the power to legally accept and administer any funds which may be given for the foundation of a Lutheran Hospital. The Lutheran Church has had in operation for the past three years a dispensary system known as the District Medical Service, whereby medical and surgical attention has been given gratuitously to the poor of the church. Dr. G. E. Hayunga is president of the medical board, Dr. A. Von Grimm, is first vice-president; Dr. T. T. Sweeney, is second vice-president; Dr. I. H. Berry, is recording secretary, and Dr. G. A. Schnepel is financial secretary.

A "Symposium" on Obstetrics and Gynæcology.—At a stated meeting of the Eastern Medical Society of the City of New York, held on Friday evening, February 10th, the programme consisted of a "symposium" on obstetrics and gynæcology. The following papers were read: Eclampsia, by Dr. George L. Brodhead; Indications for Vaginal Cæsarean Section and Pubiotomy, by Dr. Samuel W. Bandler; Abdominal Cæsarean Section, by Dr. Ross McPherson; Puerperal Sepsis, by Dr. Franklin A. Dorman; Treatment of Abortion, by Dr. Brooks H. Wells. Among those who were present and took part in the discussions were Dr. Henry C. Coe, Dr. L. J. Ladinski, Dr. Simon Marx, Dr. Arnold Sturmdorf, Dr. J. Clifton Edgar, Dr. Hermann J. Boldt, Dr. Samuel M. Brickner, and Dr. I. L. Hill.

Officers for 1911 of the Rochester Academy of Medicine.—The following officers of the Rochester, N. Y., Academy of Medicine, were recently elected, to serve for the year 1911: President, Dr. Richard M. Moore; vice-presidents, Dr. John R. Williams, Dr. E. Wood Ruggles, Dr. Arthur W. Thomas, Dr. Frank P. Leadley; secretary, Dr. William Brown; treasurer, Dr. Wesley T. Mulligan. The work of the academy is divided into four sections, as follows: Section I, General Medicine, Dr. J. R. Williams, chairman, and Dr. Cornelia White-Thomas, secretary. Section II, Surgery, Dr. E. Wood Ruggles, chairman, and Dr. C. A. Van der Beek, secretary. Section III, Obstetrics, Dr. A. W. Thomas, chairman, and Dr. W. W. Percy, secretary. Section IV, Public Health, Dr. F. P. Leadley, chairman, and Dr. L. W. Jones, secretary.

Infantile Paralysis Added to List of Communicable Diseases in New York.—On November 1, 1910, the New York Board of Health added acute anterior poliomyelitis, or infantile paralysis, to the communicable diseases included in Section 133 of the Sanitary Code, which are required to be reported by physicians within twenty-four hours of the time that the case is first seen. From the time this action was taken up to February 3, 1911, the following cases have been reported: Manhattan, 2 cases; Bronx, 7 cases; Brooklyn, 7 cases; Queens and Richmond, 0 cases, making a total of 16 cases. The Division of Communicable Diseases has given special attention to the history and nature of the disease, and a report on the subject has been issued by Commissioner Lederle. A special form of card has been prepared for the recording of the cases by the Division of Communicable Diseases, and will soon be in use. Inspectors of the division have been instructed to be particularly careful and exact in obtaining information as to periods of incubation and infectivity, since negative findings may be as important as positive ones.

Cornerstone of the Evans Memorial Building Laid.—The cornerstone of the new Robert Dawson Evans Memorial Building of the Massachusetts Homœopathic Hospital, Boston, was laid on February 4th with suitable ceremonies. The new building, which will cost $100,000, is the gift of the widow of the late Robert Dawson Evans, who has also given a like amount as an endowment to be devoted to maintenance and research. Among the speakers were President William T. Piper, of the hospital's board of trustees; Dr. Frank C. Richardson, who has been appointed medical director of the new building; Governor Bates; President George Brackett Rice, M. D., of the Massachusetts Homœopathic Medical Society; Dean John Preston Sutherland, M. D., of the Boston University School of Medicine, and President Hamilton, of Tufts College, the final benediction being given by President Huntington, of Boston University.

To Control the Milk Traffic.—A bill to regulate and control the milk traffic in first class cities in New York State was introduced in the Assembly on February 6th by Assemblyman James A. Foley. The measure provides for the establishment of a milk commission, consisting of three members to be appointed by the Governor, to have general supervision of all milk dealers, with power to fix standards of quality and purity, together with the maximum prices that can be asked or demanded from consumers for milk of such standards, and also with power to order yearly reports from all milk dealers and to enter and inspect their plants and to examine their books and papers and to subpœna witnesses and take testimony. Every milk dealer would be required to obtain a license from the commission. The fee for such license is to be $25 a year, which, it is expected, will entirely defray the expenses of the commission. These licenses can be revoked or cancelled by the commission at any time for a violation of any order of the commission.

The Plague Situation in Manchuria.—According to press despatches from Harbin, Manchuria, dated February 5th, nearly six thousand victims of the plague have been burned or buried in the outskirts of the town. Nearly five thousand of these came from the Chinese town, and the remainder from the Russian frontier. The mortality among the physicians and the hospital attendants is high, considering the means taken for their protection, and doctors, nurses, and orderlies are succumbing to the disease. The sanitary authorities hope soon to test serum of their own manufacture from the Manchurian bacilli, as the foreign importations have proved ineffective. Added to the horrors of the plague, eight thousand Russian workmen on the Eastern Chinese Railway, fearing the disease, have gone on strike because the administration refused to dismiss fifteen hundred Chinese laborers and provide passes to enable the families of the Russians to return to their own country. The strikers have been paid off and will, with their families, be evicted from their dwellings. Troops have been called out and have been stationed all along the line for the purpose of protecting the Chinese.

The Public Health and Marine Hospital Service to Operate the Straus Milk Laboratory.—A bill authorizing the turning over of the Straus milk laboratory to the Public Health and Marine Hospital Service was passed by the Senate on February 6th. The bill authorizes the Secretary of the Treasury to accept the plant, at 1319 H Street, N. W., from Nathan Straus, and to operate it as a part of the Public Health and Marine Hospital Service. An appropriation of $15,000 for the maintenance of the plant and its operation until June 30, 1912, is also made. The money is to be used "for the purpose of investigating the practical utility of infants' milk depots in the reduction of infant mortality, the relative value of pasteurized and raw milk for infant feeding, and for other appropriate scientific purpose." Another amendment recommended by the Treasury Department and adopted by the Senate, governs the sale and distribution of the milk. It reads as follows:

The Secretary of the Treasury is hereby authorized to exercise such control and supervision over the laboratory and the distribution of its products as will, in his judgment, best carry out the purposes of this act; and he may, in his discretion, give or sell the said products at prices to be fixed by him, to such responsible individuals, associations, institutions, or others as will distribute or use them under such conditions and regulations as the Surgeon General of the Public Health and Marine Hospital Service, with the approval of the Secretary of the Treasury, may make; and any sum realized from the sale of said products shall be applied to the maintenance and other expenses of the said laboratory, in addition to the appropriation therefor herein made.

The Philadelphia County Medical Society.—At the annual meeting of this society, held on Wednesday evening, January 18th, a resolution was adopted calling for the appointment of a commission to investigate appropriations to hospitals not under State control. The resolution was presented by Dr. John B. Roberts and was passed unanimously. Officers were elected as follows: President, Dr. Christian B. Longenecker; first vice-president, Dr. Levi J. Hammond; associate vice-presidents—South Branch, Dr. William N. Bradley; Kensington Branch, Dr. Thomas B. Currie; West Branch, Dr. Henry D. Jump; Northeast Branch, Dr. Frank Embery; Southeast Branch, Dr. Aaron Brav; secretary, Dr. William S. Wray; assistant secretary, Dr. Herbert D. Carpenter; treasurer, Dr. Collier L. Bower; censor, Dr. Lewis H. Adler, Jr.; directors, Dr. Herman B. Allyn, Dr. G. Morton Illman, and Dr. Edward A. Shumway.

Vital Statistics of New York for the Year 1910.—During the year 1910 the total deaths from all causes reported to the Department of Health of the City of New York numbered 76,742, corresponding to a death rate of 15.98. This rate is a trifle lower than that of 1909, which was 16.0, and is the lowest rate recorded for the city. A comparison of the death rate for 1910 with the average rate that prevailed for the preceding ten years, that is, from 1900-1909 inclusive, shows that, had this average death rate continued during the year 1910, there would have been 13,066 more deaths than were recorded. It is found upon analysis that all causes of death which are amenable to sanitary control show a decrease, among the more prominent of these diseases being the following: Tuberculosis, with a decrease of 1,840; diarrhœal diseases under five years of age, 1,151; diphtheria and croup, 608; typhoid fever, 258; whooping cough, 167; measles, 165; malarial fevers, 93; smallpox, 89; scarlet fever, 32. Other prominent causes showing decrease were apoplexy, 1,974; pneumonia, 2,203; acute bronchitis, 850; Bright's disease and acute nephritis, 1,317; accidental deaths, 773; suicides, 153. The diseases showing increases were: Cancer, 230; organic heart diseases, 93; cirrhosis of the liver, 25; appendicitis, 23, and homicides, 63. The deaths of children under five years of age numbered 6,022 less than during the preceding year. During the year 1910 there were 129,080 births, which is the greatest number of births ever reported in the history of New York, corresponding to a birth rate of 26.55 in a thousand of population. The marriages reported numbered 46,417, as against 41,513 during the year 1909, an increase of 4,904.

New York Milk to be Graded.—In last week's issue of the *Journal* reference was made to the fact that the New York Board of Health had decided that after this year all milk sold in New York must either be pasteurized or graded. The resolutions adopted by the Board of Health at its January 31st meeting relative to this matter are as follows:

Resolved, That after December 31, 1911, all milk and cream offered for sale in the City of New York, except that to be used only for manufacturing or cooking purposes, must be of the grades technically designated and recognized by the Board of Health as Certified Milk or Guaranteed Milk, or it must be pasteurized under conditions as prescribed by the regulations of said board.

Resolved, That it is the sense of this Board that milk sold in this city be graded as follows:

Grade A. *For infants and children.* (To be sold in bottles only.)

Includes: (1) Certified milk; (2) Guaranteed milk; (3) Milk pasteurized under special regulations.

Grade B. *Milk safe for adults.* (To be sold in bottles or drawn from proper containers; not dipped.)

Includes: (1) Grade A; (2) Pasteurized milk produced under regulations of this department.

Grade C. *Milk suitable for cooking and baking purposes.* (To be sold in bottles or from cans.)

Includes: All milk complying with the general regulations of the department, but not complying with requirements for Grades A and B.

That no one should use any milk inferior to that of Grade A for feeding an infant or child;

That every person purchasing milk for drinking purposes is entitled to receive milk not inferior to Grade B;

That the efforts of the Department of Health in the supervision of milk will be specially concentrated on Grades A and B.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the week ending February 11, 1911:

	Cases.	Deaths.
Tuberculosis [illegible]	[illegible]	[illegible]
Diphtheria [illegible]	[illegible]	[illegible]
Measles	[illegible]	[illegible]
Scarlet fever	[illegible]	[illegible]
Smallpox	[illegible]	[illegible]
Varicella	[illegible]	[illegible]
Typhoid fever	[illegible]	[illegible]
Whooping cough	[illegible]	[illegible]
Cerebrospinal [illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]

The Health of Philadelphia.—During the week ending January 14, 1911, [illegible] cases [illegible] from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Typhoid fever, 23 cases, 5 deaths; scarlet fever, 71 cases, 0 deaths; infantile paralysis, 2 cases, 0 deaths; chickenpox, 66 cases, 11 deaths; diphtheria, 99 cases, 12 deaths; measles, 354 cases, 10 deaths; whooping cough, 24 cases, 2 deaths; pulmonary tuberculosis, 193 cases, 66 deaths; pneumonia, 57 cases, 72 deaths; puerperal fever, 1 case, 1 death; erysipelas, 21 cases, 3 deaths; mumps, 16 cases, 0 deaths; tetanus, 1 case, 1 death; hookworm disease, 1 case, 0 deaths; trichiniasis, 1 case, 0 deaths. There were 5 deaths from tuberculosis other than that of the lungs, and 12 from diarrhœal diseases under two years of age. There were 36 stillbirths: 26 males, and 10 females. The deaths from all causes numbered 530, in an estimated population of 1,573,509, corresponding to an annual rate of 17.51 in a thousand of population.

The Health of Chicago.—During the week ending January 28, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 24 cases, 6 deaths; measles, 135 cases, 5 deaths; whooping cough, 20 cases, 2 deaths; scarlet fever, 240 cases, 14 deaths; diphtheria, 229 cases, 20 deaths; chickenpox, 86 cases, 0 deaths; tuberculosis, 211 cases, 76 deaths; pneumonia, 121 cases, 159 deaths. There were 4 cases of smallpox, 5 of German measles, and 55 of contagious diseases of minor importance reported, making the total 1,131 cases, as compared with 887 for the preceding week, and 817 for the corresponding period in 1910. The deaths under two years of age from diarrhœal diseases numbered 38, and there were 39 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 203, of whom 135 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 750, corresponding to an annual death rate of 17.5 in a thousand of population, as compared with a rate of 17.4 for the preceding week, and a rate of 14.7 for the corresponding period last year.

The Medical Society of the Missouri Valley.—The twenty-third semiannual meeting of this society will be held in St. Joseph, Mo., on March 16th and 17th, under the presidency of Dr. Donald Macrae, of Council Bluffs, Iowa. Plans are being made to make this meeting a success in every way and from present indications it promises to surpass in scientific interest any meeting ever held by this society. The Oration in Surgery will be delivered by Dr. Charles H. Mayo, of Rochester, Minn., and the Oration in Medicine by Dr. Heinrich Stern, of New York. Those desiring to present papers should send the titles to the secretary at once as all papers are placed upon the programme in the order in which they are received. Abstracts not exceeding fifty words must be furnished by February 15th. The programme will be limited to twenty-five papers. Local arangements are in the hands of a committee appointed by the St. Joseph-Buchanan-Andrew County Medical Society, with Dr. C. R. Woodson as chairman. Arrangements are being made for a series of clinics to be held at the various hospitals on Saturday, March 18th, and all visitors are urged to remain over to attend these clinics. A cordial invitation is extended to the medical profession to attend this meeting. The officers of the society are: President, Dr. Donald Macrae, of Council Bluffs; first vice-president, Dr. J. M. Bell, of St. Joseph; second vice-president, Dr. J. M. Banister, of Omaha; treasurer, Dr. T. B. Lacey, Jr., of Council Bluffs; secretary, Dr. Charles Wood Fassett, of St. Joseph.

Society Meetings for the Coming Week:

MONDAY, February 13th.—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmic [illegible]; Williamsburg Medical Society, Brooklyn; New Rochelle, N. Y., Medical Society.

TUESDAY, *February 14th.*—New York Academy of Medicine (Section in Public Health); Medical Society of the County of Schenectady, N. Y.; Practitioners' Club, Jersey City, N. J.; Medical Society of the County of Rensselaer, N. Y.; Buffalo Academy of Medicine (Section in Medicine); New York Obstetrical Society; Jamestown Medical Society; Rome Medical Society.

WEDNESDAY, *February 15th.*—New York Academy of Medicine (Section in Genitourinary Diseases); Woman's Medical Association of New York City (New York Academy of Medicine); Medicolegal Society, New York; Buffalo Medical Club; New Haven, Conn., Medical Association; New York Society of Internal Medicine; Northwestern Medical and Surgical Society of New York; New Jersey Academy of Medicine (Jersey City).

THURSDAY, *February 16th.*—New York Academy of Medicine; German Medical Society, Brooklyn; Aesculapian Club of Buffalo; Newark, N. J., Medical and Surgical Society.

FRIDAY, *February 17th.*—New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Postgraduate Medical School and Hospital; New York Microscopical Society; Brooklyn Medical Society; Alumni Association of Roosevelt Hospital, New York; Saratoga Springs Medical Society.

Gifts and Bequests to Charity.—Through the will of Mrs. Clara B. Senton, who died in Rutland, Vt., on January 13th, property valued at $15,000 will eventually come into the possession of the Rutland City Hospital. The gift, in memory of Napoleon R. Bardy, Mrs. Senton's first husband, is the largest ever received by the institution, and will be called the Napoleon R. Bardy Memorial Fund.

Bequests to charitable institutions amounting to $65,000 are included in the will of William Timlin, who died recently in Boston. The Carney Hospital, the New England Hospital for Women and Children, and the Children's Hospital will each receive $5,000. The building at the corner of Warren Avenue and Clarendon Street, valued at $15,000, is left to the Massachusetts General Hospital. The following charitable institutions are given $5,000 each: The New England Home for Little Wanderers; Children's Mission, Tremont Street; Gwynn Temporary Home for Children, Home for Aged Couples, Home for Aged Men, Perkins Institution for the Blind, and the Massachusetts School for the Blind.

The Hahnemann Medical College and Hospital of Philadelphia has received a gift of $2,000 from Mr. Walter E. Herring to establish a laboratory for research work in clinical medicine. Mr. Herring a short time ago endowed a chair of therapeutics in the college in memory of his father, the late Dr. Constantine Herring.

The following bequests are included in the will of George H. Uhler who died recently in Philadelphia: The Episcopal Hospital, $1,000; the Home of the Merciful Saviour for Crippled Children, $500; The Northern Dispensary, $500.

By the will of John R. Senior, of Philadelphia, the Methodist Hospital will receive $5,000 on condition that the institution pay an annuity of $200 to the testator's sister during her life.

Public and charitable bequests to the amount of $500,000 are contained in the will of Elisha Leavenworth. The erection of a new building for the Mattatuck Hospital Society is provided for and the sum of $50,000 is bequeathed as a fund for the maintenance of the society.

By the will of John Dougan, who died in New York recently, the following institutions will receive $1,000 each: General and Marine Hospital of St. Catherines, Ont., the Skin and Cancer Hospital of New York, and the Memorial Hospital of Orange, N. J.

Dr. William D. Hammond, of Hagerstown, Md., has been placed in charge of the new Skin and Cancer Hospital, recently opened in St. Louis, Mo.

A bequest of $25,000 to the Holyoke, Mass., City Hospital is contained in the will of William Whiting, who died recently in Holyoke.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL

February 2, 1911

1. Reflex Disturbances.
   I. Reflexes in Surgical Diagnosis, By Robert T. Morris.
   II. Disturbances Dependent on Eyestrain, By Ellice M. Alger.
   III. Reflexes and Reflex Neuroses from the Upper Air Tract (including the Nose and Pharynx), By W. Sohier Bryant.
   IV. Reflex Disturbances Referable to the Ear, By John Randolph Page.
   V. What is the Meaning of Reflex? By Edward D. Fisher.
   VI. Reflex Symptoms and Disease of the Nervous System, By William M. Leszynsky.
2. The Intravenous Use of Cocaine. Report of a Case, By Paul W. Harrison.
3. The Surgical Treatment of Gonorrhœal Epididymitis, By G. G. Smith.

2. The Intravenous Use of Cocaine.—Harrison reports observations, made on himself, with the intravenous use of cocaine. He had local anæsthesia produced on himself during the past three years three times, once for an operation on a finger, once for work on teeth, and once for a boil on the back of the neck. Into one of the superficial veins of the back of the hand there was slowly introduced five grains of cocaine in a two per cent. solution. The introduction of the solution was completed in about thirty minutes. Dizziness and palpitation made it seem wise to stop with this amount. Tests of the patient's condition were made at once and results found to correspond in an incomplete way with those reported for animals. Cerebration was normal except for a restless inability to keep the mind long on one subject. Motor power was quite unimpaired. There was marked analgesia everywhere. An incision three quarters of an inch long through the skin, well down into the fat, was made on the anterior surface of the lower leg. This incision could be felt. It caused a mere trifle of pain. Two or three small nerves in the fat were cut. Each caused a slight twinge of pain. Apparently operative procedure might readily have been undertaken with only very moderate discomfort. Two hours later a similar central incision was made on the opposite side. The sensation of pain had by this time recovered much but not all of its normal intensity. It would seem evident, then, that, however suited to animals this method may be, the relatively enormous dose necessary for even an imperfect result makes it quite impossible for human surgery.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

February 4, 1911

1. Operative Treatment of Cancer of the Breast, By Maurice H. Richardson.
2. Disturbances of Lactation, By A. C. Cotton.
3. Complemental Feeding of the Infant as an Effective Aid in Maintaining Maternal Nursing, By Thomas S. Southworth.
4. Feeding of Fats to Infants and the Difficulties Encountered, By Charles Douglas.
5. Yersin-Roux Serum in the Treatment of Plague, By A. N. Sinclair.
6. Notes on Cases of Trifacial Neuralgia Treated by Deep Injections, By V. F. Blair.
7. A Report of the Tuberculosis Situation in Pennsylvania in 1909, By J. Byron Deacon.
8. Localized Œdema in the Lumbar Region Following the Use of Salvarsan (606), By Richard L. Sutton.
9. Removal of Sewing Needles from Subcutaneous Tissue, By E. P. Quain.
10. Use of Colophonium in Distinguishing the Eosin Methylene Blue and Other Stains, By S. B. Wolbach.
11. An Improved Tonsil Knife, By G. L. King.
12. Cerebrospinal Meningitis, By S. Ravaud Benedict.
13. Symptoms Suggestive of Brain Tumor Relieved by the Correction of a Refractive Error, By Theodore Diller.
14. Some "Don'ts" in the Use of Salvarsan, By Jay F. Schamberg and Nate Ginsberg.

1. Cancer of the Breast.—Richardson describes his technique of operation in cancer of the breast. The only treatment of breast tumors which as yet gives any real hope of permanent cure is through removal. His mortality in fifteen hundred breast operations, of all kinds, is but four. He does not give any statistics as to permanent cure.

3. Complemental Feeding.—Southworth states that there are two chief requisites to be considered in giving complemental feedings, and these are: First, that they shall furnish food in such simple and assimilable form that they will not disturb the digestion of the infant; and, second, that they shall be so small in quantity as not to exceed, when added to the previously ingested breast milk, the normal capacity of the stomach at this age. For this purpose, complemental feedings after each nursing, of one half ounce, or later one ounce, are usually sufficient for recently born infants. The increase to one ounce may be made when the growth and age of the infant indicate a larger stomach capacity, or earlier if the residue in the stools or the weight of the infant before and after nursing demonstrates a larger deficiency in the breast milk. Materials for these small complemental feedings which have met the indications have been barley water, whey, or one of the proprietary combinations of maltose, dextrose, and dry condensed milk—the latter in the proportions of one half of a fairly level teaspoonful to one half ounce of boiled water. Of these, barley water is naturally limited in its usefulness to instances in which the deficiency of the breast milk is not very great, and since its food value is small, it cannot be used alone for a very long period. It is, however, not only an aid to the proper digestion of certain over rich breast milks, but is also an excellent medium for the addition of cows' milk, if the subsequent progress of the case proves that with further failure of the breast milk more food is necessary. Moreover, nursing infants so fed make the transition from breast to bottle feeding without noticeable difficulty. Whey and the maltose-dextrose-milk preparations have proved most useful in his hands, inaugurating prompt gains without attendant disturbances of digestion, and may be continued for considerable periods if the breast milk holds its own. They may, not infrequently, be discontinued when it seems probable that the mother is able to furnish all the breast milk needed, but if the nursing gradually fails they should, of course, be replaced by suitable modifications of fresh cows' milk, since neither is suitable to maintain well rounded development when given exclusively.

5. Serum Treatment of Plague.—Sinclair reports three cases of plague treated with the Yersin-Roux serum. In one case the serum failed to accomplish a cure, in the second case one injection

sufficed to give good results, and in the third case two injections were necessary. The serum used in these cases was that known as "dry serum," and was made by the Pasteur Institute. He believes that this is far superior to the liquid serum, and it may be that the liquid serum is responsible for the poor results reported by some observers. The dry serum is difficult to dissolve if one is not familiar with it. The main point is to have a test tube with just sufficient water to moisten its sides—no more. The dry serum is dropped from the glass capsule, in which it comes, so that the particles of the serum, which adhere readily, form a layer of only one particle in thickness on the sides of the tube. Then sufficient water is added to make the necessary 10 c.c. of serum. Heat should never be employed, but as much time taken to cause the particles to dissolve by gently shaking as is necessary. A stirring rod should not be used unless the tube is held over another vessel to catch the serum and preparations are made to filter broken glass from the solution.

8. Localized Œdema in the Lumbar Region Following the Use of Salvarsan.—Sutton reports three cases in which an urticarial eruption, confined to the trunk, resulted, and one, in which a scarlatiniform rash developed. These manifestations were quite evanescent, and completely disappeared in the course of eighteen or twenty-four hours. In two other cases a peculiar subcutaneous elevation appeared in the lumbar region forty-eight hours after the administration of "606." In each instance the tumor was oval in outline, and measured 4x10 cm., its long axis being parallel with that of the spine, and its lower border on a level with the top of the sacrum, about 2 cm. high. The lesions appeared suddenly and attained their full size in five or six hours. They were painful and very tender to the touch, but without fluctuation. They gradually disappeared in the course of five or six days, leaving no trace.

14. Some "Don'ts" in the Use of Salvarsan.—Schamberg and Ginsberg give the following "Don'ts" in the use of salvarsan: 1. Do not use salvarsan in myocarditis, in advanced cases of tabes dorsalis and general paresis, in nerve syphilis affecting vital centres, in grave kidney disease, in cachectic and debilitated persons (unless the condition is due to syphilis), in aneurysm, in optic neuritis, and in persons with lesions (such as gastric ulcer) in whom increased blood pressure may produce hæmorrhage. 2. Do not use intravenous injections of salvarsan until you have fully qualified yourself and possess a detailed knowledge of the technique. Deaths have occurred and more will occur from unskilful administration. 3. In the preparation of the drug for intravenous use, do not use a solution made with common salt or undistilled water (such as is often supplied in hospitals), but use a specially prepared, sterile, physiological salt solution made with chemically pure sodium chloride; otherwise you may find it impossible to obtain a clear solution. 4. Do not under any circumstance inject into the veins a solution which is not perfectly clear: a flocculent or cloudy liquid may produce alarming symptoms of collapse or even death. 5. Do not use a solution any more alkaline than is absolutely necessary to secure a clear solution. 6. Do not inject the salvarsan into the veins without previously running in physiological salt solution; if the needle is not in the vein you will infiltrate the surrounding tissue with the salvarsan solution and cause subsequent inflammation and unnecessary pain. 7. Do not infuse the solution into the vein too rapidly; it is best to have a needle of such a calibre as will require eight minutes to introduce 200 c.c. of fluid. With the gravity apparatus, the rapidity of inflow can also be governed by the height of the receptacle. 8. Do not infuse a cold solution; the liquid should be about the temperature of the blood. 9. Do not use "glass pearls" in the mixing jar, as is often recommended; minute particles of glass will chip off and might cause embolism. 10. Do not use a routine dose of the drug; the dose should be gauged according to the weight of the patient and the character of the condition to be treated. 11. Do not employ intravenous injection in your office or in a dispensary. The patient should be treated in a hospital and put to bed and carefully observed for a period of not less than three days. 12. Do not persist in the intravenous injection if the patient should show signs of collapse during the administration, but stop at once.

MEDICAL RECORD

February 4, 1911

1. Electrocardiograms and Their Significance. By Thomas L. Stedman, M.D.
2. The Use of Electricity in Chronic Disorders of the Stomach. With a Report of Six Selected Cases. By Jonathan Godfrey Wells and Louis Henry Levy.
3. Direct Transfusion. By F. D. Gray.
4. On Percussion and on Percussion of the Kidneys. By Otto Lerch.
5. Keratitis ex Acne Rosacea. By Walter Bale Weiller.
6. The Recognition and Treatment of Gonorrhœal Urethritis and Cystitis in Women. By Walter T. Dannreuther.
7. The Clinical Value of Blood Pressure Studies. By Francis Ashley Faught.

3. Direct Transfusion.—Gray gives some details of technique in the operation of transfusion. It may be mentioned that the donor and donee should be placed on parallel tables, head to foot, with their respective left or right arms, as it may be, in contact. A wide double bed, in an emergency, where tables are not available, may answer. It is desirable, also, to have the donor on a table where a Trendelenburg position may be secured, with head low, in case of threatened syncope. There is no arbitrary time limit in this procedure; neither can the actual amount of blood transfused be estimated. All statements that a certain number of ounces were donated are, of course, imaginary, as there is absolutely no means of knowing. The operator, or an associate, must carefully watch the condition of both donor and recipient (especially the latter) throughout for any evidence of syncope in the one or overdistended vascular system in the other. Acute cardiac dilatation, with its consequent pulmonary congestion in the recipient, is the only serious immediate danger in the process. For this reason an accurate outline of heart dulness should be marked on the surface in advance, and this should be frequently checked up by percussion. Any ma-

terial increase in cardiac dulness or sudden development of dyspnœa calls for cessation, or at least interruption of the transfusion with employment of remedies. Whenever the circumstances of the case will permit a preliminary test to determine the affinity, or otherwise, of donor and recipient's blood should be made to avoid possible hæmolysis, which sometimes causes serious anæmia, and has resulted fatally. When the blood of donor and recipient proves incompatible a new donor should be secured. Naturally, some cases requiring transfusion are so urgent that preliminary blood tests are impracticable. The test is based on the assumption that a donor's serum that causes agglutination in the blood of recipient is liable to produce hæmolysis, and therefore is unsuitable.

4. **Percussion.**—Lerch speaks of percussion in general, and is in favor of the old mode of percussion. Whether we employ superficial percussion in order to determine the lines of organs or parts of organs that lie next to the body wall, or deep percussion to map out organs that are deeply located, the difficulty of obtaining uniform results remains the same. The percussion stroke depends entirely on the judgment of the examiner, and one man will consider a stroke light when another will consider it far too strong. Whether superficial or deep percussion is used, a light and delicate stroke, differing only in a slight degree of strength, must be used in order to obtain trustworthy results. This seems to be especially difficult for most practitioners, and we find often widely varying results of percussion by different examiners. Palpating percussion and auscultatory percussion have been introduced to improve on the old method without overcoming the difficulty. In order to eliminate the most important factor of the two—the percussion stroke—he has used for years the drop instead of the stroke. He finds that the plexor plexímeter percussion is easiest to learn and gives the best and most uniform results by this method. As plexímeter he uses a thin ivory plate, and as plexor a hammer with a black rubber or ebony handle and heavy steel head with black rubber tip. The hammer is very lightly grasped at the end of the handle between the thumb and index finger, the end of the handle resting on the third finger and the palm of the hand. The plexímeter is placed upon the portion of the body to be percussed, with a slight movement of the wrist the hammer is lightly tossed up and the hammer head is allowed to drop upon the plexímeter with its own weight. As soon as the border of a solid organ or the boundary between two hollow organs is reached, the rebound of the hammer will be more or less, according to the amount of air beneath; practically no rebound is noticed if a solid organ is next to the surface. At the same time the slightest change of vibrations is felt in the finger tips that but lightly hold the hammer, as well as in the hand, and a decided change in the note is readily perceived.

7. **Blood Pressure.**—Faught gives a rule for determining the average normal systolic blood pressure. At age twenty consider the average normal systolic pressure to be 120 mm. Hg. For each year of age above this add one half of one millimetre pressure. Thus, at age twenty-five the pressure would be 122½. At age forty, pressure 130, etc. The blood pressure test finds its widest clinical application in the study and treatment of cardiovascular and renal diseases. Here it may be the most important sign in establishing firmly the diagnosis of chronic interstitial nephritis; also, on the other hand, it may be the pivotal sign which indicates a passing renal disturbance of toxic or metabolic origin, often showing the same urinary picture as a chronic interstitial, from a permanent renal change. In this relation the test is extensively employed by insurance companies. In detecting the toxæmias of pregnancy Hirst has shown that in this test we have a method of greatest value, possibly ranking above uranalysis. He says: "The earliest and most constant sign of toxæmia in the latter half of pregnancy is a high and constantly rising blood pressure; this symptom precedes the albuminuria and all constitutional signs of impending eclampsia." Other investigators bear witness to the facts. In the field of tropical medicine Rogers has found this test a reliable guide for the need of intravenous administration of salt solution during the stage of collapse in cholera. In surgery the safety of anæsthesia is increased by the routine use of the test during all prolonged and extensive operations. Thus the approach of dangerous shock is early detected and the need for stimulation or the speedy termination of the operation indicated. As a guide for venesection, saline infusion, or the Murphy treatment, the sphygmomanometer is invaluable since it gives an accurate report of the state of blood pressure and through it that of the circulation at all times. Recently ophthalmologists have appreciated the great value of this test in the study of diseases of the eye, particularly before certain operative procedures. Life insurance companies now employ the observation upon an ever increasing number of applicants, the standardization of risks being greatly facilitated thereby.

LANCET

January 21, 1911.

1. Some Points in the Diagnosis of Orbital Disease, By J. Stroud Hosford.
2. Transverse Fractures of the Patella, without Separation of the Fragments, By A. E. Johnson.
3. Congenital Pulmonary Stenosis, with Special Consideration of the Nature of the Secondary Blood Changes, By F. Parkes Weber and G. Dorner.
4. The Intravenous Method of Treatment of Syphilis with Salvarsan ("606"), with a Convenient Apparatus for Such Administration, By Hugh Wansey Bayly.
5. "Nodular" Fibromyositis, an Everyday Affection, and Its Identity with so Called Chronic Muscular Rheumatism, By W. H. Maxwell Telling.
6. The Influence of Chloroform when Repeatedly Administered in Small Doses, By G. Herbert Clark.

2. **Transverse Fracture of the Patella.**—Johnson reports four cases of transverse fracture of the patella. These patients, after a few days' stay in bed, were transferred from the hospital to the convalescent home, where massage and movements were carried out daily. In all the cases recovery was absolutely complete—in fact, a perfectly sound limb was the result, and the patients were fit to return to their occupations within three months of the date of the injury. In every instance the union was bony. Unless great care is taken to make the exposure to the x rays in the exact line of fracture, it is quite

possible for a plate to appear to show bony union when none is present. In all his cases the patella was most carefully examined through the fluorescent screen before the exposure of the plate, to make absolutely certain that no cleft between the fragments was still visible.

4. Intravenous Method of Treatment of Syphilis with Salvarsan.—Bayly describes his method of injecting intravenously Ehrlich's salvarsan.

5. Nodular Fibromyositis.—Telling thinks the most important forms of treatment are massage and systematic exercises. Acupuncture is undoubtedly of great use in relieving the pain, but in his experience does not produce complete dispersal of the infiltrations. Injection of chromic acid into the nodules has its advocates, and is undoubtedly useful, but he thinks it is a less convenient form of treatment than massage and may be reserved for the more refractory cases. In cases of fibrous nodules which will not yield to simpler measures, and which by implicating or pressing upon nerves cause persistent pain, excision is not only advisable but necessary, the only caution being that the nodule must be very definitely localized beforehand. The form of treatment which for over a century has been almost uniformly given first place is some form of massage and exercises which are designed to replace massage for inaccessible areas and wide tracts and sheets of fibrous tissue. In recent cases from three to ten days will cause dispersal, in more chronic cases weeks or months may be required, and if the indurations have become too fibrous a cure short of excision cannot be expected. There is scarcely any painful ailment of everyday occurrence in which the results of massage are so striking and gratifying as in the more recent cases, while, on the other hand, the cases of years' standing are liable to prove disappointing. Massage should at first be gentle because it causes the painful areas and infiltrations to swell up and become still more painful and very acutely sensitive to pressure. The patient must always be warned of this, otherwise discouragement will result. In ordinary cases the painful stage is over in a few days, and during this time the patients are often with advantage confined to bed. After that they should get about as much as possible, for exercise is beneficial and tends to improve the condition. This in itself is a striking gain, for with many physicians the routine treatment of these cases is rest. Rest relieves because the tender areas are not pulled upon or pressed, but for the most part the disease takes its own time to clear up and not infrequently fails to do so. By active treatment we not only cure but very materially shorten the duration of the disease. Instead of confining our business man with lumbago or sciatica to bed for longer or shorter periods, we can very quickly have him going about his ordinary affairs while at the same time continuing his treatment.

6. Influence of Chloroform in Small Doses.—Clark concludes his article on the influence of chloroform in small doses: Chloroform repeatedly administered by the respiratory passages, subcutaneously, and by the stomach in small doses rapidly kills rabbits. The liver shows degeneration of the cells sometimes so marked that the whole centre of the lobule is broken down into debris. The cells in the centre of the lobule are early affected, those further out later. Fat is always present, generally in large quantities. The kidney suffers to some extent, but relatively more when the chloroform is inhaled than when injected or given by the stomach. Fat is occasionally found in degenerated cells. The spleen shows intense congestion, the sinuses being packed with red blood corpuscles. Along with the red corpuscles an orange colored pigment is generally present which reacts to the stain of iron. A large number of very large phagocytes are present in most cases. The average weight of the spleen was 0.46 gramme heavier than the controls when chloroform was inhaled, and 0.59 gramme and 0.17 gramme heavier when injected and when given by the stomach respectively. Degenerative changes were observed in the cardiac muscle. Fat was not observed in any of the hearts examined.

BERLINER KLINISCHE WOCHENSCHRIFT

1. Typical and Atypical Pulmonary Phthisis,
   By [illegible]
2. An Epigastric Hernia through an Aperture in the Ensiform Process, By K. Fritsch.
3. Clinical and Experimental Observations Concerning Malignant Syphilis together with Remarks Concerning "606." By A. Buschke.
4. The Cutaneous Reaction of the Syphilitic in the Treatment with Arsenobenzol and Its Signification,
   By [illegible]
5. The Treatment of Congenital Syphilis in Infants by Injections of "606" into the Nursing Mother,
   By J. Peiser.
6. The Anatomical Substratum of the Röntgenogram of the Lungs and Its Importance in the X Ray Diagnosis of Pulmonary Tuberculosis. By Max Cohn.
7. A Reaction of the Urine of Breast Fed Infants,
   By St. Engel and L. Turnau.
8. Observations Concerning Adalin, a New Sedative and Hypnotic, By E. Froelich.
9. Advances in the Study of Tropical Diseases,
   By [illegible]
10. Franz König, By Otto Hildebrand.

3. Malignant Syphilis.—Buschke asserts that malignant syphilis is a disease *sui generis*, that spirochætæ are not to be found in the typical foci of the disease, and that it is more amenable than ordinary syphilis to treatment with salvarsan.

5. Treatment of Congenital Syphilis in Infants by Injections of "606" into the Nursing Mother.—Peiser reports two cases of this nature in which no improvement in the condition of the children followed the injections of salvarsan into the nursing mothers. Both children died. He concludes from this experience that this method of treatment should not be relied upon exclusively for the control of congenital syphilis in infants.

7. A Reaction of the Urine of Breast Fed Infants.—St. Engel and Turnau state that a distinction between breast fed and bottle fed infants may be made by an examination of the urine. From fifteen to twenty drops of a two per cent. solution of silver nitrate is added to 5 c.c. of nonacidulated urine, which is then allowed to stand for about ten minutes. If the sediment is quickly stained black the urine positively came from a breast fed infant. The result may be obtained more quickly by boiling the urine after the addition of the reagent. If the sediment remains white or only weakly stained it is certain that the child is not breast fed.

8. Adalin.—Froelich speaks well of adalin as a sedative and hypnotic that may be used in cases of heart disease as well as in other cases.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

January 17, 1911.

1. Demonstration of Amoebæ, By von Wasielewski.
2. Active Substances in the Uterus and Ovary, By Schickele.
3. Observations Concerning the Behavior of the Ears of Syphilitics Treated with Salvarsan, By Beck.
4. The Prognosis of Puerperal Psychoses, By Jolly.
5. The Motor Function of the Sphincter Pylori and of the Antrum Pylori after Section of the Stomach, By Kirschner and Mangold.
6. Further Experience in the Voluntary Influencing of the Form of the Skulls of Children, By Walcher.
7. Transmission of Antipyrin Supersensitiveness to Guineapigs, By Klausner.
8. Two Technical Contributions, By Berndt.
9. The Modern Painting with Iodine and Its Further Application, By Hofmann.
10. Teleröntgenograph and Stand, By Koehler.
11. Staining of the Urine after Eating Fungi, By von Notthafft.
12. Congenital Defect of the Fibula and Pes Equinovalgus, By Runte.
13. Casuistic Contribution to the Action of the Canadian Hemp Root in Chronic Insufficiency of the Heart, By Fehsenfeld.
14. The New Royal Poliklinik in Munich (*Concluded*), By May.
15. Angelo Mosso, By Ruehl.
16. Scientific Medicine and Its Antagonists, By Neumann.

2. Active Substances in the Uterus and Ovary.—Schickele says that the characteristic action of the juices and extracts from the ovary, corpus luteum, and uterus consists of 1, an inhibition of the coagulation of the blood *in vitro*; 2, an intensive depression of the blood pressure after intravenous injection due to vascular dilatation, often with an evident impairment of the coagulability of the body blood; 3, the induction of spasms and sometimes of severe convulsions with partial stupor; with intensive action there is a slowing of the respiration and pulse which may cause death after a short time even after small doses; 4, in many animals contractions of the intestines in addition to the other spasms. The characteristics of the substance in these organs that produces these results is then discussed.

3. The Ears of Patients Treated with Salvarsan.—Beck discusses the pathological processes in the middle ear, the symptoms referable to the cochlea and vestibule together and to each of them alone, which have been observed after treatment of syphilitics with salvarsan, with a report of a number of cases. He is of the opinion that a patient whose ears are previously not normal, particularly if they are suffering from an affection of the nerve, is apt to have his hearing injured as a result of the treatment.

5. Motor Function of the Sphincter Pylori and Antrum Pylori after Section of the Stomach.—Kirschner and Mangold show by their experiments that in dogs the pylorus and the antrum pylori when divided from the fundus of the stomach, but left *in situ*, exhibit no real change in their motor functions, even though in this way the nervous connection with the central nervous system through the vagus was divided, and thus these portions of the stomach were rendered independent of the influence of the vagus and of the nervous elements of the fundus.

7. Transmission of Antipyrine Supersensitiveness.—Klausner injected three guineapigs subcutaneously with the serum of a man who had been from boyhood extremely sensitive to antipyrine, a fourth guineapig with the serum of a normal man, and used a fifth as a control. Twenty-four hours later he injected 0.3 of antipyrine subcutaneously into one of the first three, the fourth, and fifth. The first animal died in convulsions in a few hours, the other two were unaffected. On the next day the second of the first three animals was given the same dose, and the fourth and fifth were reinjected. No. 2 died in a few hours, the others were again unaffected. A week later the same experiment was made on the last of the first three and on two other controls. Severe convulsions were immediately produced in the one, from which it recovered after about twelve hours. The controls were not affected.

MILITARY SURGEON.

February, 1911.

1. Aneurysms in the Army Medical Museum, By D. S. Lamb.
2. Some Elementary Suggestions Regarding Plans for Our Large Naval Hospitals, By F. S. Nash.
3. The New Type Naval Hospital, By A. W. Dunbar.
4. The Sanitary Officer, By William W. Reno.
5. Report of Venereal Disease at Camp Stotsenburg, Pampanga, P. I., By William H. Wilson.
6. Certain Features of the Hernia Operation, By Alexius McGlannan.
7. Report of Several Cases Treated with Bismuth Paste, By A. G. Chittick.

3. The New Type Naval Hospital.—Dunbar gives a description of the naval hospitals at Portsmouth, N. H., Chelsea (Boston), Mass., Newport, R. I., and Puget Sound, Washington, which were built on a common plan, while the naval hospital at North Chicago, Ill., is on the same general plan, but presents some notable variations.

5. Report of Venereal Disease.—Wilson gives a brief report of the bubo cases operated on by the various methods. He concludes that the Keller operation enables patients to leave the hospital as early or earlier than by any other method. There is a marked tendency in buboes operated in by this method to continue a slight, but annoying discharge after all subjective symptoms have disappeared, coupled with a tendency to form a secondary focus of infection some time after the operation, which requires surgical relief. Enucleation is the method of choice if the patient can be operated upon before the glands have undergone many suppurative changes. In cases where the cavity remaining after enucleation is large, and any oozing takes place, the wound is more likely than not to suppurate, if wholly closed by sutures. The best results in enucleation are obtained where the cavity is thoroughly swabbed with tincture of iodine on completion of the operation, and left partially open; wholly open, if the incision is small (less than three quarters of an inch). Suppurating buboes treated by incision and drainage are responsible for the greatest loss of time by the patient.

AMERICAN JOURNAL OF SURGERY.

February, 1911.

1. Very Rapid Intestinal Resection with a Technique Combining Murphy Button, Hartley, and Lilienthal Methods, By William L. Wallace.
2. Abdominal Injuries and Their Treatment, By C. H. Goodrich.

The Medicolegal Aspect of the Röntgen Rays from the Standpoint of the Surgeon, By R. D. Mason.
Metatarsalgia, By H. C. Riggs.
Local Anæsthesia, By Arthur E. Hertzler.
Treatment of Acute Gonorrhœal Urethritis, By P. Duncan Little.
Report of a Case of Osteitis Deformans, By Nathaniel P. Rathbun.

1. **Rapid Intestinal Resection.** — Wallace tates that a very rapid resection of the intestines nay be done by: 1. Dropping half of a Murphy outton into each end of the gut; 2, tying up the ends of the gut with fine silk ligatures and disinfecting hem with carbolic acid; 3, pushing the halves of he button together to complete the anastomosis; 4, closing the "V" in the mesentery with a stitch; 5, drawing the wound together with a silkwormgut suture. In regard to the after treatment, water is given at once and the stomach is washed out with a tube as required. After twenty-four hours, albuminin water and beef juice are given, and after forty-eight hours malted milk. No physic or hard foods are given for a week. The bowels are moved in three or four days by enemata and suppositories. This combination of methods is suitable for any case demanding resection of the small intestine, and it is especially useful if great haste is required. This operation may be done with local anæsthesia, especially if a little morphine and hyoscine are given.

2. **Abdominal Injuries.** — Goodrich concludes his article on abdominal injuries: If exploration has been planned we should apply active measures to overcome or lessen shock, unless signs of active hæmorrhage make quick action imperative. A reasonable time (from one half to three hours) may be allowed in cases of profound shock, to promote a helpful reaction. Cleanse the skin as thoroughly and as widely as in any other abdominal case, notwithstanding the presence of indication for rapid work. Precede an exploration by an intravenous saline infusion or a transfusion of blood when symptoms of hæmorrhage are marked. As Crile has noted, "We may in this way transform a hopeless case into an average risk." Make the search for intraabdominal injuries thorough and systematic. Cleanse the peritonæum thoroughly of septic material and blood, or fluid of any kind. This is best done by large gauze sponges, followed by copious irrigation, leaving the abdomen partly filled with saline solution. Secure absolute hæmostasis and water tight repairs of all wounds and ruptures. Introduce drains whenever viscera have been penetrated or ruptured. Use intravenous infusions of normal saline solution infusions freely postoperatively in cases of marked shock or acute anæmia. Adopt the Fowler position and the ice coil in all cases as soon as reaction from shock is obtained. If intestinal paresis supervenes, lavage every four hours will accomplish more than enemata. He urges an immediate aseptic abdominal section in every doubtful case of abdominal injury. Reckless conservatism should pass into history.

4. **Metatarsalgia.**—Riggs states that if we are convinced that the prime causative factor in the production of this pain is the imperfect shoe, then the first indication for relief is to have the shoes correctly made, especial care being taken to have the sole wide enough so that lateral pressure on the arch does not occur and so that the toes can expand and can be freely flexed and extended in walking. Relief of the pain may be further attained by a bandage applied about the metatarsus in such a manner as to exaggerate the arch. Adhesive straps are even better, but they are dirty and their presence interferes with bathing. Better still is a tight knitted elastic anklet coming well down to the toes. A metallic plate like a flat foot plate but extending a little more forward and with the anterior edge curved to support the metatarsal arch is also a good mode of treatment. Or a small oval leather pad with twilled edges may be strapped under the arch and shifted until the pressure pain is relieved and then fastened inside the sole of the shoe. After the urgent symptoms are relieved massage and passive motion of the foot is valuable and also some gymnastics to strengthen the nearly useless toes so often found in these cases. Frequently repeated flexion and extension of the toes is of service as the motion of flexion raises the anterior arch. A thick, sensitive callus is often present under the third or fourth metatarsal. The removal of this and the use of a corrected shoe will sometimes be all that is necessary in mild cases.

ANNALS OF SURGERY.

February, 1911:

1. Anæsthesia by the Intratracheal Insufflation of Air and Ether, By Charles A. Elsberg.
2. Intussusception, with Special Reference to Adults, By Ellsworth Eliot and James A. Corscaden.
3. Diverticula of the Lower Bowel: Their Development and Relationship to Carcinoma, By Louis Blanchard Wilson.
4. On the Coincidence of Volvulus and Real or Simulated Strangulated Hernia, By Robert T. Miller.
5. The Restoration of Fæcal Continence after Iliac Colostomy, By Arthur Mayo.

1. **Anæsthesia by Intratracheal Insufflation.**—Elsberg describes the apparatus used. The management of this apparatus is extremely easy. From the moment that the power is turned on and the pressure regulated, the anæsthetist has nothing to do but watch the pressure gauge and occasionally interrupt the current of air so as to momentarily collapse the lungs. He can be seated at some distance from the operating table and will be out of the way of the operator and his assistants; or he can be seated near the table so as to control the pulse of the patient. The tube which is to be introduced into the trachea must be fairly rigid so that it cannot be coughed out of the trachea when it is once in place. After much investigation he has found that this requirement is best met by a silkwoven catheter. It should have an opening at or near its end. It must be at least 30 cm. long. The ordinary silkworm urethral catheter will do very well; this has the advantage that it can be obtained anywhere. The catheter should have two marks upon it, one, 12cm. from the tip, a second mark 26 cm. from the tip. The average length of the adult trachea is from 12 to 13 cm., of the larynx, 5 cm.; in the adult, the average distance from the incisor teeth to the glottis is 14 cm. Therefore, if the tip of the intratracheal tube is 26cm. from the incisor teeth, it will lie 5 cm. or less above the bifurcation of the trachea. The size of the catheter must, of course, vary with the diameter of the trachea and

size of the larynx. For the adult it is advisable to use a tube whose diameter measures about one half of the length of the glottis as seen through a direct laryngoscope. This will in general correspond to a size of from No. 22 to 26 of the French scale. In the majority of instances a catheter No. 22 or 24 French will be found of suitable size. Most of the patients awaken very quickly when the insufflation is stopped; in a number of instances they will answer questions before they have been removed from the operating room. He has been accustomed to insufflate pure air for a few minutes at the end of the anæsthesia so as to blow out the anæsthetic from the lungs and trachea. So quickly, indeed, will the patient begin to react that one must be careful that the patient is receiving enough ether mixed with the air during the operation, otherwise he will begin to react before the operative manipulations are completed. When the intratracheal tube is removed, there is often a very short period of apnœa, then regular deep breathing again begins.

4. **Volvulus and Strangulated Hernia.**—Miller remarks that volvulus may produce in a hernia signs and symptoms which accurately simulate hernial strangulation; or it may be associated with actual strangulated hernia. Volvulus, in either association, may readily escape recognition; it is probably contributing heavily to the mortality of strangulated hernia. The diagnosis before operation is usually exceedingly difficult; there are, however, certain very suggestive features, viz., advanced age, the presence of a hernia for many years, shock out of proportion to the signs about the rupture, and marked abdominal pain and tenderness with occasionally a palpable mass. The diagnosis at operation depends upon careful observation, there being certain signs which are pathognomonic; an operation undertaken for strangulated heria must demonstrate absolutely the strangulation. Volvulus proximal to actual strangulated hernia apparently offers no sure means of diagnosis other than routine abdominal exploration—a procedure which is manifestly not to be recommended.

Proceedings of Societies.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting of December 19, 1910.

The President, Dr. Reynold Webb Wilcox, in the Chair.

Morbific Processes Controlled by the Hypodermic Use of Aseptic Chemical Solutions.—Dr. J. Blake White said that no facts in therapeutics were better established to-day than the prompt and energetic absorption of vegetable and mineral substances administered by way of the skin, their rapid distribution throughout the system, and their resultant frequent favorable resolution of disease. We were living in times where in medicine, as in everything else, quick results were demanded and expected, and the method of administering remedies for the purpose of safely meeting this demand called for the attention of every thoughtful physician. There was far less need, it seemed to him, of new therapeutic agents than of a much better knowledge of those we already possessed. He had an abiding faith in our ability to secure good results with the remedies now at command if we devoted proper attention to their action and the best methods of administration. The time was fast approaching, if it had not already arrived, when an assurance could be entertained that by the judicious selection and skilful use of remedies employed hypodermically diseased action could in many instances be summarily checked. There never was a time, however, when greater caution was required to avoid being misled by some pretentious antitoxine. Tomasoli had alleged remarkable results from the hypodermic injection of a solution of common salt and sodium bicarbonate, and as similar reports had been made by other reputable authorities, the question arose, of how much, if any, of the alleged virtues ascribed to some animal sera might not be justly attributed to the active antiseptic agency of their saline ingredients, if not to the presence of the very antiseptics used for their preservation. Though the effects of hypodermic medication were most marked in affections involving the nervous system, there were many others in which the superiority of this method had been demonstrated. An important application of its usefulness was brought to notice by Dr. Moore, of the Bombay Medical Service, in the treatment of malarial fevers, in which quinine was successfully given in one fifth the dose which would have been required by the mouth, and with much more positive results. It had to be conceded that the hypodermic method was far superior to all other modes of administration, particularly in emergency cases, where the indications were for anodynes, analgetics, or antispasmodics, or when it was desired to arrest the absorption of some septic matter. There was not much certainty about the stomachic dose, so liable to be rejected, and, if retained, so apt to be only partly absorbed, while if it was entirely absorbed this took place so slowly as to be of no real benefit.

The particular mode of action of chemical compounds introduced hypodermically was still obscure, but some explanation might perhaps be ventured upon in the view advanced that certain simple antidotal influences were exerted upon somatic poisons which threatened to derange the blood and tissues, by destroying the toxines in which the pathogenic germs present flourished. Recent researches also seemed to demonstrate that they often acted as reinforcing allies to the phagocytes. Such reinforcing effects had been observed a number of times from the hypodermic injection of a combination of gold and sodium chloride with manganese iodide and strychnine arsenite in tuberculosis and some forms of anæmia due to other causes, after other remedies of repute in such conditions had, when administered by the mouth, signally failed to produce any benefit. In tuberculosis Dr. White had continued to practise this method of treatment with gratifying results. He next gave an historical sketch of the employment of the hypodermic method, stating, in passing, that an admirable classification of remedies to meet particular conditions was to be found in Bartholow's *Manual of Hypodermic Medication*. Even now, however, he went on to say, the public was not sufficiently educated to ap-

preciate the full value of this mode of administration. Having employed the method very extensively for over fifteen years, and having met with a large number of convincing proofs of its superiority, it was not to be wondered at that he advocated its more general adoption and that he preferred to use pure chemical substances rather than the less understood animal sera so much vaunted at the present time. He was certainly willing to stand on the assertion that no benefit could be obtained from animal sera which could not be realized from well selected and prepared chemical solutions administered in like manner for the same purposes. Many eminent surgeons reported that the antistreptococcic serum had often disappointed them when used to combat septic conditions, whereas the solution of carbolated zinc sulphoborate, with kolein, which he had employed on several occasions, would check the progress of pathogenic germ absorption with a degree of certainty that was surprising. Instances of this favorable action were cited, one of them being in the speaker's own person, when he was threatened with septichæmia from a wound acquired while operating on a septic patient.

In selecting remedies for hypodermic use it was of first importance to secure those which were readily soluble and were least likely to cause irritation. The relative therapeutic dose should be carefully determined, and the effects always closely watched, to guard against the manifestation of idiosyncrasies. Freshly prepared solutions should always be used, and for the menstruum sterile water was preferable. The syringe should be so constructed that there would be no possibility of its conveying any contaminating material into the system. Usually not more than ten or fifteen minims of a solution containing the medicament was advisable for an injection. The preferable localities for making injections were the lateral lumbar regions and about the abdominal walls, where there was abundant cellular tissue under loose integumentary structure. Having described the proper method of giving a hypodermic injection, Dr. White said he had administered as many as 150 or more injections to the same subject. Though selecting different sites for the operation, he had given some of the injections in close proximity to each other without observing the slightest indication of any local irritation. In several thousand such operations, extending over a period of many years, he had never noticed the appearance of an abscess. Occasionally there was some slight inflammation, but this never progressed to suppuration, a fact which not only demonstrated the care exercised in the administration of the injections, but also afforded a good additional illustration of the advantages of the special syringe which he invariably used.

Dr. B. Lapowski said that in cases where we wished to relieve an acute pain or other distressing symptoms the action of the method of injection was the quickest and most desirable, but to give preference to hypodermic injection in chronic diseases we ought to have a more complete knowledge than we now possessed of the absorption, action, and elimination of remedies. The method of Professor Ehrlich used in the discovery of "606" had changed our conception of the mode of action of arsenical preparations, and it was highly desirable to investigate by the same method the action of other drugs, like mercury and quinine, before a more extensive hypodermic use of such remedies could safely be advocated in preference to other forms of administration. Our present knowledge of the changes which drugs underwent after being introduced into the body was very unsatisfactory, and therefore clinical observation should be our guide in their employment. In the use of the hypodermic method it was of first importance to carry out the old maxim *primum non nocere*. The speaker then gave a caution as to the use of arsenic by hypodermic injection after a patient had had a prolonged course of the remedy by the mouth. In several cases of lichen planus one such injection after a long use by the mouth had produced symptoms of arsenical poisoning, even when the injected dose was only one fourth that which had been given by the mouth.

Dr. R. E. Van Giesen said that for one thing the hypodermic method assured quick results, and when one was suffering from the intense pain incident to the passage of renal calculi or gallstones, as he himself had experienced, quick results were very highly appreciated. Again, the method was of great practical service when the stomach was unable to retain remedies given by the mouth. As to a large number of injections being borne without inconvenience, in one instance he had given an average of two injections daily for fourteen months continuously, and there had never resulted the slightest trouble. In cases of this kind he was accustomed to make the injections successively in different parts of the body.

Dr. J. Herman Brauth said that if an abscess followed a hypodermic injection, it could safely be charged to the introduction by the operator of some form of microbic poison. He could speak with some authority on this subject, as in his own person he had received as many as two hundred injections.

Dr. White said he fully appreciated Dr. Lapowski's words of caution. Personally he never gave a full dose the first time he employed hypodermic injections.

[illegible] OF REFLEX DISTURBANCES

Reflexes in Surgical Diagnosis.—This paper was read by Dr. Robert T. Morris, who said that as specialism had now reached a point where the neurologist failed to recognize organic causes for surgical symptoms, and, on the other hand, the surgeon failed to note general conditions giving symptoms simulating those of surgical conditions, the time had arrived when we must go back to the development of the general diagnostician as the most important factor in the medicine of to-day. He instanced ulcer of the stomach, stating that, in common with other surgeons, he had cases from all parts of the country, sent for operation, which were not cases for operation at all. Some of these were cases of gallstones or bile tract adhesions, some of fibroid [illegible] of pregnancy, and others were cases of eye strain or of psychosis with symptoms demonstrated in the gastric region. Another example was flexion of the uterus. A very large percentage of instances of this

were cases of spasmodic flexion occurring in response to some peripheral irritation at a distance, which might be distinctly surgical so far as demanding relief from the distant peripheral irritation was concerned. Reduced to its simplest terms as a proposition, there was not much real difference between a sneeze and an ordinary flexion of the uterus. Again, many cases of neuralgia, treated medically, belonged distinctly in the surgical class. Not infrequently we met with lumbago or neuralgia of the sciatic nerve which was due to an enlarged prostate, distended seminal vesicles, pelvic adhesions, or septic or mechanical disturbance of the uterus and annexa. Cases of trigeminal neuralgia were commonly treated on medical diagnosis only, and patients suffering from this condition often told him that they had not even been questioned, by neurologists of standing, relative to peripheral irritations. Dr. Morris had recently operated upon a lady who suffered so intensely that she was on the point of committing suicide, notwithstanding that she had been given alcohol injections. The surgeon who had given them never thought of examining her pelvis at all; but when a little later he (Dr. Morris) had removed a large ovarian cyst, her neuralgia disappeared promptly, excepting for an occasional twinge at times when the barometer was low. In another neuralgic case Dr. Morris excised a portion of the inferior dental nerve, giving relief for about a year. On the return of the neuralgia he did what should have been done in the first instance—sent her to a competent ophthalmologist, to determine if eye strain could be a peripheral factor in the case; and he had apparently cured her neuralgia permanently by correcting eye muscle unbalance.

Reflexes Dependent upon Eye Strain.—The first part of this paper, by Dr. E. M. ALGER, was devoted to a careful explanation of the theory of eye strain, and he then passed on to suggest a few of its numerous practical applications. To the close observer, he said, there were of course many external indications of eye strain, such as blinking and screwing of the lids, the formation of abnormal wrinkles, the elevation or depression of an eyebrow, and the holding of the head in abnormal positions, as well as many chronic inflammatory conditions of the lids and conjunctiva. But there were many other symptoms which resulted sometimes from eye strain and sometimes from other sources of reflex irritation, and we could make a diagnosis only by a process of exclusion, taking the most probable cause first. Thus, it was generally admitted to-day that eye strain was the most prolific cause of chronic headache; yet there were innumerable other possible causes. Examination of the eyes should be one of the first procedures, because the eye was such a probable cause and because it took so short a time to exclude it. He next called attention to some common conditions in which the eyes were not by any means undisputed factors. In migraine the usual teaching was that the eyes were not at all concerned, the symptoms being due to vascular changes in the brain of an individual inheriting an unstable nervous equilibrium and also guilty of autotoxæmia. Yet examination of the eyes was almost the only hopeful possibility. Every one of the individual symptoms of migraine was seen over and over again in eye strain cases, and, so far as the speaker's own experience went (and it included a great many cases of typical migraine), relief was the rule, and not the exception. He would not say that such patients were cured, for, presumably, the hereditary instability was still there; but some of them had never had any attacks at all, and others only an occasional one—moreover, none having to practise any special self denial either in work or in play. He was well aware that many ophthalmologists entirely disbelieved in the association of migraine and eye strain, and there were of course many instances in which other factors predominated, but in his experience complete failures had been extremely rare.

In neurasthenia, an indefinite term applied to multitudes of cases in which the chief symptoms were muscular and nervous irritability, and fatigue manifested in various ways, he thought functional insufficiency of the eyes played a far more important part than was generally believed. Some of these neurasthenics were doubtless born unstable, but many more had instability forced upon them. In many, eye strain acted simply as the last straw, while in many others it might be one of the basal conditions. There could be no question, however, that an intelligent eye treatment would relieve many of the neurasthenic's most distressing symptoms, though he was also aware that some of this benefit was the result of suggestion. Many of the symptoms, in both sexes, so common at the time of the onset of presbyopia, we should recognize at once as possibly being due to eye strain. If time had permitted, Dr. Alger said in conclusion, he could have presented clinical reasons for believing that the eyes might be the cause, in some cases at least, of functional anomalies of the stomach and intestine, such as nausea and vomiting, of occasional cases of neuralgia and reflex abdominal pain, and of some cases of wry neck and spinal curvature of the lateral type. It would have been interesting also to say something of diagnosis and methods of treatment. He could only suggest that success depended upon at least three factors: The skill of the physician in making his provisional diagnosis, the skill of the oculist in correcting errors, and the intelligence and tractability of the patient. In all three there was room for infinite advancement.

(To be concluded.)

New Inventions.

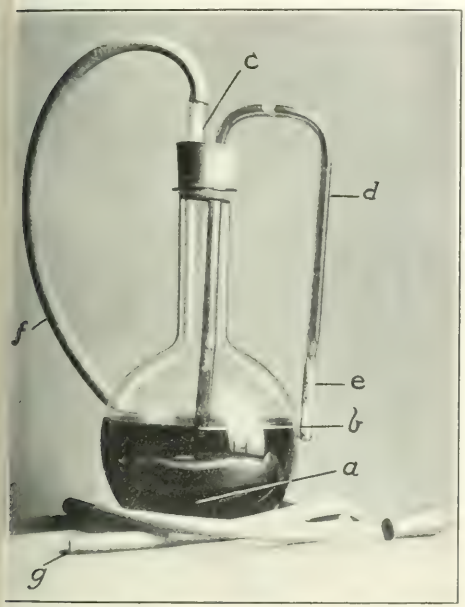
A SIMPLE APPARATUS FOR USING SALVARSAN INTRAVENOUSLY.

By EDWARD KILBANE, M.D.,
New York,
Assistant Surgeon, Research Hospital, Outpatient Department.

Without going into the comparative merits of the different methods of administering salvarsan, I think that this method of preparing and administering the drug is worth describing. Nothing new is claimed, simply the utilization of a well known apparatus for this specific purpose. Indeed, the entire affair is so simple that I have no doubt that

ther workers have arrived at the use of the same r a closely similar contrivance, although I have either seen nor heard of such use. This method liminates the pouring and repouring of the solu- on and the extreme simplicity of the apparatus ommends its use.

The apparatus consists of a 300 c.c. flask gradu- ted at 20 c.c. and at 250 c.c., and a tight fitting ubber stopper with two holes. Into one hole is laced a short glass tube projecting two inches bove the stopper. The lower end of this tube is anged to prevent the tube from dropping from the topper when the flask is inverted. Into the other ole is placed the long curved tube with the outer nd plugged with cotton, the cotton acting as a fil- er. The inner end of this tube extends almost to



end flanged. *D*, Long curved glass tube with cotton filter *E*. *F*, Rubber tubing, to the free end *G* of which needle is attached.

the bottom of the flask. This tube is intended to act as a vent. To the shorter tube is attached one end of a three foot length of rubber tubing, and to the other end of the rubber tubing is attached the needle preferred by the individual operator.

Preparation. Into the flask place more than 20 c.c. of filtered distilled water. Sterilize. Pour off the excess of water down to the 20 c.c. mark. Add the salvarsan. Shake until dissolved. If water is hot (as it should be) glass beads are unnecessary to aid solution. Now add hot sterile normal saline solution to the 250 c.c. mark and the solution is ready for use. If to be used at a place distant from the place of preparation heat the flasks containing the distilled water and the saline solution in water bath just before mixing. This insures the use of a freshly prepared solution.

Use. After mixing as described, insert stopper in flask, attach one end of the rubber tubing to the short glass tube, arm the free end of the rubber tubing with the needle of choice, invert the bottle, expel the air from the tubing and needle, and the needle is ready for insertion into the vein. The rapidity of flow is regulated by the height of the flask above the patient's arm. The simplicity of preparation insures asepsis with a minimum of precaution. The administration is so readily accomplished that a person to hold the inverted flask is all the assistance required.

I am indebted to Dr. Mortimer Warren for many helpful suggestions, and to Mr. Martindale for assistance in contriving this apparatus.

24 WEST SIXTIETH STREET.

Letters to the Editor.

VEGETARIANISM.

793 ORANGE STREET, NEW HAVEN, CONN.

To the Editor:

Permit me to discuss the notice you have kindly given to my book, *A Fleshless Diet.*

The passing remarks that you pick up do not give the reader an idea of the painstaking effort I have made to show that the rejection of all flesh from the diet can be based on very strong scientific grounds. Whether the appetite for meat is an acquired one or was an original endowment of the human race cannot be settled by the behaviour of European emigrants on our shores. The facts presented in my anatomical considerations answer as far as can be.

If we keep in mind the million of years that are necessary for any species to develop, we should give only a very limited significance to what a certain people do at our time.

But I do not consider the important point to be there. Whatever we were originally does not matter; what we should be now does. Is it better for a man living in the present conditions to abstain from flesh foods or not? That is the question.

My argument is not based on far off myths, but on actual experiments and observations extending over many years and a great number of people of several nations. I find that anatomically it is at best doubtful whether meat should be a food for man. Physiologically, the up to date chemical ideas show that meat is unnecessary and in anything but a small amount certainly injurious.

Meat is harmful on account of:

1. The unnecessary increase of the general nitrogenous metabolism which goes with it.

2. The presence in it of, *a*, leucomaines, *b*, ptomaines. Meat is never eaten fresh in this age of cold storage *ad infinitum*.

3. The putrefactive organisms swarming in it.

4. Its tendency to increase intestinal autointoxication.

5. The possibility of its harboring pathogenic microbes (for which it is a good medium of

growth) and parasites. A fine food indeed from which we must not be separated!

The mental acumen of a vegetarian cannot prove much, it is true, but have you noticed I refer to hundreds of them and refrain from giving a tedious list of names.

Victims of different diseases where a vegetarian diet is particularly indicated ought to fall upon Charybdis in trying to avoid Scylla if the existing theories are right. Nitrogenous starvation should follow the case. Strange, it may seem to the high protein feeder, those patients get well and increase their strength besides.

As a problem of arithmetic we could present the case of the Japanese. Given a race that has lived on a vegetable diet for thousands of years, what is the influence of a little ration of meat during a few months of a campaign?

If meat was necessary the race should not exist at all or be hopelessly degenerated. Far from it, then, to undertake a campaign against the biggest possible foe! Was the war started and fought on the strength of the racial energy or on the little meat ration furnished during a few months? I leave you to answer.

I should like to make it understood that I do not present the diet of the Japanese or any other primitive one as the best in all respects. There may be important improvements to make in it to reach the ideal. Science has certainly not said the last word on the subject. I believe, however, that science has proved that we can and should do without meat. Any sort of a vegetable diet tried haphazard may not be good, and that may account for the failures that are reported.

Milk and eggs are certainly flesh enough for those who feel obliged to conjure the anathema of science, pseudoscience, and well meaning prejudice. So let them who want to try be cheered.

J. L. BUTTNER, M. D.

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Ärztliche Fortbildungskurse der freien Organisation für die medizinischen Kurse an der k. k. Universität Wien. Postgraduate Medical Work under the Patronage of the Free Organization for Medical Courses at the I. R. University of Vienna. Cours de médecine de l'organisation libre pour les cours méd. à l'Université i. r. de Vienne. Second edition. Berlin and Vienna: Urban & Schwarzenberg; New York: Rebman Company.

We have received the second edition of the catalogue of the postgraduate medical work of the University of Vienna. We referred to this little pamphlet on the appearance of the first edition. It is a very handy guide book, being printed in three languages: German, English, and French. It will be of valuable help to the physician who wishes to take a postgraduate course at the University of Vienna. The catalogue will be sent free of charge upon application to the publishing house of Rebman Company, New York.

La préparation 606 (état actuel de la question) par Dr. LÉON BIZARD and LOUIS LESAGE. Paris: Vigot Frères. 1911. (Price, 1 fr. 50.)

This is the fourth book on salvarsan which we have reviewed: one in German, two in English, and this one in French. It is not bad. Of the chemical combination (in chapter one), we learn that "606" is an amino preparation; the old, so often repeated mistakes are again dished up. After this shock we are prepared for anything, but are happily disappointed, for the following chapters deal with the actions, technique, results, accidents, and the future use of dioxydiamidoarsenobenzol and are better than found in the average book. The two French physicians do not advertise a specially prepared armamentarium either, and the conclusions are very well taken. The bibliography gives only references written in French, the German with French titles, and is far from complete; but the authors have the right to select their preferences, provided these have really been studied.

Practical Bacteriology, Blood Work, and Animal Parasitology. Including Bacteriological Keys, Zoological Tables, and Explanatory Clinical Notes. By E. R. STITT, A. B., Ph. G., M. D., Surgeon, U. S. Navy, Graduate of the London School of Tropical Medicine, etc. Second Edition, Revised and Enlarged, with 91 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1910. Pp. xiii-345. (Price, $1.50.)

This is a compact handbook designed to afford practising physicians, and particularly surgeons in the army or navy, a concise guide in making the ordinary bacteriological, hæmatological, and parasitological examinations necessary in the course of their work. The information is practical and up to date, and we have no hesitation in recommending the book. There is evidently a slip on page 128, for the author probably knows that sessile receptors, if such exist, would make the body more vulnerable, and not immune, as he states.

Induced Cell Reproduction and Cancer. The Isolation of the Chemical Causes of Normal and of Augmented, Asymmetrical Human Cell Division. By HUGH CAMPBELL ROSS, M. R. C. S. (Eng.), L. R. C. P. (Lond.), Surgeon, Royal Navy (Emergency List), Director of the Special Researches at the Royal Southern Hospital, Liverpool, etc. Being the Results of Researches Carried out by the Author with the Assistance of JOHN WESTRAY CROPPER, M. B., M. Sc. (Liverpool), M. R. C. S. (England), L. R. C. P. (London), Assistant to the Research Department of the Royal Southern Hospital, Liverpool. With 129 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1910. Pp. xxx-423. (Price, $4.50.)

Working along rather unusual lines, the author studied the ways in which mitosis could be induced in various human cells. In December, 1909, he discovered almost accidentally that extracts of dead tissues, if they were allowed to decompose by the action of putrefactive bacteria, would by themselves induce the division and multiplication of lymphocytes. In February, 1910, while investigating the epithelial cells present in some vaginal secretion, it occurred to him to try to induce division in them, and this experiment was successful in the case of one or two cells. In April and May, 1910, when working with his assistant, Dr. Cropper, the author saw divisions induced by creatin and xanthin, the extractives contained in the remains of dead tissues; and they thereupon also investigated the augment-

ıg action on cell division of the alkaloids choline, adaverine, etc., produced by the decomposition of utrefaction. These points led them to elaborate a heory regarding the cause of cancer which is described in the latter part of the book. With an investigation on the cause of cancer begun in April nd a book of results published the same year, it is ıot surprising that the evidence presented is wholly nconvincing. The publication of unfinished investigations of this kind should be reserved for the echnical journals; their appearance in the form of ın elaborate book is quite undesirable.

SEDGWICK MINOT, LL. D. (Yale and Toronto), D. Sc. (Oxford), James Stillman Professor of Comparative Anatomy in the Harvard Medical School, etc. Second Edition, Revised. With Two Hundred and Sixty-two Illustrations, chiefly Original. Philadelphia: P. Blakiston's Son & Co., 1910. Pp. xii-402. (Price, $3.50.)

Minot's book is designed for guiding the student n the making of embryological observations and in drawing conclusions from the observations thus nade. "The student repeats and uses the actual methods by which embryological science has been built." The different chapters deal with general conceptions, the early development of mammals, the human embryo, the study of the segmentation of the ovum and of the blastodermic vesicle in mammals, the study of young chick embryos, the study of pig embryos, the study of the uterus and the fœtal appendages of man, and methods.

The book is well written and well printed. The illustrations are numerous and well executed.

The Diseases of Infants and Children. By EDMUND CAUTLEY, M. D. Cantab., F. R. C. P. London, Senior Physician to the Belgrave Hospital for Children, etc. New York: Paul Hoeber, 1910. Pp. xvi-1042. (Price, $7.)

This is one of the most extended and comprehensive of one volume works on diseases of children. It is the object of the author to describe the ailments of children in a form suitable for the general practitioner of medicine and sufficiently detailed to render further reference to other works unnecessary. The book is peculiar among modern medical works in that it contains no illustrations or charts. It is designed for practitioners and not for medical students, and the author asserts that kindergarten methods of teaching medicine by pictures, diagrams, and models, while of advantage to the student, may prove a disadvantage to those in actual practice. Photographs and drawings, except of pathological states, are of little value unless they are so typical that the veriest tyro can recognize the disease from a description. They are injurious, the author believes, because the expectation of seeing the typical cases of the pictorial illustration increases the danger of overlooking the earlier and less characteristic stages, in which disease is most amenable to treatment. There is, no doubt, some truth in this view, and there is a suspicion that some modern authors have relied too much upon pictures and have failed to draw clinical pictures in words, which would have been of more value to the reader. In the present instance the author has done much to supply the lack of illustrations, but it cannot be said that he is a great artist in the drawing of clinical pictures, like Watson, Flint, Osler, and Holt.

A liberal amount of space is devoted to the surgical diseases of children. The author believes that the practitioner's knowledge should be extensive enough to enable him to appreciate the surgical as well as medical conditions which are so common among children. He expresses the belief that a year's experience as house surgeon in a hospital is almost essential to the training of a successful pædiatric practitioner.

Considerable space is also given to the maladies which have been recognized only during recent years and those conditions which, although long known, have recently received particular attention. The sections on therapeutics have not been curtailed and are on the whole satisfactory. The work is distinctly English and presents the various subjects from the English point of view. This is particularly true of treatment, and many of the suggestions will seem strange to the American practitioner, but it does not necessarily follow that they are open to criticism.

The work is so extensive that it is not possible to enter upon detailed consideration of the various sections. One naturally turns to the section on diet and nutrition as being more than any other an index to a work on pædiatrics. To the American reader it will seem to be lacking and inferior to many other portions of the work. The treatment of artificial feeding will seem unsatisfactory and the directions neither definite nor clear cut. On this side of the water, it seems strange that an author should direct that an infant's food for a whole day should be kept in a single vessel, the amount of each feeding to be taken out and heated in a saucepan until it just begins to boil and then cooled down and given to the child. Division of the day's food into the requisite number of separate bottles is not advised unless it is to be sterilized after the method of Sohxlet or Hawksley.

Except for the points which have been mentioned, the book follows the well trodden lines of works on pædiatrics. It presents the subject according to the English viewpoint and methods and is a creditable and valuable contribution to pædiatric literature.

MEDICOLITERARY NOTES

Parents often worry when a child is backward in walking, their fear being that there is some muscular weakness. They should be told that equilibrium and locomotion are among the most highly complex functions of the organism, dependent upon the most delicate adjustment between cerebrum and cerebellum and distal nerve endings; quite as complex, in fact, as the function of speech. If the information is conveyed in the foregoing language, their admiration for their wonderful offspring will probably be increased. The point is, however, that lateness in the acquirement of proper coordination of nerve impulses is not necessarily a bad sign.

In the February *American*, The Will to Live—With Death at Hand, by Frank Barkley Copley, is a moving story of the suffering of those Arctic explorers who went with Greely, and shows what marvelous resisting power is possessed by the human mind and body.

We have to add to a small collection of unique accidents one from the New York *Sun* of February 2d, which tells of a tugboat employee who, as a result of the terrible dynamite explosion in Jersey City, was slammed against the walls of the cabin and suffered a fracture of both bones of the foreleg."

* * *

The recent decision of a jury, in the face of that of thirteen medical experts, that a certain defendant was sane, does not seem to be susceptible of any other construction than that the jury believed the alienists to have been bribed. No doubt the members of the jury thought themselves to be very clever and very cynical and have no idea that they stultified themselves, besides throwing a curious light on their respective senses of honor. Homicides may appeal to the sentiment of a jury, but criminals who steal the sacred dollar had best beware.

* * *

Pearson's Magazine publishes in the February issue many articles of ethical and economic interest and importance: Who Betrays the Working Girl? by Richard Barry; Fooling the People about a Parcels Post, by Allan L. Benson; Everyday Foods Which Injure Health, by Mary and Lewis Theiss. The last article makes delightful reading. It is hard to see why coffee should be injurious when it contains no coffee. Canned fruits are bleached and then redyed a more attractive shade. Salmon is catfish stained pink. Pepper, red pepper, tea, chocolate, caviar (fish eggs from the Mississippi and lampblack), bread, cake, canned vegetables, soups, ketchups, are all made up like so many chorus girls, and are even more dangerous. Besides all these disagreeable truths, this number contains fiction, thrilling and diverting.

* * *

Among the subjects of every conceivable nature treated in the February *Current Literature* are The Effects of Flying on the Health of Aviators; Antiquity of Man in the Light of the Latest Flint Discoveries; Another Revolution in the Biological Idea of Growth; Feminism and the Contest over Madame Curie; Is Physics on the Threshold of an Entirely New Interpretation of Nature?; The One Supernatural Fact That Is Scientifically Established; A Medical Report from a New Psychological World. Some of our older readers may be interested in the fact that *Current Literature* reprints monthly the best verse it can find in the periodicals of the day. Religion, current fiction and other books, opera and drama are all discussed.

* * *

In the *Sunday Magazine* for January 22d Dr. Eugene L. Fisk asks Why Have Pneumonia? The more we have of this sort of popular medical articles the better. Emmett C. King, in Nothing New in Drama, shows that the Greeks had movable scenery, revolving stages, padded comedians, storms of decayed fruit for unpopular players, and many other dramatic commonplaces supposed to be ultramodern.

* * *

The chairman of the Elementary Schools Committee of New York has recently explained why married women teachers cannot be promoted. The chief reason seems to be that the sight of a pregnant woman has an "immoral" effect on children. This important discovery throws a strong light on the depraved moral status of the lower East Side, for the sight in question is one of the most familiar in that locality, and the longer we consider it the more hopeless does the possibility of a solution appear. Any physician who has attended a woman in confinement in the East Broadway district before an unasked for and inevitable audience of three or four young children will recall the already *blasé* indifference with which the function of motherhood is looked upon by them. We do not believe that, in that neighborhood at least, the sight of a pregnant teacher would be considered either funny or vulgar.

* * *

The Child's Welfare Exhibit at the Seventy-first Regiment's armory is attracting much deserved attention. The attendants are civil and enthusiastic, anxious to explain to student and amusement seeker alike. The use of dolls to represent women in small models of *crèches*, day nurseries, unsanitary residences, etc., is clever and engages the absorbed attention of youthful visitors. One of the most striking exhibits is that of what is being accomplished in the instruction of the blind and in the prevention of blindness. The motto of this exhibit is *Lætus sorte mea* (contented with my lot). A young woman contributor to an evening paper has kindly explained: "This means, if I have not forgotten my Latin, 'My light has gone out.'"

* * *

Rupert Hughes, in the February month end number of the *Popular Magazine*, has The Ghost Shop, in which he gives an exposé of the tricks and traps of the gruesome trade of the spiritualistic seer. This magazine publishes monthly some thirty stories of a high grade of excellence and helps to make inexplicable the plaint of those who say there is no fiction to-day of good quality. It seems to us that rather is there a surfeit of good things. It is true, nevertheless, that a story of exceptional brilliancy of technique might escape due attention in the mighty flood of thirty-odd periodicals; but to the great mass of readers a story is a story.

NEW PUBLICATIONS.

Barnett, H. Norman.—Accidental Injuries to Workmen. With Reference to Workmen's Compensation Act, 1906. With an Article on Injuries to the Organs of Special Sense. By Cecil E. Shaw, M. A., M. Ch., M. D. Legal Introduction by Thomas J. Campbell, M. A., LL. B. New York: Rebman Company, 1911. Pp. vii-376. (Price, $2.50.)

Glogner, Max.—Die Aetiologie der Beriberi und die Stellung dieser Krankheit im nosologischen System. Leipzig: Johann Ambrosius Barth, 1910. Pp. 77.

Schaumann, H.—Die Aetiologie der Beriberi unter Berücksichtigung des gesamten Phosphorstoffwechsels. Mit 41 Abbildungen im Text und auf 12 Tafeln. Leipzig: Johann Ambrosius Barth, 1910. Pp. 397.

Morison, Rutherford.—An Introduction to Surgery. With 146 Illustrations in the Text and Five Colored Plates: New York: William Wood & Co., 1911. Pp. 162. (Price, $2.50.)

Turner, Dawson.—Radium. Its Physics and Therapeutics. New York: William Wood & Co., 1911. Pp. x-86. (Price, $1.75.)

Lambkin, F. J.—Syphilis. Its Diagnosis and Treatment.

With Preface by Sir Frederick Treves. New York: William Wood & Co., 1911. Pp. vii-195. (Price, $2.25.)

Bidwell, Leonard A.—A Handbook of Intestinal Surgery. Second Edition. New York: William Wood & Co., 1911. Pp. xiv-212. (Price, $2.25.)

Carson, John George.—Remedial Gymnastics for Heart Affections Used at Bad Nauheim. Being a Translation of *die Gymnastik der Herzleiden* von Dr. Julius Hofmann und Dr. Ludwig Pöhlman, Berlin und Bad Nauheim. With Fifty-one Full Page Illustrations and Diagrams. New York: Paul Hoeber, 1911. Pp. xvi-128. (Price, $2.)

Bauer, Paul.—Haben die Kampfesmethoden der Abstinenten einen einwandsfreien wissenschaftlichen und kulturellen Wert? Zweite Auflage. Berlin: Paul Parey, 1911. Pp. 108.

Wells, William Hughes.—Compend of Gynæcology. Fourth Edition, Revised and Enlarged, with 153 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. 13-290. (Price, $1.)

Musser, John H., and Kelly, A. O. J.—A Handbook of Practical Treatment. By Many Writers. Volume I. Philadelphia and London: W. B. Saunders Company, 1911. Pp. [illegible] (Price, $6.)

Adami, J. George, and Nicholls, Albert G.—The Principles of Pathology. Volume II. Systemic Pathology. Second Edition, Revised and Enlarged, with 301 Engravings and Fifteen Plates. Philadelphia and New York: Lee & Febiger, 1911. Pp. xv-1160.

Vierzig Jahre des Deutschen Hospitals und Dispensary in der Stadt New York. Eine geschichtliche Darstellung. Pp. 119.

Festschrift zur vierzigjährigen Stiftungsfeier des Deutschen Hospitals. Herausgegeben von dem Medical Board im Auflage der Aerzte des Deutschen Hospitals und Dispensary der Stadt New York. New York: Lemcke & Buechner, 1909. Pp. 598.

Currie, Donald H.—Studies upon Leprosy. XII. Notes on the Study of Histories of Lepers from the Standpoint of Transmission. With a Contribution to the Study of Rat Leprosy by Donald H. Currie and Harry T. Hollmann. Public Health Bulletin No. 41. Washington, D. C.: Government Printing Office, 1911. Pp. 36.

Annual Reports of the President and Treasurer of Columbia University to the Trustees. With Accompanying Documents. For the Year ending June 30, 1910. Pp. 250.

Tenth Annual Report of the New York State Hospital for the Care of Crippled and Deformed Children for the Year ending September 30, 1910. Pp. 48.

Seventh Annual Report of Bellevue and Allied Hospitals of the City of New York. January 1 to December 31, 1908. Pp. 379.

Official News.

Public Health and Marine Hospital Service Reports:

Weekly reports of cases and deaths from [illegible] and [illegible] received by the Surgeon-General of the United States Public Health and Marine Hospital Service for the week ending [illegible]

Place.	Date.	Cases	Deaths.
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
India—Rangoon	Dec. 11-17		
Indo-China—Saigon	Dec. 4-18	3	
[illegible]	[illegible]	[illegible]	[illegible]
Manchuria—Harbin	To Dec 24		
Peru—Lima	Dec. 18-31	4	
Peru—Mollendo	Dec. 17-27	5	

Smallpox—United States.

[illegible]	[illegible]	[illegible]	[illegible]
Florida	Jan. 16-21	176	
Indiana	Dec. 1-31	44	
Louisiana	Dec. 1-31	100	
[illegible]	[illegible]	[illegible]	[illegible]
Minnesota—Beltrami County	Dec. 19-25	1	
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Minnesota—Douglas County	Dec. 5-Jan. 1	3	
Minnesota—Fillmore County	Nov. 27-Dec. 4	1	
Minnesota—Koochiching County	Dec. 5-25	6	
Minnesota—Le Sueur County	Dec. 26-Jan. 1	3	
Minnesota—Nobles County	Dec. 5-25	3	
Minnesota—Norman County	Dec. 12-Jan. 1	6	
Minnesota—Ramsey County	Dec. 5-Jan. 1	64	
Minnesota—St. Louis County	Nov. 27-Dec. 4	8	
Minnesota—Sibley County	Dec. 26-Jan. 1	1	
Minnesota—Todd County	Dec. 5-25	14	
Minnesota—Wabasha County	Dec. 26-Jan. 1	1	
Missouri—Kansas City	Dec. 1-31	35	
New York—Tioga County	Dec. 1-31	1	
Ohio—Franklin County	Dec. 1-31	7	
Ohio—Hamilton County	Dec. 1-31	2	
Ohio—Lorain	Dec. 1-31	2	
Ohio—Portage	Dec. 1-31	1	
South Carolina—Camden	Dec. 15-21	1	
Utah	Dec. 1-31	212	
[illegible]	[illegible]	[illegible]	[illegible]

Smallpox—Foreign.

[illegible]	[illegible]	[illegible]	[illegible]
China—Canton	Dec. 11-17	26	3
[illegible]	[illegible]	[illegible]	[illegible]
Egypt—Cairo	Dec. 24-31	1	
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Italy—Naples	Jan. 1-7	36	
Spain—Barcelona	Jan. 1-8		
Spain—Valencia	Jan. 1-7	1	
Straits Settlements—Penang	Dec. 4-17	80	
Straits Settlements—Singapore	Dec. 4-10	3	
Switzerland—Bern, Canton	Dec. 12-31	6	
[illegible]	[illegible]	[illegible]	[illegible]

Plague—Foreign.

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending February 4, 1911:

ALLEN, WILLIAM H., Lieutenant, Medical Corps. Ordered to Walter Reed General Hospital, Takoma Park, D. C., for observation and treatment.

ARTHUR, WILLIAM H., Colonel, Medical Corps. Promoted to the rank of colonel from January 1, 1911.

BARTLETT, C. J., Captain, Medical Corps. Leave of absence extended twelve days.

DAVIS, OSCAR F., Lieutenant, Medical Reserve Corps. Died at the Army and Navy General Hospital, Hot Springs, Ark., July 30, 1910.

DEAN, ELMER A., Major, Medical Corps. Detailed to take the course of instruction at the Army Field Service School for Medical Officers, Fort Leavenworth, Kansas.

DE LANEY, MATTHEW A., Major, Medical Corps. Promoted to the rank of major from December 27, 1910.

EBER, ALBERT H., Lieutenant, Medical Reserve Corps. Assigned to permanent duty at Fort Dade, Florida.

EBERT, RUDOLPH G., Colonel, Medical Corps. Promoted to the rank of colonel from December 27, 1910.

FAUNTLEROY, P. C., Major, Medical Corps. Orders detailing him for a course of instruction at the Army Field Service School for Medical Officers, Fort Leavenworth, Kansas, are revoked.

HAYNE, JAMES A., Lieutenant. Medical Reserve Corps. Granted leave of absence for two months.

LITTLE, WILLIAM L., Captain, Medical Corps. Granted two months' leave of absence.

SKELTON, ROBERT, Lieutenant, Medical Reserve Corps. Ordered to active duty and will proceed to Fort Adams, R. I., for station and duty.

STARK, ALEXANDER N., Major, Medical Corps. Granted leave of absence for one month and twenty days.

THEARLE, WILLIAM H., Lieutenant, Medical Corps. Ordered to proceed to Jefferson Barracks, Mo., for temporary duty until the arrival of Captain Guy V. Rukke, Medical Corps.

THOMASON, HENRY D., Major, Medical Corps. Leave of absence extended ten days

TUTTLE, GEORGE B., Lieutenant, Medical Reserve Corps. Granted leave of absence for one month and twenty-one days.

VAN POOLE, G. McD., Major, Medical Corps. Detailed to represent the Medical Department of the Army at the fourth annual meeting of the Lake Michigan Sanitary Association, Chicago, Ill., on February 18, 1911.

WILLCOX, CHARLES, Lieutenant Colonel, Medical Corps. Promoted to the rank of lieutenant colonel from December 27, 1910.

The following named officers of the Medical Corps were promoted to the rank of Major from January 1, 1911: Halloran, Paul S.; Fidd, Peter C.; Brechemin, Louis, Jr.; Bloombergh, Horace D.; Nelson, Kent; and Shaw, Herbert G.

The following named officers of the Medical Corps were promoted to the rank of lieutenant colonel from January 1, 1911: Raymond, Thomas U.; Snyder, Henry D.; Smith, Allen M.; and Clarke, Joseph T.

Each of the following named officers of the Medical Reserve Corps is relieved from duty at the Army Medical School, Washington, D. C., and will proceed to his home; upon arrival there will report by telegraph to the Adjutant General of the Army. Blair, Faris M.; Dolley, Gilman C.; Lynch, Edward C.; McLaughlin, William F.; Pulver, Arthur L.; Scherer, Carl A.; Underwood, Gordon B.; Williams, Harry B.; and Wilson, James H. Each of the officers named will stand relieved from further active duty in the Medical Reserve Corps, to take effect upon his arrival at his home.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending February 4, 1911:

ELLIOTT, M. S., Surgeon. Detached from command of the Naval Hospital, Washington, D. C., and ordered to the Naval Medical School, Washington, D. C., for a course of instruction.

GARRISON, H. A., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from June 27, 1910.

GEORGE, C. McI., Assistant Surgeon. Commissioned an assistant surgeon from December 24, 1910.

HOLEMAN, C. J., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from September 21, 1910.

LANDO, M. E., Passed Assistant Surgeon. Resignation accepted to take effect January 31, 1911.

MCLEAN, A. D., Passed Assistant Surgeon. Ordered to duty in attendance upon officers and their families on duty at Washington, D. C.

PHELPS, J. R., Assistant Surgeon. Detached from the *Vermont* and ordered to the *Solace*.

SHELDON, L., Jr., Assistant Surgeon. Commissioned an assistant surgeon from December 24, 1910.

STRITE, C. E., Passed Assistant Surgeon. Ordered to the *Vermont* when discharged from treatment at the Naval Medical School Hospital, Washington, D. C.

WIERZBIKI, S., Pharmacist. Ordered to duty at the Naval Medical School Hospital, Washington, D. C.

Births, Marriages, and Deaths.

Married.

DE HAAN—ZIEGENHEIN.—In East St. Louis, Illinois, on Tuesday, January 24th, Dr. Adrian De Haan and Miss Clara Ziegenhein.

HADDEN—CONOVER.—In New York, on Thursday, February 2d, Dr. Alexander Hadden and Miss Sarah M. Conover.

Died.

BICKFORD.—In Lockport, New York, on Tuesday, January 31st, Dr. John W. Bickford, aged sixty-two years.

BIRDSALL.—In Glens Falls, New York, on Friday, January 27th, Dr. Stephen T. Birdsall, aged sixty-six years.

BYINGTON.—In Battle Creek, Michigan, on Friday, January 27th, Dr. John Byington, aged thirty-eight years.

CANNON.—In Baltimore, Maryland, on Sunday, January 29th, Dr. T. Harris Cannon, aged thirty-two years.

CONGER.—In Oakland, Pennsylvania, on Thursday, February 2d, Dr. Frederick C. Conger, aged forty-two years.

COOK.—In New Alexandria, Pennsylvania, on Friday, January 27th, Dr. Joseph L. Cook, aged eighty years.

CURRAN.—In New York, on Saturday, February 4th, Dr. Stanley D. Curran, aged forty-one years.

HAYNES.—In Beaumont, Texas, on Friday, January 27th, Dr. Thomas B. Haynes, aged forty-four years.

HEATH.—In Mercer, Pennsylvania, on Thursday, January 26th, Dr. Le Roy W. Heath, aged fifty-two years.

HEINBERGER.—In Leadville, Colorado, on Friday, January 27th, Dr. David Heinberger.

HENDRY.—In Newark, New Jersey, on Saturday, January 28th, Dr. Hugh C. Hendry, aged sixty-one years.

KERR.—In Warrenton, Virginia, on Thursday, February 2d, Dr. James Kerr, of Washington, D. C., aged sixty-two years.

KNISKERN.—In Amsterdam, New York, on Tuesday, January 31st, Dr. John W. Kniskern, aged forty-three years.

MACKIN.—In Grafton, West Virginia, on Tuesday, January 31st, Dr. R. D. Mackin, aged forty-six years.

MONTEIRO.—In Richmond, Virginia, on Friday, January 27th, Dr. Aristides Monteiro, aged eighty-one years.

MOORE.—In Vincennes, Indiana, on Thursday, January 26th, Dr. Maurice G. Moore, aged thirty-eight years.

OFFUTT.—In Granite, Maryland, on Monday, January 30th, Dr. Thomas Z. Offutt, aged eighty-two years.

ROBERTS.—In Louisville, Kentucky, on Tuesday, January 24th, Dr. Walter T. Roberts, aged fifty-one years.

ROHR.—In Chicago, on Friday, January 27th, Dr. Frederick W. Rohr, aged fifty-three years.

SNOW.—In New Lebanon, New York, on Friday, January 27th, Dr. Walter H. Snow.

STRICKLER.—In Waynesboro, Pennsylvania, on Monday, January 30th, Dr. A. H. Strickler, aged seventy-one years.

SUMNER.—In Alma, Colorado, on Thursday, January 19th, Dr. C. O. Sumner, aged fifty-three years.

VAUGHAN.—In Morrisonville, New York, on Wednesday, February 1st, Dr. C. B. Vaughan, aged sixty-four years.

WARD.—In Newark, New Jersey, on Saturday, February 4th, Dr. Joseph R. Ward, aged seventy-seven years.

WOOD.—In Brooklyn, New York, on Wednesday, February 1st, Dr. Charles Edwin Wood, aged thirty years.

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Original Communications.

THE NATURE OF NEURASTHENIA AND OF ACUTE INSANITY.

BY CHARLES P. NOBLE, M. D., Sc. D.,
Philadelphia.

Insanity has been considered to be a disorder of the mind or of the will, whereby either delusions or confusion of apprehension has led to a false judgment, which constitutes unsoundness of mind, and which, if leading to action, has led to acts, or to speech, of such a character as to be called insane. In other words, insanity has been regarded as a delusion or a confusion, unvolitional in character, or else as being a perversion or disorder of the will, or such a lack of inhibition of will or of loss of control on the part of the individual over his will, as to lead to acts of violence toward others, or toward the individual himself, so as to endanger others or the individual himself.

Functional insanity has been so denominated because those individuals, who have been so unfortunate as to be insane, when examined post mortem, show no anatomical evidence of disease. The brain has been found to be anatomically normal when it has been examined by the methods formerly in use.

I wish to present to the profession a new theory as to the nature of acute functional insanity which, I believe, to be true, and which I submit for the study and the judgment of others.

I believe that acute, so called functional, insanity is really due to the degeneration of the units or elements, of which the protoplasm of the cells of the gray matter of the cortex of the brain is composed; or else the same is true of the protoplasm of the cells in the pituitary ganglion; or it is true of both. This communication is not intended to be exhaustive, it is merely a preliminary report.

The objective evidence of the truth of this theory is to be found in the fact that these cells in an insane individual stain—that is, react to staining agents—differently from the cells of normal individuals. The reports of these investigations are few in number, and such observations should be made in larger numbers.

My theory as to the causation of acute mania is as follows:

Normal thought is due, in the adult human, to the reaction between thyreoidin and the protoplasm of the cortex cells, aforesaid. This reaction either produces nerve force, or else it sets free potential nerve force which is stored up in the cells, making it actual. This vital process is called thought, which consists, 1, of apprehension; 2, of reasoning —*a* by induction, the algebraic method—*b* by equations, the geometrical method—or *c* of deduction; the method of reasoning by the calculus; 3, of judgment, which is a form of nerve force, or of nervous activity, which is said to inform, or to illuminate, the will; the organ of which, ontogenetically, is the pituitary ganglion. The nerve impulses, proceeding from the cortex cells, when they reach the pituitary gland cause it to secrete its extract or secretion, which entering the blood stream is conveyed to the thyreoid gland, which in turn secretes thyreoid extract, which in turn enters the blood stream and is conveyed to the cortex cells in the hemispheres of the brain, which in turn, reacting to the thyreoidin, produces thought.

Thyreoidin either directly or through the nervous system stimulates metabolism, which produces waste matter, which is now called ordinary fatigue toxines, which accumulate in the body more rapidly than they are excreted by the kidneys, the sweat glands, and the breath; as a consequence, as the day passes, the blood and the lymph contain a higher and higher percentage of toxines, which produce the feeling called fatigue. This really is physiological toxæmia, or expressed in other words, it is physiological autointoxication, which poisoning of the cells of the body is brought about by metabolism. When this reaches a certain degree, the tired feeling becomes drowsiness; or, in other words, the individual feels sleepy, and in due time the reaction between the thyreoidin and the protoplasm of the cortex cells ceases—thought ceases—and the individual is asleep; that is, the individual has become a physiological, or temporary, idiot—his mind is blank—he is asleep, which is the temporary prototype of the eternal sleep, which is called death.

When one is dead the will is permanently inhibited; when one is asleep the will is temporarily inhibited; which means that as no nerve force comes from the cortex cells to the pituitary ganglion; this in turn sends no nerve impulse to the pituitary gland, hence the circle of life is temporarily broken. The individual, relatively speaking, is temporarily dead—he is both thoughtless and willless; his metabolism is reduced to a minimum; and thus his kidneys, sweat glands, and breath are enabled to get rid of the accumulated toxines in the course of his sleep, so that his toxæmia is overcome, his consciousness returns, new impressions are made upon his sensorium, and the circle of life,

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of thought, of will, and of metabolism is once more complete; he is awake, and lives, and moves, and has his being.

When one violates the laws of health—by unreasonable thought, leading to unreasonable acts, by selfish motives, by unreasonable hours of labor, by the failure to secure a sufficient amount of sleep, by the failure to secure reasonable recreation, and more especially by hurrying at work, and by an unreasonable attitude toward one's work—which is called the worry habit—there results exaltation of the will, and increase in the production of, first, pituitary extract, and then of thyreoid extract, which leads to increased liberation of nerve force in the cortex cells, also of increased metabolism in the body—hence it necessarily follows that the production of fatigue toxines is increased. This means that, if the bad habits, previously related, are continued from day to day, and from week to week, chronic toxæmia and chronic hyperthyreoidism and the supersecretion of pituitary extract results. This constitutes the pathology of neurasthenia.

The chronic poisoning of the protoplasm of the nervous system results in the degeneration of the units, or elements, of the cells, more especially in the cortex and in the pituitary ganglion, and, presumably, in the nerves themselves. This condition, for convenience, we shall call molecular degeneration.

Molecular degeneration is the morbid anatomy of what heretofore has been called functional disease.

If the individual continues to violate the laws of health, the protoplasm of the cells continues to undergo molecular degeneration. The cells deteriorate more and more, or in other words, become diseased, and the pathology, or the morbid life, of the cells continues to grow worse and worse, eventually constituting the irritation stage of neurasthenia, with accelerated and aberrant thought, exaltation of the will, and a relative loss of self control or of inhibition; that is to say, both the thought and the will of the individual are relatively unvolitional in character. Both his thoughts and his acts, including his speech, are relatively beyond his control. He no longer wills to do things in an unreasonable and selfish manner, but he does them in spite of himself. He is "possessed by the devil," which is called functional disease of his nervous system. He is no longer master of himself but has become mastered by his unreasonable acts and selfish purposes.

Or, on the other hand, one may have become the victim of oppression by others, who, being selfish and having the power to oppress him or to torture him, have done so, by either compelling him to perform unreasonable labor under improper conditions, or else they have kept his emotions constantly in a turmoil.

Thus they produce in him the same conditions, which the selfish, unreasonable individual, first considered, volitionally induced.

Both individuals, the unreasonable and selfish one, and the oppressed and tormented one, live contrary to the laws of health. They sin against the physical body, they sin against reason, and they sin against morals; that is, they either will to do selfish things to attain selfish aims, or, on the other hand, selfish men or a selfish man or a selfish woman, by oppressing or tormenting an individual, keep his emotions or his feelings or his spirit or his soul in torment. "The wages of sin is death," and one must become sick before he sickens unto death. Hence disease is the consequence of sin; or, otherwise stated, it is the result of living contrary to the laws of the physical body, of the mind, or of the moral nature; or it is the combination of two or three of these.

If the individual continues to live contrary to the laws of health, or in other words, if he continues to bring about the condition known as autointoxication—in this case toxæmia together with hyperthyreoidism, together with supersecretion of pituitary extract—he induces molecular degeneration in the cells of his nervous system. These become sick cells, and it is on this account that the individual is a sick man. When he continues to do his work, he is irritable, because these cells are irritable, that is, they perform their function in an aberrant or morbid manner.

Thus the irritation stage of neurasthenia may be described best as chronic unvolitional irritability or chronic anger, due to the molecular degeneration of the cells, more especially of the gray matter of the cortex and of the pituitary ganglion.

If the wrong course of living, whether originally voluntary, or due to the oppression of others, is persisted in, the resulting morbid condition grows worse and worse. At this stage insomnia occurs. The individual now usually resorts to soporific drugs in order that he may obtain sleep. These drugs are all protoplasmic poisons. Being already intoxicated, he adds the drug poisons from without to those which have been produced by the metabolism of his body. He is now a weakened individual, and if he continues to do his work, he usually, at this stage, resorts to the use of stimulants—alcohol, coffee, tea, cocaine, morphine, etc. He adds additional poisons from without to those generated within. These, together, doubly poison his nervous system and cause the further degeneration of the cells of his nervous system.

Frequently, at this stage, as his will has become morbid, he adds still another vice, another sin—he indulges in excessive venery, which still further reduces his vital force.

If this course of life is continued, there comes at last, when the potential force in the cells has become exhausted, the depressed stage of neurasthenia.

In individuals predisposed thereto, instead of running into depression, the unvolitional aberration of thought and exaltation of the will, which characterize the irritation stage of neurasthenia, continues; the individual becomes more irritable; he, more and more, loses self control—loses the power of inhibition; the cells degenerate more and more; when, if he continues to live the life which has produced his disease, his excitement is followed by an explosion, and the individual becomes insane. The aberration of thought becomes markedly greater, and the aberration consists in either delusion or confusion in the mental processes—delusional or confusional insanity, which latter is usually due to infection and heterotoxæmia. The judgment, there-

fore, is involuntarily or unvolitionally erroneous. And when the judgment leads to action, the speech or the acts of the individual are so absormal as to be called insane—the individual is a lunatic, because the cells of the cortex or those of the pituitary ganglion or both have become so abnormal as to produce insanity.

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TWILIGHT TALKS WITH THE DOCTOR.

IV.

BY GEORGE F. BUTLER, A. M., M. D.,
Chicago.

The longer I practise medicine the more convinced I am of the necessity of a doctor being an optimist.

John Armstrong in his *Art of Preserving Health* says: "Know, then, whatever cheerful and serene supports the mind, supports the body, too. Hence the most vital movement mortals feel is hope."

We should inculcate hope in the degree of optimism.

If I am not mistaken, this is the quality that lies at the base of suggestive therapeutics and of what is called Christian Science. As to the first of these, no system of treatment in our day can be called complete that fails to take it into account. For the other it is idle to deny that in its application it actually does accomplish much, and by purely superphysical means, with a certain class of minds, capable of enthusiasm and resolution rather than of reasoning power. There is no point in laying stress upon this limitation, however, nor upon the pitiful fact that Christian Scientists believe their little rag of truth to be the entire fabric, nor upon the strange jumble of religious error and autosuggestion by which they live. It is enough to know that working through the agency of hope alone, they actually do at times produce conditions of bodily health. It is this same agency that hangs the walls of Lourdes with crutches, and loads the altar of Saint Anne de Beaupré with gifts given in gratitude.

Given the firm belief of cure, which is the manifestation of a force of suggestion from within, and in many, but the most stubborn temperaments and most malignant disorders, their faith can make them whole. It is our duty as physicians to cultivate this force on a plane of reason and through the operation of the optimistic inspiration.

Is it not a fact that every physician practises faith cure in a certain degree, whether or no he would admit it, every time he takes a case in hand? I mean, is it not a necessary part of his treatment to inspire faith in himself at the outset? Can he not do more with a cheerful patient than with a despondent, hopeless one, and is it not a long step forward if he can get his patient into a cheerful and hopeful frame of mind? Is not that a form of faith cure—so far as it goes?

The doctor who brings confidence into a sick room sweeps the air with a breath of health from "Youth's eternal morning, stirring among the roses." And I do not conceive this to be incompatible with dignity. He may be as ponderous and look as wise as he likes, so long as he throws light and hope into his patient's mind instead of fright and misgivings.

Bulwer states the nub of the idea this way: "Refuse to be ill; never tell people you are ill; never own it to yourself. Illness is one of those things which a man should resist on principle at the start." That was written over fifty years ago, long before Mrs. Eddy produced her sometimes intelligible but always amazing book, or Dowie, with inconceivable modesty, hooked to a name no higher than Elijah's.

The serious, even thankful, acceptance by so many civilized people of these mixtures of foolish theism with undoubted truth is one of the most interesting developments in the affairs of the world of to-day. There is nothing surprising in the same things when they appear in the voodooism of Hayti or the big medicine of our own red Indians; but at home, among white men, at our very doors, they are only to be explained as an effect of religious unrest on the one hand, and on the other, certain results obtained by the influence of mental intent over nervous organism. If with all its crudity this faith cure thing confers happiness, it should not be disturbed—it has good in it, to that extent; and to attempt to reason with the fanatical or the feeble minded would be wasteful and ridiculous excess. But would it not be meritorious to apply *with understanding* and a beneficent purpose the one sound principle they apply *without understanding?* Saint Paul spoke wide and large when he told his people to prove all things and hold fast that which is good. I cannot see why the place of its discovery should affect the value of a sound truth principle.

But Bulwer was wise in psychic things—wiser, I think, than he realized, which is not an uncommon phenomenon among the great; and he sensed the power of suggestion, of hope and upward purpose, long before such things were given serious consideration by men of any attainments or standing in the therapeutic arts. His injunction was a sound one, and is good for all time.

Many of our greatest minds knew the value of hope and a cheerful temperament upon physical health. Carlyle said: "Man is, properly speaking, based upon hope; he has no other possession, but hope; this world of his is emphatically the place of hope." And, "A light heart lives long," says Shakespeare, and Crowley says:

"Hope, of all ills that men endure
The only cheap and universal cure:
The captive's freedom, and the sick man's health,
The lover's victory, and the beggar's wealth."

Hope, fortunately, is strong within us all, but fear and doubt are very strong and serve to make us ill and miserable.

The body is a mirror in which all the states of the soul are reflected. We are all familiar with the wonderful effects of the will, the passions, the emotions, of the imagination, sympathy, hope, fear, faith, and confident expectation upon the physical system.

The most extensive of all the morbid conditions which reflect themselves so disastrously on the human system, is the state of fear. It has many degrees of gradations, from the state of extreme alarm, fright, or terror, down to the slightest shade of apprehension of impending evil. But all along

[illegible] is the same thing, a paralyzing impression upon the centres of life which can produce, through the agency of the nervous system, a vast variety of morbid symptoms in every tissue of the body.

We have seldom reflected upon the fact that fear runs like a baleful thread through the whole web of our life from beginning to end. We are born into the atmosphere of fear and dread, and the mother who bore us had lived in the same atmosphere for weeks and months before we were born. We are surrounded in infancy and childhood by clouds of fear and apprehension on the part of our parents, nurse, and friends. As we advance in life we become instinctively or by experience afraid of almost everything. We are afraid of our parents, afraid of our teachers, afraid of our playmates, afraid of ghosts, afraid of rules and regulations and punishments, afraid of the doctor, the dentist, the surgeon. Our adult life is a state of chronic anxiety, which is fear in a milder form. We are afraid of failure in business, afraid of disappointments and mistakes, afraid of enemies, open or concealed; afraid of poverty, afraid of public opinion, afraid of accidents, of sickness, of death, and unhappiness after death. Man is like a hunted animal from the cradle to the grave, the victim of real or imaginary fears, not only his own, but those reflected upon him from the superstitions, self deceptions, sensory illusions, false beliefs, ignorance and concrete errors of the whole human race, past and present.

Dr. Tuke reiterates the fact which has been so frequently observed, that epidemics owe a great deal of their rapid extension and violence to the panic of fear which exists among the people. When yellow fever, cholera, smallpox, diphtheria, and other malignant diseases obtain a footing in a community, hundreds and thousands of people fall victims of their own mental conditions which invite the attack and insure its fatality. When the disease was new and strange, as the yellow fever was to the interior towns in its visitation in 1878, when the doctors were not familiar with it, the nurses not trained to it, the people having no confidence in its management, lost hope, their fears became excessive, and consequent mortality was frightful.

Fear in itself is a contagious disease, and is sometimes reflected from one to another with great rapidity. It needs no speech or sign to propagate it, for by psychological laws we are just beginning to comprehend, it passes from one to another, from the healthy to the sick, from the doctor or the nurse to the patient, from the mother to the child. Thus malignant influences may be cast around us by even our best friends and would be helpers, under whose baneful shadow, without our even knowing of its existence, we and our children may sicken and die.

How much more serious is the effect upon the public mind when eminent physicians are pessimistic and saying nothing can be done in the way of treatment for the great majority of acute and chronic diseases.

My lay friends, if some theoretical doctor or surgeon afflicted with therapeutic nihilism and who can see nothing outside the field of his microscope, or what is directly under his scalpel, has pronounced your doom, and told you that you are the victim of organic incurable disease, because he has detected some signs and symptoms of Bright's disease or locomotor ataxia or organic disease of the heart or that you have pneumonia, do not worry, but with greater care than ever, adjust yourself and your work; be cheerful, hopeful, optimistic, and remember that the elect cannot draw the perfect line of demarcation between functional disturbance and organic disease, and, besides, remember that your vital organs, like every other machine, even if crippled, by judicious living and management may be made to do good work for half a century. All organic diseases, as well as all acute diseases, are amenable to treatment, management, and in many cases even to cure, unless their victims become pessimists by falling into the hands of pessimistic and overtrained physicians, who ought to have been funeral directors rather than doctors.

Some physicians are so scientific that they care for nothing but to make a diagnosis; they do not believe in the efficacy of medical treatment. These therapeutic nihilists have done an immense amount of harm by their pessimistic statements regarding the treatment of disease. Who can calculate the harm that has been done by the public statement of a prominent Chicago surgeon regarding the futility of treatment of pneumonia? His standing in the profession added weight to his words. The newspapers all over the country took it up and printed in large headlines: "There is no Treatment for Pneumonia"; and even in *Pearson's Magazine* there appeared an article entitled Pneumonia, the Killer, an Unsolved Problem. This article starts off with this paragraph: "Pneumonia—an unsolved terror, a growing menace to the life of our great cities, an enemy that promises to be science's greatest foe in the twentieth century," and closes with the hopeless statement that there is no treatment, and to clinch, as it were, quoted the words of the noted Chicago surgeon: "Drug treatment is useless in cases of pneumonia. The medical profession, so far as medicines are concerned, can be of no assistance in the fight against this disease."

Such a statement as that, even if it were true, which it is not, should never have been made. I firmly believe that many people afflicted with pneumonia have died from fright, as people are frightened into cholera and hydrophobia and die. You take hope away from a patient and he has not much to stand on. Through the utterances of pessimistic doctors and sensational literature, pneumonia has become a synonym for fatality. The impression is widely spread that there is no "cure" for pneumonia. This opinion is encouraged by surgeons who believe they can profit financially by disparaging therapeutics. In estimating the alleged increase in fatality or number of cases of any disease, the enormously increased powers of diagnosis and specialization must be taken into account. The people, for example, believe that appendicitis is a new disease of the last thirty years. With the increase of appendicitis has come a decrease in inflammation of the bowels, both as to numbers and as to fatality. The class of diseases now designated appendicitis were once called inflammation of the bowels, and this term had a depressing effect on the person attacked, much greater than the term appendicitis now has. When pneumonia was called inflammation of the lungs, and was treated as inflammation used to be,

by blood letting and the coexistent use of water solutions of salt as a means of thinning the blood, as it is called, recoveries were expected and the patient rallied from apparently severe conditions much oftener than he does now, when the surgically inclined practitioner wishes to do nothing to impede the course of Nature, and when the term pneumonia deals the patient a death blow. In pneumonia, as in all other diseases, there is no cure. This is a half truth born of quackery. No physician worthy of the name, ever treats a disease or attempts to cure it. He treats the patient who is a compound of his ancestors, of the surroundings of his childhood and youth, and of the particular period at which he is exposed to disease producing influences.

The "Bevanized" surgeons and "Oslerized" doctors tell us that the acute diseases are self limiting and it is useless to do anything for patients suffering with these affections, for, in a given length of time, Nature will restore them or transport them to a better world, and for chronic, organic diseases, particularly nervous diseases, there can be, of course, nothing done; they must resign themselves to fate, without they can be cured by surgery, and there you are! Cheerful, is it not? It behooves everyone who is ill to have some affliction amenable to surgery, then there may be some hope for him.

Once upon a time a surgeon made the cheering remark to my friend, Dr. Inglis, of Detroit: "You medical men see a lot of very interesting cases, but you can do nothing for them." His reply was to the effect that if he did not feel that, on an average, he could secure as good results with his patients as his surgical friend was able to secure with his, he would at once take in his shingle and go into the life insurance business. And Inglis was right.

Diller, of Philadelphia, once wrote a very readable paper on this singular title: What is the Use of Making a Diagnosis in Nervous Diseases, since Nothing Can Be Done anyway? And the remarkable part of his paper was that he found excellent reasons for trying to make a diagnosis, but did not deem it worth while to dispute the pessimistic summing up of the curability of nervous diseases.

I quote these remarks because, I think, they typify the attitude of mind held by, not only the great majority of surgeons, but by very many physicians, in regard to the hopelessness of treatment in cases of nervous and chronic diseases.

In our next chat I hope to consider some of the phases of this question which appeal to men who are in general practice.

PHRENOLOGY AND ITS FOUNDER: THE CLAIMS OF FRANZ JOSEPH GALL ON THE HOMAGE OF SCIENTIFIC POSTERITY.

By John Knott, A. M., M. D., Ch. B., and D. P. H. (Univ. Dub.); M. R. C. P. I.; M. R. I. A.; etc.,

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A never ceasing and never satisfied longing for an intimate knowledge of the ultimate structure and essential properties of the various constituent items of his cosmic environment appears to have evermore been a distinctive psychological feature of every one of the more intellectual—even "intelligent"—descendants of the original exiles of Eden. Thus a translucent view of his fellow man, the animated item who, as a rule, counts for most in the construction of the life history of the individual specimen of *homo sapiens*, inevitably occupies a place in the foremost rank of the most stimulating subjects of investigation. And when we add to this primordial and other subjects of never ending research, the equally characteristic hankering after a knowledge of the conditions and events of the future—not merely in terrestrial time but in celestial eternity—it needs little reflection to convince us that the original curiosity, by the subtly mischievous misdirection of which the serpent was able to secure the fall of humanity, has continuously survived down to our own generation; and has, very probably, evermore proved as fertile a source of anxiety and toil and (even) physical suffering to mankind as the tilling of the soil and the painful parturition to which Adam and Eve were respectively sentenced—in expiation of their commission of the original sin. So far as history and biography—aided and illustrated by personal experience—have hitherto taught us, the thorny path of the human pilgrimage has always provided a more than average share of its punctures for those who have endeavored zealously to explore the secrets of *matter* and (investing) *space*, of cosmic influence in the present, and of celestial justice in the future. It is—inevitably—gratifying to the vanity, collective and individual, of the civilized humanity of the present generation, standardized as it is by the polished mechanical scale of our twentieth century attainments, to glance backward at the means and methods by which the more remote of our ancestors endeavored to obtain possession of the forbidden fruit of knowledge—down through the whole of the long, long vista of successive generations. How very frequently has it been maintained that the original tree of the midst of the garden was within easy reach—almost within grasping range of the explorer's arm—and as often has it been found that the corroding Tantaloid experience was but once more repeated!

The result of the personal knowledge and experience gathered by the present writer in his studies of the peculiarities of his fellow men has been—in regard to one item of curiosity—to convince him that there is a great deal of truth in the trite observation that every new unit which is added to the human family is, from the earliest date of his or her election, either a *radical* or a *conservative*, in regard to viewpoint of the mutual relationship of the members of the same. I feel disposed to add to this very important general—and all too practical—classification, having regard to the influences of terrestrial basement and cosmic environment, a division of all specimens of the genus *homo* into *spiritualist* and *materialist*. (I must, however, take care to point out to my reader that I do not employ the former term in the somewhat technical aspect which has been very artificially grafted thereupon by the publishers of manifold psychical experiments during recent years.) The first of these loves to look upwards and to aspire, to employ and expand his imagination, to worship and to

pray; the second is naturally disposed to look down, to wield his "muckrake" with what available energy he had been originally endowed by creative Nature and what suitable skill had been supplied by educational art, and to scrape together and store up whatever specimens of presumably useful matter may happen to come within his reach. He has, indeed, been typified for all time, and in language of approximately inspired truth and vividness, in the immortal allegory of "the preaching tinker." The broadminded observer of the former class, who was firmly convinced that the "powers above" continuously influenced terrestrial matters and events, had a supply of cogent arguments always ready to hand. Some of the most striking of those were furnished by the powerful—and unquestionable—influence of the sun and of the clouds; on physical conditions and comforts, and on all forms of both organic life and inorganic matter; as we find them in every variety of existence, and all over the surface of our planet. The immense influence of "times" and of "seasons," of climates and atmospheric conditions, on all specimens of human existence (both internally and externally) and in every stage of the progress of the same, must have been noticed from the earliest dawnings of human intelligence. The experience therewith associated surely contributed to the development of the tendency *sursum aspicere*, which Plato regarded as a distinctive feature of the original ἄνθρωπο and of all his legitimate posterity. The inseparable association and interdependence generated the ideas of ζόφος and μεμαζόφος, which, in combination with the hankering hope of much suffering man that the powers above would, in the near future if not in the actual present, take a continuous paternal interest in his welfare and progress, led to the development of the doctrine of *signatures*, by which the mediæval employment of therapeutic "simples" was so extensively influenced. And the impressive and suggestive *signatura* of the vegetable corresponded very closely to the *physiognomia* of the animal, in its contributory influence towards the guidance of erring humanity on its terrestrial pilgrimage. The relationship of *internal character* and *external formation* was regarded as reliably typical by "Rome's greatest poet," the inspired apostle of the Epicurean philosophy, as is well shown in the following lines:

Est etiam vis ista animo, quem sumit in ira
Cum fervescit, et ex oculis micat acrius ardor,
Est et frigida multa comes formidinis aura;
Qua ciet horrorem membris, et concitat artus.
Est etiam quoque pacati status aeris ille,
Pectore tranquillo qui fit, vultuque sereno.
Sed calidi plus est illis, quibus acria corda,
Iracundaque mens facilè effervescit in ira
Quo genere inprimis, nec est violenta leonum;
Pectora, qui fremitum rumpunt plerumque gementes,
Nec capere irarum fluctus in pectore possunt.
At ventosa magis cervorum frigida mens est;
Et gelidas citius per viscera concitat auras;
Quæ tremulum faciunt membris existere motum.
At natura bovum placido magis aere vivit,
Nec minus irai fax unquam subdita percit,
Tamen ubi vehemens ceper, exsistes undas:
Nec gelidis torpet telis præfixa pavoris:
Inter utrosque sita est cervos, sævosque leones,
Sic hominem genus est, quamvis doctrina politos
Constituat pariter quosdam, tamen illa relinquit
Naturæ cuiusque animæ vestigia prima.
Nec radicibus evelli mala posse putandum est.
Quin proclivis hic iras decurrat ad acreis:
Ille metu citius paulo tentetur; at ille
Tertius accipiat quædam dementius æquo.
In aliis rebus multis differre necesse est
Naturas hominum eorum, de quibus sequimur.

The fact that the characteristic tempers and dispositions of the other members of the animal kingdom are so generally and so suggestively indexed on the surface outlines of their respective features could not escape the penetrating powers of observation of the ancient Greek questioners of Nature, from whose teachings all that is best and clearest—and surest of survival—in "modern" Western philosophy may be distinctly traced. Thus we have the greatest of intellectual conquerors teaching the greatest of military conquerors (as known to the fifth pre-Christian century) that man actually concentrated in his individual focus all the distinctive qualities of every other member of the animal kingdom—an item of biological inspiration which, I will just take the opportunity of pointing out, in passing, is decidedly suggestive of the primordial germ of nineteenth century *evolution*, especially as that highly estimated and over written scientific gospel was formulated by its enthusiastic German apostle, Ernst Haeckel. And we have the "founder of physiognomy" (in its modern aspect) summarizing the principal data of that doctrinal view in these terms: *"non a re alienum, quod Aristoteles Alexandro subit: Quod non creavit Deus creaturam homine nobiliorem, nec collegit in alio animali, quod in eo possit, cum non sint in aliquo animalium consuetudo, vel mos, quem non reperias in homine. Est enim audax vt leo, formidolosus vt lepus, largus vt gallus, amarus vt canis, durus & austerus vt coruus, pius vt turtur, malitiosus vt leæna, domesticus vt columba, versipellis vt vulpis, mitis vt agnus, velox vt capreolus, humilis vt pardus, piger vt ursus, carus vt elephas, vilis & stolidus vt asinus, obediens vt pavo, garrulus vt passer, vtilis vt apis, vagus vt caper, indomitus vt taurus, recalcitrans vt mulus, mutus vt piscis, rationalis vt angelus, salax vt porcus, malitiosus vt bubo, vtilis vt equus, noxius vt mus"*—and suffixing to this cinematographic display of moral and immoral qualities the appendicular statement that: *"& tandem nec vegetale, nec minerale, nec aliqua substantia, quæ cum homine aliquod proprium non habeat."* Thus we find that the founder of the peripatetic philosophy had easily forestalled the physiognomical views of the metrical apostle of the doctrine of atomic materialism; and duly supplied the vivifying germs of the wondrously elaborated system of Baptista Porta.

But it did not require the inspiration of the most philosophic of pagan poets to divine, or suspect, the intimate association between external physiognomy and internal psychology. The telltale significance with which the varieties of human character and disposition shine through the features, not only of the face but of the whole body, must surely have impressed all observant and reflecting persons, even from the date of the earliest dawn of human intelligence. Even when the inhabitants of mountainous districts resided in caves, and the denizens of the universal primitive forest of the plains constructed their domiciles among the branches of trees, the conditions of existence made it absolutely necessary that the average man should estimate with lightning velocity of thought the probable

prowess and instinctive inclinations of the individual man or beast with whom or which he might suddenly be placed in unavoidable propinquity. The (uneducated and, accordingly, unscientific) groom or horse jockey of large experience is more than unlikely to be taken in by any verbal misrepresentations of the temper or physical powers of any specimen of his favorite quadruped which he has had an opportunity of observing while being passed through his test paces. And so of other fanciers and breeders of other beasts of the field and birds of the air—bearing in mind, of course, the occasional sources of error interjected by random specimens of neuromuscular variation in the former, and of surface display in the latter. Some of us, even at present date, feel bound to confess so close an attachment to many of the primitive conceptions of the aboriginal and the uneducated as to attribute "a solid vally" to the items of evidence afforded by unguarded first impressions of the individual, and to give respectful recognition to the adage that dogs and children are among the very best judges of human character. It is very easy to conceive that in the remote times when only surface markings and features were intimately known, the qualities of the various living organisms met with on the surface of this planet would inevitably be estimated, or prejudged, by the data afforded by those superficial characteristics. Thus originated the doctrine of *signatures* which so widely dominated the prescientific botany of the Middle Ages—more especially in its applications within the labyrinthine domain of theoretical *plus* practical therapeusis. And thus too was generated, grown, and developed the culture of human *physiognomy;* which was systematically treated by the immortal Stagirite himself, and afterwards received the special attention of many of the most thoughtful and accomplished scientific observers down through all the subsequent centuries. The early intercourse of *homo sapiens* with his contemporaries was, most assuredly, dominated to a surpassing degree by the pre-Mosaic commandment: "Do unto others as they would do unto you, and do it first"—and, having regard to the other conditions, too, which were imposed by such circumstances, environment, and ethical code, the rapid and discriminating scansion of the human form and features represented the acquisition of one of the most subtle, and practically important, of all the available accomplishments. And this "art to read the mind's construction in the face" was inevitably cultivated in its intellectual aspects more and more as the intellectual and contemplative faculties of the human species were being gradually and progressively, even if but very slowly, "educed" into the position of recognized supremacy.

But, although practical observers of the phenomena of life, and philosophic students of natural history—especially of the human section thereof—have evermore given a *quantum suff.* of attention to physiognomy, and its undoubted mysteries and fancied revelations, the modern accumulation and systematic arrangement of the observed and recorded facts therewith associated must be allowed to have originated with the preparation and publication (at Naples, in 1601) of the wonderful folio of the enthusiastic author of the equally famous *Magia Naturalis.* The quaintly illustrated titlepage of the former epoch-making volume informs the reader—above the *vera effigies* of the venerable author:

IO. BATIS PORTÆ NEAP. DE HVMANA PHYSIOGNOMIA LI. VI. IN QVIBVS DOCETVR QVOMO ANIMI PROPENTBS NATVRALIBVS REMEDIIS COMPESCI POSSINT.

—And the highly philosophical preface gives a learned and lengthy account of the author's reasons for the faith which had grown and waxed so strong within him as to bring forth so rich and ripe fruit, in the shape of the work thus placed before the reader for his information and edification. The following is an extract:

Iam certum esse [illegible] cum mutuis passionibus transmutari, propriaque esse signa [illegible] naturales passiones: & ob id physiognomicam scientiam om[illegible] vituntur, cuius Aristoles suorum Analiticorum librorum pri[illegible] quod cognitu necessarium esse videamus. Ad proprium signum inueniendum primo considerandum est animalium genus unum, cui in uniuersum insit ea passio, secundo, alia genera inuendienda, quæ non uniuersæ sea particulariter eiusdem passionis sint capacia, denum quæ nota omnibus insit, quibus inest illa passio, & similiter remoueatur ab ijs, quæ eiusdem expertia sunt, & tunc illud proprium erit signum. Exemplum erit: Ad disquirendum proprium fortitudinis signum, considerabimus multa animalium genera, & leonum genus uniuersaliter viribus præcellere puto omnibus notum. Secundo, fortituda non solum in leonibus, equorum, taurorum, & hominum genere reperitur particulariter: nam aliquis equus, taurus, & homo fortis est. Postremo, signum est iis observandum, quod leonum generi semper insit, & si qui particulariter fortes sunt, etiam idem signum sibi vendicent; & qui flaccidi sunt, tale non habeant: & it signum erit. Extrema corporis robusta habere vel magna: nam uniuersum leonum genus extrema magnitudine præsignia habet, & in reliquis animalium generibus aliqui equi, tauri, hominesque, qui fortes sunt, huius modi habent, & qui talia non habent, imbecilles prorsus existimantur, erit ergo, extrema magna habere signum proprium fortitudinis. Syllogismum apponere nil obfuerit, is autem erit in prima figura, & quod medium, id est signum cum priori extremo conuertitur, & minorem extremitatem trascendit, & non conuertitur. Sit fortitudo A. magnas extremitates habere B. leo C.

Omne magnas habens extremitates est forte: Omnis leo, & quædam animalia magnas habent extremitates, Ergo omnis leo, & quædam animalia sunt fortia. Syllogismi medium, videlicet signum, quod est B, magnas extremitates habere, conuertitur cum maiori extremo, quod est A. forte, minus vero extremum, scilicet C, leone transcendit: nam magnas extremitates habere non solum omni leonum generi, sed aljs quibusdam, ut homini, equo, & tauro competit. Eodemque modo Hectorem fortem esse syllogizare poterimus. Vt omne magnas habens extremitates est fortis, Hector huiusmodi habet. Ergo fortis.

Under present conditions the prevailing habits of "civilized" human existence give, of course, the average observer but an opportunity of directly scanning the *exposed* portions of the surface of the body—and the "general gait and carriage" of the rest. Chiefly on this account it was that the term *physiognomy* came to be associated, in popular speech and literature, with facial outlines and expression; to the unnatural exclusion of those of all other parts of the body. A fairly similar circumscription of the connotation of the term *phrenology* also became pretty generally recognized as stereotyped, from the results of the [illegible] display of "the shilling bust"—with the conspicuous labelling

of its upper surface areas—by its unscientific and unprincipled exponents. In the course of the present communication, both these terms will be respectively used with due regard to their original (etymological) significations.

The anatomical proximity of the organs of mind and the most critical and reliable—as well as susceptible and expressive—of the ("external") special senses conferred on the face the recognized functional responsibility of the "index of the soul." And as such it was studied, and systematically criticised—more and more as education, and intelligence, and sartorial decoration of the person grew and bore their respective fruits. The tell-tale changes of complexion and modifications of feature became more familiar to every observant eye as communities increased in capacity and contents; as critical intelligence inevitably developed under the new conditions, while observation at close quarters became progressively facilitated. The flush of sudden anger, the pallor of sudden fear, the damask hue of overtaxed modesty—and the deeper tint of actual shame, the quasi-electric glow (in both cheek and eye) of radiant hope, the jaundiced hue of malignant jealousy, and the ashen bloom of suppressed (and postponed) vengeance—each and all convey their respective convincing items of testimony to the *influence* of the *spiritual* on the *material*, of the *mind* on the *matter* of the human organism. And the evidence is so universally distributed, and, accordingly, so continuously exposed to view, that its presence is as often unnoticed as the proverbial ticking of the bedroom clock. Then the tendency of the practices of the present generation, in which so much success has attended the efforts to perform by the aid of machinery so many tasks which formerly required continuous thoughtful supervision, as well as elaborately trained and practised manual skill, has necessarily been to direct attention away from animal mechanics and facial expression. And emotions and passions are discredited as far as possible—as a drag upon the present *motor* and *aviation* rates of progress, as not merely useless but positively mischievous items of incumbrance. Thus we have actually arrived at a new meeting of extremes, in the endless circular rut of socalled human "progress." The relative importance of *matter* has assuredly received—in this our own generation of *unprecedented* "enlightenment," and "education," and "emancipation," and "universal suffrage," and rampagious *suffragettes*—a new stamp of market value which has raised its standard of negotiation, in relative comparison with that of *mind*, to a higher market value than it had previously borne in civilized communities, in almost any stage of the world's (extant) history. Such *impedimenta* as *superstition*, and—even—*faith* must necessarily be thrown overboard during the process of shortening the records of Atlantic liners, and in the transmission of circumterrestrial messages along the crests of Hertzian waves. But with all this wondrously successful culture of the mechanical transmission of the products of both mind and matter, the tendency to pigeon-hole the resulting assets is an inevitable feature of the result as well as of the method; and the facility with which the contents of a great public library may now be successfully reached and summarized can hardly fail, by itself, to suggest to the average denizen of one of our metropolitan thoroughfares the possibility, as well as desirability, of having the various functional areas of man's organ of thought definitely mapped out and labelled in somewhat analogous fashion. It was surely the progressive instinct of the manyheaded, in this as in so many other directions, that was in view of the prophetic soul of the shilling phrenologist; and accordingly enabled him to make a comfortable (as well as "honest") living out of his chosen profession—while dragging in the mire the name and reputation of the *founder* of *scientific neurology*, the greatest and most enthusiastic anatomist and physiologist of his generation.

There are but few names, indeed, of those inscribed in the brilliant roll of special scientific reputation—true or false (in letter or in spirit, or in both)—whose owners have been so thoroughly misunderstood, or rather misrepresented, in regard to achievement as well as motive, as has been Franz Joseph Gall, the "founder of phrenology." Hardly even of Machiavelli can it be said with so much truthful fidelity that, "his works were misrepresented by the learned, misconstrued by the ignorant, consured by the Church, abused with all the rancor of simulated [in his case, *scientific*] virtue . . ." The science itself has, according to the natural sequence of corresponding associations of persons and events, become endowed with a full share of the discredit which was so liberally conferred upon the author. On one occasion, somewhere in the "fall" of the past century, one of the most eminent of living Englishmen—in literature, in politics, and in practical philosophy—Mr. John (now Lord) Morley defined, with characteristic lucidity and precision, the existing status of phrenology among the sciences, as located by the recognized leaders of thought of the British Empire at that date: "To accept phrenology in these days stamps a man as unscientific." It is, indeed, too perfectly true that the results of Gall's life-long labors and observations, after undergoing the modifying culture of his self elected representatives and successors, Spurzheim and Combe, and the progressive "devolutionary" development which they underwent from the continuous care of blatant quacks and shameless charlatans, soon came to acquire an "odorous" reputation, which absolutely excluded the patronage—and even the passing recognition—of all "scientists" who felt anxious for the orthodox respectability of their intellectual and æsthetic status. And I will take the present opportunity of calling attention to a fact which must present some aspects of interest to every philosophic (truth-loving) reader—both lay and medical—that the waning years of the past century and the opening ones of the present have displayed a pervading biographic feature of very noticeable prominence in their (presumably charitable, or philanthropic) tendency to the whitewashing of dusky and badly mottled reputations. Machiavelli, Lucrezia Borgia—and even her brother Cæsar, Mary Queen of Scots, Henry VIII. of England, Oliver Cromwell, Napoleon Buonaparte, and various other notorieties, have had many of the largest items of incriminating evidence that had been registered in their disfavor, by contemporaries and more immediate posterity, in

sundry instances neutralized and sometimes even completely reversed; in every case, indeed, modified more or less favorably. And thus the case of Franz Joseph Gall and his "science of phrenology" has come to be heard of in the court of (scientific) appeal, and a medical advocate has been found to display his readiness to defend against all comers the validity of the claims of the original cartologist of cranio-cerebral topography—with its correlated localization of intellectual and moral functions. And promptly arose the volunteer representative counsel—the self-elected *advocatus diaboli*—of the opinions and authority outlined by the original prosecution, in the person of a surgeon of highly respectable attainments in his profession, who applied for a summary and final dismissal of the claims of phrenology on scientific recognition, and an absolute injunction against the occupation of even the most obscure niche of any recess in the Temple of Fame by the effigy of its reputed founder. Most of the statements and arguments used for this purpose had, however, been worn threadbare many years before; and little had been effected for them by their recent employer beyond collecting and attempted reburnishing. Here I cannot refrain from pointing out the great desirability of cultivating logical precision hand in hand with strict scientific accuracy in the reporting, arrangement, and valuation of facts—a duplex procedure which alone can enable the champion of physical truth to overwhelm its, and his, enemies in legitimate contest. Such combination would necessarily confer an irresistible momentum on every literary, historic, and scientific thesis drawn up and defended by a master of his subject. Unfortunate, indeed, it is for the progress of medical science and the unravelling of its most perplexing enigmas, that the hurry and scurry of the present motor-borne generation very definitely—and all too effectively—tend to render such attainments and accomplishments relatively more and more rare among the ranks of the practitioners of the healing art, with the increase of the population and the more rapid increase of its proportional supply of physicians. For the broadcast diffusion of *superficial* general information upon nearly all scientific topics, with the rapidly increasing production of convenient mechanical appliances and methods (plus the very thin layer of physical knowledge which is acquired in making the acquaintance of the same), render the possession of a "passable" amount of so called "practical science" a consummation which is becoming every day more easily attainable by the proprietor of the (very) average modicum of intellect. There are, in the opinion of the present writer, few more regrettable features of the intellectual march of this boastfully "progressive" age and generation than the unacknowledged—apparently, almost unconscious—neglect of the *logical* faculty and method in the *scientific* researches, and statements, and discussions, and *proofs*, with which our eyes and ears are being every day assailed. Some observant individual, of a somewhat cynical turn of thought and expression, has remarked before now that *logic* is the one form of reasoning which men do *not* employ in the everyday affairs of life. This statement is, I believe, absolutely uncontradictable. But it is, at the same time, none the less true that if the syllogistic test had been *periodically* applied to the "scientific" methods of research, and reports of observed "facts"—natural and artificial (or "experimental")—and "proofs," concluded and accepted, which have been so continuously diffused through the mental atmosphere of civilization during the past half century, the world of intellect would have been saved from many, many considerable inundations of preposterous, and—fairly often—mischievous theories, of which the practical applications have been so successfully floated on the psychological, and thence on the mercantile market. And it may well be added, I would also remark, that earnest observers and thinkers would have escaped the (depressingly amusing) contemplation of the vulgar "scientific" bounce and Malvolionic self appreciation of so many of our contemporaries who have somehow secured, or been allotted to, or presented with, a place in the central circle of recognized apostles and teachers of materialistic knowledge—as well as of the more aggravating conceit of the members of the extracircumferential belt of aspiring candidates for admission, which has continuously formed the chromosphere of the central illuminating mass of the select representatives of scientific revelation. Thus it is that the present writer, without any pretense to the special knowledge and training requisite to the formation of a skilled theological opinion, or a sound criticism of the human value of the same, has come to regard the position of *antimodernism* which has recently been adopted by the Catholic Church as affording the most—and, perhaps, the only—hopeful outlook and outlet of escape from the universal solvent action of the "home made" opinions and doctrines of all ambitious amateurs who had for some time been assiduously employed in furnishing and illuminating his or her intellect (more than appropriately, too) with the contents of the periodic columns of the "yellow press" and the "ha'penny daily." And he hopes that the opinion will be viewed with more liberal scrutiny by the intelligently critical reader when earnestly assured that it is but the candid expression of the view of a non-member.

All readers are, of course, familiar with the concisely epigrammatic—as well as satisfactorily metrical—aphorism of a philosophic verse maker whose work has undergone much undeserved depreciation since the tidal wave of materialistic science and "modern" machine made poetry came to sweep over Christendom:

The proper study of mankind is man.

Few, I believe, will be found to contradict this statement, openly at least. And of all the departments of the tangled and perplexing economy of the human unit, there is surely none which more worthily attracts man's concentrated and philosophic attention than does the organ of mind and thought—of the powers and faculties which specially distinguish *homo sapiens* from all other existing types of animated nature, as known on the surface of our planet. The study of the brain is, surely, a fascinating one; and in the present age, when every member of every civilized community is (presumably) educated, and every educated indi-

vidual—whether feminine or masculine—rejoices in the possession of a brain and the consciousness that the best furniture for its decoration and a limitless supply of the nutrition appropriate to the promotion of its maximum growth and development lie within fairly easy reach, it may safely be affirmed of each unit of the total male population that he has furnished his own cerebral organ to his own special taste. And I trust I may be allowed to add, respectfully, that, in our present twentieth century, every woman in every (*truly*) civilized state glories in the consciousness of the possession of a brain and in the propriety of her own taste and judgment in the selection of the furniture and equipment of the same—and, more especially, if she belong to the type known as "the New." Accordingly, it is a really great, and as truly worthy, source of self congratulation to the self satisfied scientist of our generation to be able to realize—truly as well as complacently—the fact that his knowledge of brain and mind has, by the researches of recent years, at last been brought to rest on a solidly reliable "bed-rock" foundation of scientific facts.

The seat of the organ of thought, the ψυχή (mind, soul), the possession of which elevated humanity above the rest of the animal kingdom, has always—very inevitably, indeed—presented a special interest to the philosopher as well as to the scientist. The immortal, and presiding, constituent of the *triple soul* of the "divine" old Greek was located by Plato in the substance of the brain. The association furnished that "most poetic of philosophers" with suggestive data for the idea of making the cranial globe a *microcosmos*—a *quintessential* "picture in little" of the entire spherical universe. This fundamental idea of man (as the essentially central, *"nuclear,"* constituent item of a spherical χωρος, while the approximately globular, thinking, segment of his frame represented its *nucleolus*) is one which, pretty surely, owed its genesis and initial stage of development to the prehistoric association of the concept of *motion* with that of *creation* of *matter* from the *"void,"* or from *"chaos"*; and of the engrafting of *organic* life upon inorganic *"elements"*—of which the specially characteristic result was the development (for an allotted period) of a functional power, or gift, of *spontaneous motion;* whereof the control was, to all appearance, regulated by "home rule" jurisdiction. And the distinctive *signature* of the seat of the most highly specialized "mode of motion" was presented to the observant in the form of an adhesive label of crudely approximate sphericity, which thus constituted the outward and visible sign of the inward and spiritual function of vital activity; conforming, as far as was possible under the conditions furnished by the environing circumstances, and the halting and imperfect methods and mechanism of all things *sublunar,* to the *celestial* sphericity which characterized the divinely perfect structure and revolutionary movements of the unresting *primum mobile,* and the enclosed celestial spheres which were continuously guided in their respective rotations by its *harmonic* influence. The consideration of the questions arising from the contemplation of the phenomena had indeed concentrated the very best—continuous—attention of the wise men of the various Oriental subtropical communities, even ever since the date of Abram's departure (westward) from his native *"Ur* of the Chaldees," and probably during untold numbers of generations before; to the concentrated results of whose cogitations we use the primordial drafts of all the aboriginal creeds and bodies of doctrine, religious and philosophical. The course of the progressive enlightenment of the same has hitherto followed, as the observant reader cannot have helped noting, the apparently symbolic one of the guiding *"Sun* in the firmament," which furnishes our planet with its illuminating physical *light,* and nourishing germinal *heat.*

The "poetical" philosophy of the "divine" Plato came, as is, of course, well known, to be pruned with the extremest logical precision by his still more extensively accomplished, and even more famous, Stagirite pupil; whose concisely direct style sometimes, indeed, interferes rather seriously with the interpretation of his (even most important) sentences; and who, as the "first historian of philosophy"—and a highly critical one—utilized his opportunities for the purpose of subjecting the nucleus of the system of each of his principal predecessors to the pulverizing process: The universal and eternal cosmic *flux* of Heraclitus, the changeless cosmic *immobility* of Parmenides, the cosmic *numbers* of Pythagoras, and the cosmic *ideas* of his own master, Plato. And, indeed, the truth of the statement that Aristotle really created the science of *psychology,* as well as that of *logic,* seems to be universally admitted by the most skilled experts, and surely no two richer gems have ever adorned the diadem of any of the most gifted and fortunate monarchs of intellectual fame.

(*To be continued.*)

SUBPHRENIC ABSCESS.*

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A subphrenic abscess is a secondary collection of pus which is in contact with some part of the abdominal surface of the diaphragm, and is usually situated between the latter and the upper surface of the liver. On account of its location in the lower part of the chest, it is occasionally called pyothorax subphrenicus, and the presence of gas, in addition to pus, prompted Leyden to designate it as pyopneumothorax subphrenicus.

The observation of the following three cases serves as an excuse for calling your attention to this very important subject. These patients were operated upon by the writer at Lebanon Hospital within a short period of time, during the summer of 1909, and presented features of interest in the diagnosis and treatment of subphrenic abscess.

Case I. Hospital No. 25,667. Dominick R., aged twenty-three years, a native of Italy, was admitted to the medical service of Dr. Henry J. Wolf, on May 5, 1909, giving the following history: He came to the United States four years ago and worked as a laborer ever since. He had gonorrhœa one year ago, otherwise his past history was negative. His present illness began eleven months ago,

*Read at the Bronx meeting of the Medical Association of the Greater City of New York, January 9, 1911.

when, after a prolonged debauch, he woke up one morning with a dull pain in the right side of his chest. This caused him to remain in bed for a day, and for the next eight or nine days he had to go to bed very often on account of great weakness, which was accompanied by loss of appetite and nausea. His condition improved slowly, but he recovered sufficiently to resume work, and for the next five or six months he was apparently well. Gradually he began to suffer from a dull pain in the right side of his chest, in the region of his liver. The pain was constant and slowly increased in severity, until he was compelled to go to bed two weeks prior to his admission to the hospital. Coincident with the increase in the severity of his pain, there developed marked general weakness, and he lost fifteen pounds within eleven months. He had never had chills, diarrhœa, vomiting, or bloody stools.

On admission to the surgical service, physical examination revealed an exhausted, very anæmic and poorly nourished man, of good frame and stature. Below the fourth intercostal space, on the right side, there was a widening of the intercostal spaces with bulging of the chest wall, extending obliquely downward to the seventh interspace posteriorly. There was diminished expansion below the fourth interspace anteriorly and the seventh behind; on the left side the expansion was normal. Vocal fremitus was increased on the right side above the fourth space and absent below the fifth rib in front, the sixth laterally and the seventh behind. On percussion there was dullness at the fourth space in front and on the right side, and absolute flatness from the fifth space downward, in front, and on the side, and from the seventh space behind. Percussion of the left side showed superresonance. Respiratory sounds were intensified on the left side and above the area of flatness on the right side. There were diminished respiratory sounds at the fourth intercostal space and below it in front, below the sixth laterally and the seventh behind. The remaining pulmonary area on the right side showed a tendency toward tubular breathing. There were no râles or bronchophony present. The apex of the heart was in the fifth interspace, in the nipple line. Examination of the abdomen revealed bulging in the right hypochondriac region and also, to some extent, in the epigastrium, and in the right lumbar region. There was tenderness over this area, and rigidity was marked just below the costal arch. The free border of the liver was indefinitely made out about six fingerbreadths below the free border of the ribs on the right side, and showed four fingerbreadths below the ribs on the left side. The temperature ranged between 99° and 103° F.; pulse between 100 and 128, and respiration, between 24 and 28. Von Pirquet test was negative. Blood examination showed 18,000 white blood corpuscles and eighty-one per cent. polynuclear cells. Aspiration in the area of flatness showed the presence of pus.

Operation was performed on May 24, 1909. Under nitrous oxide and ether anæsthesia, with the patient lying face down, an incision was made, on the right side, in the ninth intercostal space, between the anterior axillary and scapular lines. Portions of the ninth and tenth ribs were resected. On attempting, according to Elsberg's method, to push the lowest part of the pleura or costophrenic sinus out of the way, it was accidentally opened and found to be free from disease. Aspiration through the exposed diaphragm was followed by incision of the latter and the escape of a large quantity of chocolate colored pus. Two tubes of large calibre were inserted into the abscess which was situated between the diaphragm and liver. After the operation the temperature and pulse rapidly dropped to normal and the patient made an uneventful recovery, being discharged from the hospital on June 5, 1909.

Judging from the character of the pus and the history of gallbladder disease, this case was undoubtedly secondary to some hepatic lesion, the exact nature of which could not be determined under the existing circumstances. The presence of the physical signs, detailed in the history, without symptoms pointing to a pulmonary lesion, made a diagnosis comparatively easy. Transpleurodiaphragmatic thoracotomy and drainage proved to be satisfactory and was followed by recovery without accidental infection of the pleura.

Case II. Hospital No. 26,394. Mrs. Pauline S., aged thirty-six years, was admitted to the medical service of Dr. A. P. Zemansky, on July 13, 1909, with the following history: She had had five children and four miscarriages. About ten days prior to admission, she came out of another hospital where she had been operated upon for some intrapelvic condition. On returning home she suddenly became ill with pain in the lower part of the right chest. The pain was sharp in character, and was worse on deep inspiration. She had no cough, but remained in bed, the pain becoming worse. Simultaneously with this she had severe pain in her right shoulder. She complained of tenderness in the lower part of the chest in front. On physical examination vocal fremitus was found slightly diminished on the right side posteriorly and laterally below the level of the inferior angle of the scapula. There was tenderness below the fourth rib in front and breathing over this area was diminished. There was tenderness and rigidity just below the right costal arch. The greatest point of tenderness was about the seventh and eight ribs in the parasternal line. Liver dulness began in the fifth intercostal space and extended down to about two fingerbreadths below the costal margins. The edge of the liver and of the spleen was not palpable. The temperature ranged between 100° F. and 103.5° F.; pulse between 86 and 124; and respiration between 24 and 34. Vaginal examination revealed the presence of a chronic pelvic exudate. Examination of the vaginal discharge for gonococci was negative. Repeated punctures of the chest, in the seventh, eighth, and ninth interspace in the posterior axillary line, proved negative.

A diagnosis of subphrenic abscess was made, and on July 23, 1909, an operation was performed under nitrous oxide and ether anæsthesia. Guided by the tenderness in the lower part of the chest, the rigidity just below the costal arch, and the fact that repeated punctures failed to disclose fluid of any kind, an oblique incision was made just below and parallel with the right costal margin. On opening the peritoneal cavity the upper surface of the liver came into view. The free peritoneal cavity was walled off by packing with laparotomy pads. A finger, inserted between the liver and the dome of the diaphragm, led into an abscess, from which a considerable amount of pus escaped. The pus was whitish in color and mucilaginous in consistency. A culture made from the pus showed the presence of the *Bacillus lactis aerogenes capsulatus* of the *Bacillus mucosus capsulatus* group. Three large split rubber tubes were inserted, and the free peritonæum was walled off with iodoform gauze. After the operation there was a free discharge of pus. Convalescence was slow and was interrupted by a small mural abscess which was incised and drained. After this the patient rapidly gained in strength, and was discharged from the hospital on September 26, 1909, still showing evidences of a diffuse nonsuppurating pelvic exudate.

This case is one of a small group in which a subphrenic abscess develops secondarily to a pelvic infection. The comparatively low position of the abscess made a thoracotomy unnecessary, and the abscess was readily reached through an oblique incision of the abdominal wall, parallel with the costal margin.

Case III. Hospital No. 26,433. Morton G., aged eighteen years, was admitted on July 16, 1909, with a history of three days' illness, which began with diarrhœa and severe colicky pain all over the abdomen. The pain grew steadily worse, he vomited several times, and had some fever. At the time of admission the pain was most marked in the right iliac fossa, and the patient looked very ill. The abdomen was slightly distended. Rigidity was present all over the abdomen, but was most marked in the right iliac fossa. Temperature, 102° F.; pulse, 124; and respiration, 28. Examination of the blood showed 33,000 white blood cells and ninety-four per cent. polymorphonuclears. He was operated upon soon after admission. Through a gridiron incision a gangrenous, perforated appendix was removed. There was a diffuse peritonitis and, hence, the [illegible] drained by means of a rubber tube and gauze wick. He was placed in Fowler's position and was given saline solution per rectum according to Murphy's method. Following the operation for a

number of days, he showed some improvement, but his temperature ranged between 100.5° F. and 102° F., pulse between 96 and 128; and respiration between 28 and 36. On July 25, 1909, the temperature began to rise and reached almost 104° F. on July 28, 1909. His blood at this time showed 37,600 white blood cells and ninety per cent. polymorphonuclears. His wound was rapidly healing, and the abdomen and chest presented nothing to account for the continuous high temperature and rapid pulse as well as the steady loss of weight and strength. Aspiration of the chest proved negative. From now on the temperature ran a remittent course, reaching almost 105° F., every afternoon. He complained of no pain, had no cough, and on August 5, 1909, only a small amount of straw colored serum could be obtained from the right pleura. Repeated aspirations after that proved negative. His original wound was explored, but without any result. His temperature and pulse continued high, he was losing weight and strength very appreciably, but had no other symptoms to point to the focus of infection which was responsible for his grave condition.

The original wound was practically closed when, on August 18, 1909, the writer decided to explore the subphrenic space through an oblique incision in the abdominal wall, parallel with the right costal margin. An incision about four inches in length was made through all the layers of the abdominal wall and the peritoneal cavity opened. After the rest of the abdominal cavity was protected against accidental infection, a finger was inserted between the liver and diaphragm. High up, under the dome of the diaphragm, and in the mammary line, an abscess was found, containing a few ounces of thick, foul smelling pus. After thoroughly drying the cavity, to provide for more direct drainage, a counter incision was made in the seventh intercostal space. To prevent infection and the entrance of air into the pleura, the incision was made with the hand in the subphrenic space, pressing outward, thus bringing the diaphragmatic and costal pleura into close contact. Iodoform gauze was packed into this wound to still further protect the pleura against infection. In addition to this, split rubber tubes with gauze wicks were placed in the abscess through the thoracic and abdominal incisions. The greater part of the abdominal incision was closed after walling off the peritoneal cavity with the aid of gauze packs. Following the operation the patient made rapid strides toward recovery, his convalescence being interrupted only by a slight retention of pus which caused a rise in the temperature up to 104° F. After digital exploration of the lower wound and the escape of pus, temperature and pulse returned to normal and remained so until September 26, 1909, the date of his discharge from the hospital in good health and with all wounds healed.

Absence of physical signs and repeated negative exploratory punctures made a diagnosis in this case very difficult. The history, however, of a preceding appendicitis, with symptoms of a prolonged sepsis, of obscure origin, pointed to a subphrenic abscess which was readily found on exploratory laparotomy. Although this incision might have sufficed to drain the abscess, it nevertheless seemed advisable at the time to do a transpleurodiaphragmatic thoracotomy directly over the abscess.

HISTORY.

For a complete history of the literature of subphrenic abscess, the writer begs to refer to Piquand's (1) very excellent contribution, which is based upon all the cases reported in literature up to a very recent date. He divides the history of subphrenic abscess into three periods, the first one extending from the beginning of the eighteenth century until 1845. During this period are found scattered reports of subphrenic abscesses discovered on autopsy.

The next period is the one during which a diagnosis was made during life; this was first done by Barlow (2), who wrote upon the differential diagnosis of subphrenic abscess and purulent pleuritic exudates. The next report was made thirty-two years later by Eisenlohr (3). In 1879 appeared the classical paper by Leyden (4), in which a very clear account is given of the condition designated by him as pyopneumothorax subphrenicus. This was followed by a goodly number of other publications.

The third, or the period of surgical intervention, begins in 1890, with the memoire of Debove et Rémond (5), describing a case in which a diagnosis was made in advance of incision and drainage. In 1891, Novack (6) published a work on the pathological diagnosis and treatment of subphrenic abscess. In 1893 Mason (7) reported two new cases and reviewed previous works on the subject; this probably being the first American report. In 1894 appeared Maydl's (8) excellent monograph, which justly merits a prominent place in the history of our subject. He reported a number of personal observations, and collected from literature 179 cases which served as the basis of a very remarkable anatomical and clinical study from a surgical standpoint. During the same year appeared a monograph by Langenbuch (9). In 1895 Sachs (10) published an article based upon a study of forty-one cases of subphrenic abscess of appendiceal and perirenal origin. In 1896, Beck (11 and 12) read a paper advocating the transpleurodiaphragmatic incision of subphrenic abscess, a procedure advocated also by Trojänow (13), Lauenstein (14), and in 1897, by Finkelstein (15), whose thesis was the most complete work published up to that time, as it was based upon 252 collected observations. In 1900, Fenwick (16) published a paper upon subphrenic abscess of gastric origin, and Weber (17) reported nine cases of appendiceal origin from Sonnenburg's clinic. In 1901, Elsberg (18) reported two cases, secondary to appendicitis, and collected seventy-one, published up to that year, basing his analysis upon seventy-three cases. In 1902, Lejars (19) reported a number of cases and gave minute therapeutic indications and routes of access in each variety. In 1905, Perutz (20) studied 208 cases which he was able to collect from literature since the publication of Maydl's monograph. During this same period appeared Grüneisen's (21) report of sixty cases operated upon by Körte in ten years. In 1908, Eisendrath (22) added thirty-three cases of appendicular origin, including five of his own, to those studied by Elsberg. A very interesting contribution upon the subject is from the pen of Barnard (23). The next publication of importance, from which the writer will freely quote, is the one by Piquand (1) referred to previously. It is based upon the analysis of 890 cases collected from literature, the majority of which have been reported during the last ten years.

ÆTIOLOGY.

A subphrenic abscess may occur at any age and in either sex, and is almost always secondary to a perforation or inflammation of some intraabdominal organ. The largest number are secondary to perforations of gastric or duodenal ulcers. Appendicitis is the next most frequent cause. In Piquand's (1) series of 890 cases, 191 were secondary to ap-

pendicitis. Moschcowitz (24) found eight cases in 2,000 cases of appendicitis. Elsberg's (18) two cases occurred in ninety-one consecutive cases of appendicitis. Diseases of the liver and biliary passage, including echinococcus, were the cause in 136 cases out of the 890 collected by Piquand (1). Other frequent ætiological factors are diseases or injuries of the intestine, spleen, pancreas, and kidney. Severe contusions or gunshot wounds of the thorax and chest wall are recorded in a number of instances. Subphrenic abscesses, secondary to diseases of the female genital organs, are comparatively rare. Piquand (1) found only seventeen cases, most of them being secondary to intrauterine infection or suppurating disease of the uterine appendages. To these the writer adds Case II, which was secondary to a pelvic inflammation. In quite a number of cases it is impossible to determine the primary source of infection, and in some instances it is probably of metastatic or of some obscure origin. Occasionally it is a primary infection of the subphrenic space.

TOPOGRAPHY AND PATHOLOGY.

The subdiaphragmatic space is divided by the ligaments of the liver into four different compartments. The suspensory or falciform ligament divides it into a right and left half, and the coronary ligament divides each of these into an anterior and posterior space.

A subphrenic abscess is intraperitoneal or, more rarely, extraperitoneal. Most of the extraperitoneal abscesses are secondary to diseases of the pancreas, kidney, and part of the duodenum. Those secondary to diseases of the colon, duodenum, or appendix may be either intraperitoneal or extraperitoneal, although those complicating appendicitis are mainly intraperitoneal. Of the 106 cases complicating appendicitis, which were collected by Eisendrath (22), fifty per cent. were intraperitoneal, twenty-five per cent. extraperitoneal, and in the remainder the location is not given or is doubtful. Abscesses secondary to gastric lesions are mostly intraperitoneal. A retroperitoneal abscess develops in the cellular tissues between the diaphragm and peritonæum, between the layers of the coronary ligament, or in the retroperitoneal cellular tissue. By perforation it may become intraperitoneal.

Most subphrenic abscesses occur on the right side of the suspensory ligament. By perforation of this ligament the abscess may become bilateral. Most of the abscesses secondary to perforation of a gastric ulcer, or lesions of the spleen, occur on the left side, and those secondary to diseases of the liver and biliary passages on the right. A subphrenic abscess secondary to appendicitis is almost always on the right side, and Eisendrath (22) could only find five cases of left sided subphrenic abscess, to which he adds another from his own practice. Of 191 postappendicular cases, collected by Piquand (1), only seventeen were on the left side. To these he adds one from the practice of Walther. In searching the literature of left sided subphrenic abscess, secondary to appendicitis, the writer found several cases which are not referred to by either Eisendrath (22) or Piquand (1). A case reported by E. A. Darling (25), had a retroperitoneal abscess, but M. H. Richardson considered this as a mere coincidence and not related to the appendicular infection. Meisel (26) reported a case from Kraske's clinic, in which a subphrenic abscess developed one and a half years after an operation for appendicitis. He suggests that infectious material reached the left subphrenic space in the early hours of appendicitis, and remained there for one and a half years without causing symptoms. He was of the opinion that the circumappendicular and subphrenic abscess both developed at the same time, and that after evacuation of the first the latter remained latent. He cites a number of cases to prove that this is possible. To further substantiate his statement, he excluded all other ætiological factors. A case, belonging to this comparatively small group, is the following, which is now reported for the first time:

Case IV. Hospital No. 15,032. Sadie H., aged thirteen years, was admitted to Lebanon Hospital on February 6, 1906, with an attack of appendicitis, of two days' duration, and which began with a severe chill. At the time of admission her temperature was 103° F.; pulse, 120; and respiration, 26. There was marked rigidity all over the abdomen, but mostly so on the right side. Tenderness was most exquisite over the right iliac fossa. The abdomen was distended, and the skin had an icteric hue. Immediate operation revealed a very diffuse peritonitis due to a perforated appendix, which was removed and the pelvis drained by means of rubber tissue and gauze wicks. She was placed in Fowler's position and given salines per rectum. Her temperature remained between 100° F. and 102° F., and her pulse between 100 and 124. On February 16th, or ten days after the operation, her temperature was 103.8° F. and pulse 128. Large tubes were introduced to provide better drainage. In spite of this, her temperature the next day reached as high as 104.6° F., she was losing weight and strength, but had no pain and was otherwise comfortable. Nevertheless, on February 19, 1906, her wound was explored under a general anæsthetic, but without finding anything to account for her condition. Her temperature continued high and four days later a counter incision was made on the left side, just above and parallel with Poupart's ligament. Tubes were introduced into the pelvis and from this time on there was a very free discharge of pus from both wounds, but her temperature and pulse remained high and she was becoming more and more emaciated although otherwise comfortable. On March 8, 1906, she had a severe chill, lasting about fifteen minutes, followed by a temperature of 105° F. and a pulse rate of 160. Now, for the first time, she complained of pain in the left side of her chest. On the evening of this day her temperature dropped to 96.4° F.; pulse, 128, and respiration, 28; but on the following morning she had another severe chill, lasting about fifty minutes, followed by a temperature of 106° F., pulse, 170, and respiration, 48. The next morning her temperature was down to normal, but her pulse rate was 120. She complained of very severe pain over the lower part of her chest, in the left midaxillary line. On physical examination no evidence was found of any pulmonary disease, and her pain was not increased on respiration. Tenderness was most marked over the ninth and tenth ribs in the midaxillary line. There was slight resistance over the left costal arch, otherwise, the left hypochondrium presented no evidence of any lesion.

Suspecting a subphrenic abscess, an operation was done by the writer on March 10, 1906. Elsberg's method of operation was decided upon, but after resecting portions of the left ninth and tenth ribs, and on attempting to push the lowest portion of the pleura, or costophrenic sinus out of the way, it was accidentally opened. The pleura con-

was quickly packed around the opening of the pleura and after puncturing the diaphragm, it was incised and several ounces of very foul smelling pus escaped from the left subphrenic space. From this time on the patient made a

It is difficult to describe the course of the infection in this case. It may have resulted from the diffuse peritonitis which became localized in the left subphrenic space. In relating the history of this case to Dr. Francis Huber, he suggested the possibility of a splenic infarct which terminated in the abscess and which was originally due to the appendiceal infection. The sudden onset of the chills, with the marked intermissions in the temperature a few days before the operation, would lead one to assume that such a course was possible.

The most important channels by which infection of the subphrenic space occurs, are the lymphatic and bloodvessels, the subperitoneal cellular tissue, and the peritonæum. Elsberg (18) states that a subphrenic abscess secondary to appendicitis, occurs in the following three ways:

1. As a localization in the right or left subphrenic region of a general systemic infection—the infectious agents being carried to the subphrenic region by the blood current. Here the process is secondary to a generalized infection.

2. As a localized abscess formation in the right or left subphrenic region of a general purulent peritonitis with foci of suppuration in various parts of the abdominal cavity. This variety is infrequent as the patients generally die before encapsulation of the abscess can occur.

3. As a local process by direct extension, or through the lymph channels from disease in or around the vermiform appendix. This is the most frequent variety.

In a number of cases the left sided subphrenic abscess was undoubtedly a part of a general peritonitis, while in others the infection spread from the pelvis along the peritoneal surface. Most of the abscesses secondary to diseases of the uterus and appendages resulted from infection by way of the blood; a few were the result of a general peritonitis which localized in the pelvis and subphrenic space.

The abscess may occupy only a small part of the subphrenic space, as in Cases Nos. III and IV. It may contain pus, or pus and gas, varying in amount and kind. The pus is usually very fetid, and if secondary to diseases of the liver or bile tract, is brown or chocolate colored, as in Case I; it may contain blood clots, liver cells, echinococcus cysts, or even biliary calculi. The pus, in cases secondary to appendicitis, is usually fetid, thick, and may contain sloughs. In those due to stomach or duodenal perforation, it may be foul and sour, and may be mixed with stomach contents. In tubercular cases the pus is usually odorless and cheesy. The gas is derived either from gas forming bacteria or from some hollow viscus; in case of perforation into the lung, it may be of pulmonary origin. Gas was present in more than twenty-five per cent. of the cases collected by Piquand (1). Various bacteria have been found in the pus, but the bacillus coli communis streptococcus and staphylococcus are the most important. The presence, in Case II, of the *Bacillus lactis aerogenes capsulatus* is unique.

COMPLICATIONS.

The complications of subphrenic abscess result from hematogenous infection or from the extension of inflammation in the retroperitoneal or retropleural tissues. They are mainly thoracic because of the lesser resistance of the pleura and pericardium, and probably also on account of the direction of the lymph stream. Pleuritic complications occurred in twenty-two per cent. of the cases collected by Piquand (1). Perforation of the diaphragm results from a long continued or virulent infection. The pleuritic exudate may be serous, serofibrinous, or purulent; it may be encapsulated or not, and occasionally it is bilateral. Of 191 cases, secondary to appendicitis, thirty per cent. had a pleuritic involvement. Rupture of the abscess into the free pleura is fortunately rare. Usually the pulmonary and diaphragmatic pleura are adherent, and if perforation of the diaphragm does occur, the abscess ruptures directly into the lung, causing pneumonia, abscess, or gangrene, or the pus is evacuated by way of the bronchi. Pericarditis with serous or purulent exudate may occur with or without perforation of the abscess. Occasionally a subphrenic abscess ruptures into the peritoneal cavity, or into some part of the digestive tract. Perforation of the skin has been extremely rare.

SYMPTOMS.

The onset of a subphrenic abscess may be either acute or more insidious. In some cases the symptoms develop very slowly. Following an attack of abdominal pain suggestive of a subacute perforation of a gastric or duodenal ulcer, there develops pain in the upper part of the abdomen with distention and a rapid pulse. The temperature remains high or, having been normal, it rises again and runs a remittent or intermittent course. The rise in the temperature may be preceded by a chill, vomiting, or nausea. Or, several days after an operation for a perforating gastric or duodenal ulcer, while the patient is apparently improving and the wound is healing, the temperature and pulse begin to rise, and there is loss of weight and strength with nausea and anorexia. There may be pain in the region of the shoulder. In cases secondary to lesions of the liver and biliary passages, there may be a history of cholelithiasis, hepatitis, or cholangitis, and the skin may have an icteric hue. In cases secondary to a pancreatic lesion, the symptoms are very acute, and resemble those of an acute perforative peritonitis of the upper abdomen.

Speaking of subphrenic abscess secondary to appendicitis, Eisendrath (22) distinguishes three modes of onset. In cases with an acute onset the symptoms of subphrenic abscess appear with the onset of appendicitis or a few days after. The temperature remains high and is associated with symptoms of sepsis. There may or may not be pain in the right hypochondrium. In the subacute variety, about from eight to twenty-one days after operation, the temperature rises again and remains high or becomes remittent in type. Emaciation and weakness become very marked; anæmia, anorexia, a rapid pulse rate, and all signs of sepsis are very evident. In some cases the symptoms appear months after an operation for or a diagnosis of appendicitis. Symptoms of a chronic sepsis develop, which can only be attributed to some obscure focus.

Associated with a high temperature and a rapid pulse rate, there is hyperleucocytosis. Rapid loss of weight and strength with a high temperature may be the only symptoms present. Pain may be absent throughout the illness; if present, it varies

in intensity, character and location, and is usually in the hypochondriac or epigastric region. In the retroperitoneal variety it is most marked in the lumbar region. With the onset of pleuritic complications there is pain in the side of the chest, dyspnœa, and cough, which may be preceded by a chill and followed by expectoration. When the abscess ruptures into the lung there is a marked cough with expectoration of large quantities of fetid pus, which may be bile stained and at times contains echinococcus cysts or liver cells. Sudden rupture of the abscess into the free pleura is fortunately very rare, but when it does occur is quickly followed by marked dyspnœa, collapse, and death. The onset of pericardial complications is marked by sudden precordial pain and other cardinal symptoms of pericarditis. Rupture into the general peritonæum is followed by the clinical picture of a general peritonitis.

PHYSICAL SIGNS.

The diagnosis depends, at times, upon physical signs which vary according to the presence or absence of gas in the abscess, and whether or not there are thoracic complications present. Physical signs may not develop until very late or, with small abscesses, may be entirely wanting. The presence of pleuritic exudates or pulmonary complications makes a diagnosis at times very difficult. With an abscess low down or superficial there may be bulging and rigidity in the epigastric or hypochondriac regions. If the abscess is superficial, there may be localized œdema of the skin and dilatation of the cutaneous veins. Redness of the skin is extremely rare. Tenderness may be present over the most prominent part of the abscess, but is most likely to be found with a retroperitoneal abscess in which there may also be bulging in the lumbar region. Rigidity and prominence of the costal margins and bulging of the intercostal spaces, with local œdema, may be present with a large subphrenic abscess. If a large amount of pus is present the liver is markedly displaced downward. In cases without the presence of gas, there is an area of dulness or flatness in or about the midaxillary line, which is continous with liver dulness and has a convex upper border. If the abscess is on the left side the area of dulness is in the lower part of the chest or in the epigastric region. If the abscess contains gas, and the patient is examined in the sitting posture, there is an area of tympany above the area of dulness. Above the tympanitic area there are normal resonance and vesicular breath sounds. The lowest of the three zones is flat and is due to the presence of pus. In this area breath sounds and vocal fremitus are usually absent. If the abscess is large, succussion sound, and the coin phenomenon, might be demonstrated. The presence of a pleuritic exudate alters the above signs and there are four different zones. The uppermost corresponds to normal lung, the next is a zone of flatness, due to the fluid in the pleura. Then comes an area of tympany corresponding to the gas in the abscess and the lowest is a zone of flatness due to the presence of pus. The upper level of dulness of a large pleuritic effusion curves downward or is horizontal. The presence of a large quantity of gas might suggest a pyopneumothorax. But after all, "the diagnosis in all cases must be verified by the examination of the chest with an exploring needle of fair size and good length. As a rule, the most sensitive part of the dull area is selected for the introduction of the needle; repeated introduction may be necessary, for the pus is often thick (27)." In fact this procedure is at times the only means by which we can arrive at a positive diagnosis; but even this may fail if the abscess be small, as in Case III, in which the entire hepatic area was repeatedly punctured without obtaining pus. Again, the needle may withdraw only a small quantity of serum from a pleurisy complicating a small abscess, as happened in the above case. If the pus in a complicating empyema is of the same character as that in the abscess, exploratory puncture may not be conclusive. Several consecutive punctures may reveal fluid of different character. If the aspirated fluid is fetid, or if gas escapes with it, it will point to a subphrenic abscess, especially if aspiration at a higher level shows serum or pus of a different character. Exploratory puncture in the presence of pus is looked upon by some surgeons as a dangerous procedure; therefore, if pus is aspirated the puncture should be followed by immediate operation to prevent the development of a phlegmon from leakage of pus along the needle track.

DIFFERENTIAL DIAGNOSIS.

In the diagnosis of subphrenic abscess a history of preceding intraabdominal or pelvic lesions is of paramount importance. In the absence of such a history a diagnosis is very difficult. If the patient is seen in an advanced stage of the disease, when a painful bulging area is found in the epigastric, hypochondriac, or lumbar regions, the diagnosis is readily made. But the diagnosis should be made as early as possible and before thoracic or any other complications have developed. All means of diagnosis should be exhausted, including the x rays, which might demonstrate a marked elevation of the paralyzed diaphragm. The most important conditions, from which a subphrenic abscess must be differentiated, are pleuritic exudates, which so frequently complicate the disease. The history of a preceding pneumonia favors pleurisy, empyema, abscess of the lung or, pyopneumothorax rather than a subphrenic abscess. The presence of gas produces three different zones on percussion and readily suggests subphrenic abscess with a complicating pleuritic exudate. Aspiration of clear serum from a patient who is septic points rather to subphrenic abscess than to pleurisy with effusion. If a complicating empyema contains fœtid pus, only an operation may determine the presence of the subphrenic abscess. The presence, in the aspirated pus, of bile, contents of the alimentary canal, liver cells, echinococci, favors a diagnosis of subphrenic abscess. The presence of the colon bacillus is also suggestive. A subphrenic abscess situated low down in the anterior part of the chest may simulate abscess of the liver, hydatids, or cholecystitis. A retroperitoneal subphrenic abscess is to be differentiated from a primary perinephritic abscess or tumor of the kidney; here again, the history is of de-

[illegible] negative, [illegible] subphrenic abscess, exploratory incision is a justifiable procedure.

A subphrenic abscess may terminate by spontaneous evacuation of the pus into the alimentary canal or by rupture into a bronchus or perforation of the skin. Termination of cases in any of these ways, however, is of great rarity. Most of the patients who are not operated upon die as the result of protracted sepsis or sudden perforation into the pleura, pericardium, or peritoneal cavity. Perutz (20) gives the mortality in fifty-three unoperated cases as eighty-five per cent., and in Piquand's (1) series, there are 350 cases which were not operated in, of which only thirty recovered, giving a mortality rate of nearly ninety-two per cent. It is interesting to compare this with the mortality in operated cases. Piquand (1) calculates a mortality of thirty per cent., Maydl (8) forty-eight per cent., Finkelstein (15) fourty-four per cent., and Perutz (20) about twenty-seven per cent. Again, we find that the mortality is highest in the cases secondary to perforation of the intestine. According to Perutz (20) those secondary to perforation of a duodenal ulcer, all patients died, while those secondary to some discase of the ribs and to traumatism, all recovered. He also found that the next lowest mortality was in cases secondary to diseases of the liver and biliary system. In cases secondary to appendicitis, Eisendrath (22) gives the following statistics: In eighty-four operated cases the mortality was only twenty-five per cent., while in nonoperative cases it was from eighty to eighty-five per cent. Recovery of seventy-five per cent. of the operated cases is looked upon as an encouraging sign when it is considered that the general condition of many of these patients is very bad at the time of operation. Of the sixteen cases secondary to diseases of the female genital organs, nine patients died, giving a mortality of fifty-eight per cent.; of eight cases not operated, seven patients died, while of eight operated cases only two patients died. The deaths occurring after operation are usually due to insufficient drainage, or continued sepsis from foci of pus which have been overlooked. From these facts it is seen that the prognosis, as a rule, is very grave, and that recovery depends upon early recognition as well as early and appropriate surgical treatment. Furthermore, it is very encouraging to find that the mortality in the more recently reported cases is steadily growing smaller, undoubtedly owing to earlier diagnosis and more skilful treatment.

TREATMENT.

A subphrenic abscess demands surgical treatment. While there are a few cases on record in which the patients recovered after spontaneous evacuation or aspiration, the mortality in nonoperated patients is so high that only early and free incision promises good results. If, on exploratory puncture, pus is aspirated it should be followed by immediate operation, which may be done under local or general anæsthesia. The site of incision will depend upon the location of the abscess. If it is low down in the chest and there is a bulging in the epigastrium or below the costal margin, it can be opened and drained through a longitudinal incision of the abdominal wall in the epigastrium or through a lateral oblique incision parallel with the costal margin; the latter procedure was followed in Case II. If the abscess is retroperitoneal, an incision in the lumbar region is usually satisfactory; the incision may be longitudinal or oblique and parallel with the last rib.

Abscesses higher up, under the thoracic skeleton, are best reached through the chest wall. This necessitates a thoracotomy, with or without resection of one or more ribs and incision of the diaphragm. The latter usually involves opening of the pleura, which is considered by some operators as a dangerous procedure on account of the entrance of air and infection of the pleura. This transpleurodiaphragmatic procedure, however, is advocated by many as the most satisfactory, and its advocates do not fear these dangers because they assert that in many instances the pleura is already involved or is obliterated by adhesions. In doing the transpleurodiaphragmatic operation, if the pleura, on incision, is found to be free from infection or is not obliterated by adhesions, it should be closed by packing of gauze or by backstitching of the costal and diaphragmatic layers, before the diaphragm is incised. After the latter is done, the diaphragm is sutured to the skin. Should the patient's condition permit, after the pleura is incised and packed, the incision of the diaphragm is postponed for a day or two to permit obliteration of the pleura, and thus prevent infection. This entails a delay which many of these patients cannot very well stand.

To obviate the dangers of the transpleurodiaphragmatic operation, Elsberg (18) advocates an admirable procedure, for a description of which the writer begs to refer to the original. Suffice it to say, that after resecting portions of the ninth and tenth ribs, between the anterior and posterior axillary lines, the lowest portion of the pleura or costophrenic sinus comes into view. This is carefully separated and pushed up from the diaphragm, after which the latter is incised at a point which is below the pleural reflection. This operation was attempted by the writer in Cases I and IV, but probably through some fault in technique, the pleura was torn in both instances on attempting to separate it from the diaphragm. One advantage of the transpleurodiaphragmatic operation, is that it permits drainage of a complicating empyema, without making a separate incision.

In some cases, to provide free drainage, it is necessary to combine several of these procedures, as, for instance, in our Case III, where, after an oblique incision of the abdominal wall, a transpleurodiaphragmatic incision was made in the seventh intercostal space, in the mammary line. This seemed advisable because the abscess was a considerable distance above the exploratory incision. Some operators, to obviate the dangers of opening a normal pleura, have advocated an incision below the costal margin and a temporary resection of the costal arch, a procedure too formidable in patients already exhausted by a prolonged illness. It is of great importance that all pockets of pus be found, opened, and drained to avoid secondary operations. Irri-

gation is unnecessary, and drainage is best when using large tubes, but gauze wicks may be used instead.

CONCLUSIONS.

1. A subphrenic abscess is, in the great majority of cases, secondary to a perforation or inflammation of some intraabdominal organ; occasionally it results from injuries of the thorax or upper abdomen, and very rarely from a primary infection of the subphrenic space.

2. The abscess may be extraperitoneal, but the majority is intraperitoneal. More than half of the subphrenic abscesses, secondary to appendicitis, are intraperitoneal.

3. A subphrenic abscess, secondary to perforation of a gastric ulcer, usually occurs on the left side of the suspensory ligament, while an abscess secondary to lesions of the liver or appendix, is usually on the right side.

4. The most important routes, by which infection spreads to the subphrenic space, are the lymphatic and bloodvessels, the subperitoneal tissue and the peritonæum.

5. Gas is found in about twenty-five per cent. of the cases, and of the bacteria present in the pus, the *Bacillus coli communis*, the streptococcus, and staphylococcus are the most important.

6. The complications of subphrenic abscess are principally thoracic, namely, pleurisy with effusion, empyema, pneumonia, abscess of the lung, and pericarditis.

7. The onset of subphrenic abscess may be either acute or insidious. Rapid loss of weight and strength with a high temperature, remittent or intermittent in character, may be the only symptoms present.

8. Physical signs develop late and vary according to the presence or absence of gas with the pus. These are at times very characteristic and may enable one to make a correct diagnosis.

9. Exploratory puncture of the chest is of the utmost importance. It may be the only means by which a diagnosis can be made before operation.

10. In making a diagnosis of subphrenic abscess a history of a preceding intraabdominal or pelvic disease is very valuable. If all other diagnostic means fail, exploratory incision should be resorted to.

11. Most patients, who are not operated upon, die from sepsis or sudden perforation into the pleura, pericardium, or peritonæum. The mortality can be reduced only by early diagnosis and appropriate treatment.

12. The proper treatment is by incision and drainage, the site of the incision depending upon the location of the abscess. If the abscess is low down in the epigastric or hypochondriac regions it is most readily reached through an incision in the median line or one below and parallel with the costal margin. Retroperitoneal abscesses can be opened through a lumbar incision. An abscess higher up in the chest is best treated by transpleural diaphragmatic thoracotomy, or, better still, by Elsberg's subpleurodiaphragmatic thoracotomy. Occasionally a combination of these methods is necessary.

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THE PUTREFACTIVE PRODUCTS OF THE INTESTINAL CANAL AS THE ÆTIOLOGICAL FACTORS IN CERTAIN FORMS OF NEURALGIAS.*

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One of the purposes of this paper is to call attention to the fact that in many cases of neuralgia there is a lesion responsible for the pain. The change may be near the seat of the manifestations or at some distant point. Before setting forth the . . . I wish to mention two cases diagnosticated as neuralgia, but in which the operation in one instance and the post mortem examination in the other revealed the cause of the pain. With the permission of Professor J. Chalmers Da Costa I shall speak of a case diagnosticated as trifacial neuralgia in which he proposed to remove the Gasserian ganglion. In studying the case he learned that the eye on the unaffected side was blind, consequently he considered it extremely dangerous to remove the ganglion on the affected side, fearing that he might injure the . . . and motor trifacial nerve. The . . . Highmore. Following this operation the neuralgia

disappeared and the patient was free from pain. Another illustration is reported by Dr. Weisenberg (1), who found at autopsy a cerebellopontine tumor. This patient had been treated at several hospitals for trifacial neuralgia, and it was only in the last stages of the disease that localizing symptoms developed referable to the tumor described. The first case that came under my observation I thought was suffering with sciatica, but then became convinced that the pain was due to a metastatic tumor secondary to a carcinoma of the breast.

Statements will not be made in this paper that all cases of neuralgia are due to the protein putrefactive products, for I believe only a small percentage of the cases possess this ætiology.

Herter, by the administration of indol produced in man frontal and occipital headache, colic, insomnia, lassitude, and after continued administration, a tendency toward neurasthenia. Federsen (2) notes that phosphaturia and oxaluria give rise to nervous disorders of indefinite character involving especially the lower extremities. Flatau (3) states that in most cases even where neuralgia has existed for years there is no material anatomical alteration in the nerves. It is to be assumed that fine changes, such as trophic disturbances, are present, but no degeneration. Orbinson (4) reports eight cases presenting the symptoms complex of neurasthenia who were excreting small quantities of urine and large quantities of indican, one patient of whom he speaks at length had several attacks of sciatica in addition to the neurasthenia. After breaking up the adhesions which partially constricted a portion of the cæcum, causing fæcal stasis, the sciatica disappeared. Hammond (5) calls attention to the relationship of toxines of putrefaction to neurasthenia; he reports ten cases.

Author's Cases.

Case I. Patient Y:—Present trouble dated back two years, when the patient began to suffer with pain in the back and in the left leg. Two months before his admission to the hospital, which occurred on April 19, 1909, the pain grew worse, became sharp and shooting in character, and confined him to his bed. The pain followed the course of the sciatic nerve terminating in the toes. There were several tender points along the course of the nerve, the most marked being just below its exit from the pelvis. He had been constipated for a year.

Diagnosis:—Sciatica.

After admission to the hospital he was placed at absolute rest; the nerve was injected at different dates with osmic acid, sterilized water, and magnesium sulphate; all of which gave no relief. After two months of this treatment he was given, on June 13th, castor oil every evening for five days. During this time he also received five grains of oxgall three times a day. These produced no change in his condition. Beginning with June 20th, he received calomel, five grains, daily, followed by either a saline or by an enema. Electric baths at 110° C. for ten minutes were given daily. Improvement came on the 22d, when he excreted 0.092 gramme of indican and 0.0067 of phenol. On June 13th, he eliminated 0.248 gramme of indican and 0.048 gramme of phenol. The condition of the patient under this treatment continued to improve so that he left the hospital July 2d, at which time he was able to walk as well as he ever did, and the indican was reduced to 0.0013 gramme and the phenol was absent. In addition to the products mentioned, the patient excreted paraoxyphenylacetic and paraoxyphenylpropionic acids. These, however, were not determined quantitatively.

Although considerable quantity of putrefactive products were excreted, there was little disturbance in the normal ratio of the preformed and ethereal sulphates. On June 13th the ratio stood 9 to 1, which was maintained except on one occasion, June 15th, when it rose to 6.7 to 1.

Case II. Patient K.:—His trouble began six weeks before admission to the hospital, which occurred August 21, 1909. The malady consisted of pain in the lumbar region, from which point it radiated down the right thigh and leg posteriorly. The condition gradually grew worse and there was an associated wasting of the affected limb. The patient was not constipated.

Diagnosis:—Sciatica.

Owing to the stupidity of the patient, the twenty-four hours' quantity of urine could not be obtained regularly, so that a series of quantitative examinations were not made. When he first came under observation, considerable quantities of indican, phenol, acromatic, oxyacids, and small amounts of fatty acids were excreted.

Before I saw the patient he received intraneural injections of osmic acid, magnesium sulphate, and sterilized water. Internally he had been taking sodium salicylate, asperin, and potassium iodide. All of these gave no relief. On September 3d, or eleven days after admission to the hospital, five grains of calomel were administered for three days, each dose was followed by magnesium sulphate the following morning. From September 6th to the 9th, the dose was reduced to two grains, at which time it was discontinued until the 11th, and from that date until his discharge he received one grain of calomel daily. He drank daily from 500 to 600 c.c. of milk in which the *Bacillus bulgaricus* had been cultivated. From September 6th to the 11th there was some improvement, but on the 12th and 13th he suffered considerable pain; from September the 17th until September 30th, the date of his discharge, there was no pain and no impairment of his gait. The indican and phenol were present only in small quantities at the time he left the hospital.

Case III. Patient M.: The malady began one year before admission to the hospital, when the patient was attacked with pain in the back, which radiated down the right thigh and leg to the foot. The leg was flexed upon the thigh to avoid pain. He was treated at another hospital without relief. For one year he had not been free from pain.

Diagnosis:—Sciatica.

On November 12th he received five grains of calomel daily until November 17th, when it was discontinued until the 19th, from which date it was again administered, until the 22d, and from this time until his discharge, November 30, he received castor oil. In addition to the calomel naphthalin, five grains three times a day, and sour milk were administered, and on the 21st, he was placed on a meat free diet. Improvement came on the 22d, when the indican excreted amounted to 0.122 and the phenol to 0.028 gramme. On the 24th, 0.02 gramme of indican and 0.0213 gramme of phenol were eliminated, after which time the indican remained practically the same, but the phenol continued to decrease, and on the day of his discharge, November 30th, 0.006 gramme was excreted. In this patient the normal ratio of the preformed and ethereal sulphates were maintained, notwithstanding the extensive intestinal putrefaction.

Case IV. Patient A.:—His trouble began eight months before admission to the hospital, June 22, 1909, with pain in the left hip and extending down the dorsum of the thigh and leg. The pain was constant with severe exacerbations. He suffered with frontal headaches and constipation for years. The point of greatest tenderness was over the sciatic nerve just below its exit.

Diagnosis:—Sciatica.

He was given every evening five grains calomel, followed by an enema the next morning.

Not infrequently the administration of calomel at first causes a rise in the quantity of indican excreted. In this case we find that on June 25th 0.107 gramme, while on the 27th 0.065 gramme, of indican were excreted, and from this date the quantity diminished, with which came improvement in the patient's condition; but owing to the fact that he had to leave the city, the study could not be completed.

Case V. Patient B.:—Ten years before admission to the hospital, September 21, 1909, the patient went from a hot fire room into the cold air and in two or three days

was seized with lancinating pain in the right supraorbital region. The pain came in paroxysms and was shooting in character. One year ago a section of the supraorbital nerve was removed, which gave relief for a period of four months.

Diagnosis:—Supraorbital neuralgia.

On October 2d, five grains of calomel were administered, and the dose was continued for two weeks, then he received either castor oil or a saline every evening for a week, at the end of which time the calomel was again given until the date of his discharge, November 2d. He also received five grains of naphthalin three times a day and sour milk. Improvement came on October 8th and continued for several days, after which he had mild attacks of pain, which were again followed by periods of relief. During the last week of his stay at the hospital he had no pain and slept well. On September 27th, he excreted 0.218 gramme of indican and 0.053 gramme of phenol. The indican continued to fall until October 9th, when the elimination amounted to 0.08 gramme. The next day it rose to 0.121 gramme. The estimation was then discontinued until November 11th. The phenol continued to fall until October 4th, when he excreted 0.029 gramme. On October 10th it rose to 0.044 gramme. From the date of his discharge he received compound cathartic pills every evening, but they failed to prevent putrefaction, and in the course of two weeks the pain recurred. The elimination of indican on November 15th amounted to 0.30 gramme and phenol to 0.062 gramme.

When seen at this time he was placed upon calomel, but the indican continued to rise. The excretion of indican on the 19th amounted to 0.32 gramme and of phenol to 0.079 gramme. On the 24th there was considerable improvement. The elimination on November 26th was, indican, 0.12 gramme, and phenol, 0.053 gramme. From this time until January 1, 1910, the pain occurred only occasionally, from which time he was free from pain until May 10, 1910, when there occurred some twitching in the eyebrow, but on the 14th the pain was severe for one half hour. I am strongly inclined to attribute the recurrence of the pain to the egg, which was added to his diet since March 31st, and not to the lack of calomel. From the time he left the hospital, November 2, 1909, until March 31, 1910, he had been on a meat and egg free diet. On May 19th the egg was taken from his diet and calomel was administered daily for one week.

Since November 26th, I found it impossible to separate the phenol and attributed this to the naphthalin administered, which is eliminated as betanaphthol glycuronic acid, but on February 21st, I discovered that the urine gave with the liquor ferri chlorid, a reaction like that of salicyluric acid and diacetic acid; the latter was ruled out by boiling, previous to the addition of the reagent. While under my observation the patient had taken neither asperin nor salicylic acid, and had taken no other medicine than that which I prescribed, nor was he using the oil of wintergreen locally. The reaction was not like that of the cyanide, but not unlike that of phenol, to which substance I attributed the reaction. On June 2d the reaction, although present, was not very marked and at this time I was able to determine the phenol.

I am convinced in my mind that the neuralgia in this case was due to putrefactive products, because there seemed to be a recurrence of the pain when these products reached a certain amount. The difficulty in this case was not so much the elimination of the pain in the supraorbital region as it was to hold down or annihilate the processes of putrefaction. The calomel reduced this process, but could not eradicate or destroy the causative factors. Naphthalin, in my opinion, is worthless as a disinfectant in the colon. Sulphocarbonate of zinc and oxgall are equally worthless. The last time, June 2, 1910, I saw this patient, he was feeling well. The calomel was stopped and salol substituted. At this time he excreted 0.049 gramme of indican and 0.006 gramme of phenol. I am strongly inclined to believe that if the putrefaction in the colon could be eradicated the neuralgia would disappear, and to accomplish this I have thought of transplanting the ileum into the sigmoid.

Case VI. Patient S.:—Nine years before admission to the hospital, December 11, 1909, the patient noticed an acute pain which began in the roof of the mouth, involved the gums of the right side and also the right side of the face. This grew worse and spread to the lower jaw. The pain was paroxysmal, shooting and sharp in character. He had eight operations, during one of which the Gasserian ganglion was removed and the right side of the face was now the seat of numerous scars, the largest one being in the malar region.

Diagnosis:—Trifacial neuralgia.

I had occasion to examine the excretions of this patient before his admission to the hospital, and on December 4th found 0.106 gramme of indican and 0.044 gramme of phenol. Calomel, five grains, was administered on December 11th, 12th, and 13th, when it was reduced to one grain every day owing to the soreness of the mouth, which was thought to be due to the calomel, but which was really a part of his disease. He also received five grains naphthalin, three times a day, and was placed on an egg and meat free diet. He remained in the hospital ten days only, but there was very little improvement. There was no material diminution in the quantity of putrefactive products eliminated up until that time. He had been kept under observation and there was practically no change of his condition until after February 1st. About that time it occurred to me that the union of the indol with the potassium depleted the system of its potassium salts, and in order to establish correctness or falsity of the matter I set out to determine the potassium in the urine. After failing to find it in this particular case and in other cases suffering with indicanuria and succeeding in finding the potassium in the urine of those cases free from indoxylpotassium sulphate, I placed the patient upon liquor potassæ, five drops, three times a day. From this time on the patient showed marked improvement, his appetite increased, he was able to eat solid food, which he did with difficulty prior to that time, he slept well, and gained in weight. This state of affairs continued until about the middle of May, when his wife died, and since that time he suffered a drawing pain only when moving the lower jaw. He did not eat as well as formerly, although his appetite was good and he slept well. On March 20th, the kidneys eliminated 0.043 gramme of potassium and he was at that time taking by mouth 0.1 gramme of potassium, and on April 29th the urine contained 0.0147 gramme of potassium, although 0.1 gramme was administered. The indican on April 29th amounted to 0.017 gramme and the phenol 0.018 gramme.

It would be interesting to know the amount of potassium eliminated in the fæces in order to determine the quantity of potassium retained. It is probably not possible to estimate the quantity eliminated by the skin.

Krehl (6), in speaking of the cerebrospinal fluid, says that the percentage of albumin is low, but the percentage of potassium salts is high. According to Geogehan (7) there are 1.776 per mille potassium in the brain. This salt exceeds in amount the chlorides.

Case VII. Patient D.:—Six years ago the patient began to suffer with a sharp shooting pain in the right ear, which came on in paroxysms and lasted for two hours. About two years ago the Gasserian ganglion was removed, which procedure gave relief for six months, at the end of which time the pain recurred, and she was again treated in the Jefferson Hospital with favorable results. For six months she had been suffering with a burning pain. It was not sharp and shooting like that prior to the operation.

Diagnosis:—Trifacial neuralgia.

On November 29, 1909, her urine contained 0.052 gramme of indican and 0.031 gramme of phenol. The quantity of these products was reduced and on December 16th, the indican eliminated amounted to 0.018 gramme and the phenol 0.015 gramme. Notwithstanding this reduction there was no improvement in the patient's condition. Potassium salts were not administered in this case because I have not been able to locate her.

Case VIII. Patient W.:—Fifteen years before admission to the hospital, November 30, 1909, the patient was

seized with pain in the right side of the face. This condition at first occurred about once a month or once every two months, and the pain, which was sharp and shooting in character, lasted for a few minutes only. For the last two months the pain had been continuous and sleep was obtained by hypnotics only.

Diagnosis:—Trifacial neuralgia.

He received five grains of calomel daily, followed by the magnesium sulphate. On December 4th, 0.174 gramme of indican and 0.024 gramme of phenol were eliminated. The next day the indican amounted to 0.35 gramme and the phenol to 0.021 gramme. After this date there was a reduction in both elements until December 12th, when both were again increased, and on the date of his discharge the amount of indican eliminated was 0.184 gramme and phenol 0.019 gramme. Improvement came on December 8th and continued, so that on the 15th it was entirely absent. Although on the date of his discharge there was not a decrease in the quantity of indican eliminated, the phenol on the whole showed a constant reduction. The fact that the indican was not diminished in accordance with the improvement of the patient's condition, does not disprove that the putrefactive products are the cause of the neuralgia, for the indican must be looked upon as a comparatively harmless substance but as an indicator of putrefaction. It is probably the precursors of indican that give rise to the disease, and if these products are oxidized to indican, the noxious substances are made inert.

According to Nencki, Baumann, Brieger, and Salkowski, albumose, pepton, amido acids, ammonia, indol, skatol, parakresol, phenol, phenylpropionic acid, phenyllactic acid, paraphenylacetic acid, volatile fatty acid, carbon dioxide, dihydrogen sulphide, methane, methylmercaptane, and hydrogen are protein putrefaction products. Putrefying bacteria acting upon mucus produce glycocol and not indol or tyrosin. In studying the chyme in a case of prenaturalis anus, Nencki and Sieber found that the acidity of this substance was due to the lactic, acetic, paralactic, and volatile fatty acids. The free hydrochloric acid does not reach far into the intestines, and hence if putrefaction is prevented it is accomplished by means of organic acids. They conclude that the bacteria of the small intestines do not normally attack the proteins, but that they do attack carbohydrates producing ethyl alcohol and the previously named organic acids. F. Hoppe-Seyler holds that phenol and indican are derived from indol. Gentzen (8) found that by the injection into the cæcum of skatolanimoacetic acid the indican was enormously increased in the urine.

Apropos to the suggestion of transplanting the ileum into the sigmoid, we find the interesting observation of Ellinger (9), who found that in those starving animals which were prevented from eating their own fæces the indican disappeared as death approached. In this connection may be mentioned the observation of Metchnikoff (10) and his collaborators, that a large number of bacteria are found in the intestines of the ape, among which were the *Bacillus acrogenes capsulatus*, lactic acid bacilli, bacillus of acidophilic type, a mass of colon bacilli and other Gram negative organisms. In discussing bats Metchnikoff calls attention to the fact that in these animals the food is retained for some time in the stomach, but its retention in the small intestines is of short duration and consequently this structure is nearly sterile. If bats and rodents, such as rabbits, guineapigs, and mice are nourished with carrots, the fæces of the former contain few bacteria, while those of the latter are rich in microorganisms. This difference he attributes to the dissimilarity of the anatomical structure of the alimentary canal. The bat has a very short colon, hence there is very little stagnation of the food, while the rodents have a well developed long colon where stagnation of the fæcal material is permitted allowing the bacteria to grow well and abundantly. In the bat the refuse of food is eliminated in one and one half hour after a meal. Metchnikoff's views that there exists in the intestines an antiseptic which tends to hold down the bacterial content was thought to be supported by the findings of Schuetz (11), who stated that the epithelial cells of the small intestines of most mammeriferous animals possess the faculty of destroying many bacteria ingested. In order to establish whether or not the bat is able to destroy bacteria in the intestinal canal Metchnikoff fed them on microorganisms of chicken cholera and the vibria de Gamaleia in an attenuated form. After their recovery from the fæces of the bat these bacteria were injected into rabbits and guineapigs, which animals died of septicæmia. This experiment showed that the microorganisms increased in virulence by passage through the bat.

Distaso (10) working with Metchnikoff found during the period of ten months' research in the small intestines of the bat a coccus, colon bacilli, *Bacillus putrificus immobilis*, *Bacillus glycolyticus* and the *Bacillus inflatus*. The rectum contained the same organisms. After placing the bats on a meat diet the colon bacillus predominated the first day and the *Bacillus acrogenes capsulatus* increased in proportion to the decrease in the banana diet. On the seventh day the animals were on exclusive meat diet when the fæces became liquid, tobacco colored alkaline, and another organism, the enterococcus appeared which had not been found in the bat before. On the tenth day most of the animals died and from the small intestines were isolated the colon bacillus, *Bacillus acrogenes capsulatus* and the enterococcus.

Bertolot (10), also working with Metchnikoff, studied the chemistry of the urine, but was never able to detect in the bat indican nor the aromatic oxyacids.

According to Bienstock the *Bacillus acrogenes capsulatus* and the *Bacillus fœtidus* are the organisms of putrefaction in the intestines, and they are antagonized by the colon bacillus which forms the indol. Rettger maintains that the putrefying organisms disintegrate the proteins, but are unable to liberate the indol which is produced by the intervention of the *Bacillus coli* and the colon group.

Some authors maintain that urotropin will diminish the indican in the urine and increase the indol in the fæces. I have not tried this drug internally, but I have noted that if urotropin is added to urine containing indican, the Obermayer reaction disappears, so that neither formalin nor urotropin should be used as a preservative in studying the urinary indican.

It might not be amiss at this point to speak of the method of estimating the ammonia in urine by means of formaldehyde. I am very strongly inclined to believe that the method is far from accurate, for I was struck by the high acidity of indicannurics when estimated by means of formaldehyde, some cases voiding 3.51 grammes of am-

monia when 0.184 gramme of indican was eliminated. The explanation of the high ammonia yield is found in the fact that the formaldehyde oxidizes the indoxyl potassium sulphate in very dilute solution as 1 to 1,000 to indigo, but in strong solution the indigo blue is reduced to indigo white and in so doing liberates formic acid.

The milk soured by means of the *Bacillus bulgaricus* has very little effect, if any, in prohibiting the growth of putrefying bacteria.

CONCLUSIONS.

The conclusions to be drawn from this paper are that a limited number of cases of neuralgia are due to putrefaction products, that these neuralgias are not due to the indican, that the mere presence of indican does not signify that a disease exists, and that it is only when the precursors of this substance are not oxidized to indican that disease results.

Before one can draw any conclusion as to the relationship between potassium salts and neuralgia, I believe a good deal more experimental work must be carried on.

To Professor J. Chalmers DaCosta, Professor H. A. Hare, and Professor S. Solis Cohen, I am indebted for the privilege of studying cases, and also wish to express my thanks to Dr. Funk, Dr. Rumbaugh, Dr. Carrington, and Dr. Warne for their assistance.

CASE I.

Date	Quantity, cubic centimetres	Indican, gramme	Phenol, gramme	sul-	sul-	matic
[illegible]	1,[illegible]	0.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	1,400	0.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	1,[illegible]	0.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	1,522	0.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	840	0.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	1,[illegible]	0.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	695	0.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
June 20, 1909	1,245	0.074	0.063	1.95	0.261	Present
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
June 22, 1909	1,150	0.092	0.006	1.26	0.14	Present
June 23, 1909	880	0.008	0.0019	...	0.067	Present
June 24, 1909	1,057	0.042	....	1.88	0.075	Present
June 25, 1909	1,165	0.001	....	1.036	0.085	Present
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
June 30, 1909	1,084	0.016	....	1.386	0.268	Present
July 1, 1909	875	0.087	....	1.469	0.166	Present
July 2, 1909	1,330	0.001	....	1.455	0.142	Present

CASE III.

Date	Quantity, cubic centimetres	Indican, gramme	Phenol, gramme	sul- phates, gramme	sul- phates, gramme	matic oxy- acids
November 8, 1909	1,244	0.044	0.066	1.324	0.208	Present
November 9, 1909	802	0.080	0.059	....	....	Present
November 10, 1909	501	0.031	0.014	....	....	Present
November 11, 1909	470	0.029	0.012	....	....	Present
November 12, 1909	660	0.033	0.036	....	....	Present
November 13, 1909	695	0.034	0.047	....	....	Marked
November 14, 1909	480	0.032	0.026	....	....	Marked
November 15, 1909	747	0.125	0.031	....	....	Marked
November 16, 1909	480	0.088	0.036	....	....	Marked
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
November 19, 1909	435	0.090	0.024	....	....	Marked
November 20, 1909	698	0.090	0.031	....	....	Marked
November 21, 1909	910	0.132	....	2.664	0.212	Marked
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
November 25, 1909	670	0.036	0.006	0.668	0.060	
November 27, 1909	730	0.027	0.007	0.773	0.095	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

CASE IV.

Date	Quantity, cubic centimetres	Indican, gramme	[illegible] gramme	sul- grammes	sul- gramme.
[illegible]	7[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	1,[illegible]44	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]90	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	1,[illegible]25	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

CASE V.

Date	Quantity, cubic centimetres	Indican, gramme	Phenol, gramme	Aromatic oxyacids	Potassium, gramme
Septembe[illegible]	[illegible]	[illegible]	[illegible]	Marked	[illegible]
September 29, 1909	1,595	[illegible]	[illegible]	Trace	
[illegible]	[illegible]	[illegible]	[illegible]	Present	
October 2, 1909	1,350	0.278	0.039	Present	
October 3, 1909	990	[illegible]	0.033	Present	
October 4, 1909	840	0.084	0.029	Present	
October 6, 1909	[illegible]	[illegible]	0.017	Present	
October 9, 1909	[illegible]	[illegible]	[illegible]	Present	
October 10, 1909	[illegible]	[illegible]	[illegible]	Present	
[illegible]	[illegible]	[illegible]	[illegible]	Faintest	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
November 15, 1909	[illegible]	[illegible]	[illegible]	Present	
November 19, 1909	[illegible]	[illegible]	[illegible]	Present	
November 26, 1909	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
March 31, 1910	1,250	0.025	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	0.049	[illegible]	[illegible]	

CASE VI.

Date	Quantity, centi- metres	Indican, gramme	Phenol, gramme	Potas- sium,
December [illegible] 1909	[illegible]	[illegible]	0.017	[illegible]
December [illegible] 1909	[illegible]	[illegible]	0.033	[illegible]
December 12, 1909	[illegible]	[illegible]	0.0129	[illegible]
December 13, 1909	[illegible]	[illegible]	[illegible]	[illegible]
December 14, 1909	765	[illegible]	[illegible]	[illegible]
December 16, 1909	1,[illegible]20	[illegible]	[illegible]	[illegible]
December 17, 1909	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
April 1, 1910	[illegible]	0.0317	[illegible]	[illegible]
[illegible] 191[illegible]	[illegible]	0.0175	[illegible]	[illegible]
[illegible]	[illegible]	0.039	[illegible]	[illegible]

CASE VII.

Date	Quantity, cubic centimetres	Indican, gramme	Phenol, gramme
November 29, 1909	[illegible]	0.052	[illegible]
November 30, 1909	[illegible]	0.027	[illegible]31
December 1, 1909	[illegible]	0.034	[illegible]
December [illegible] 1909	655	0.019	[illegible]27
December [illegible] 1909	[illegible]	0.023	[illegible]31
December 4, 1909	1,285	0.059	[illegible]4
December [illegible] 1909	1,255	0.057	[illegible]
December [illegible] 1909	1,587	0.034	[illegible]
December [illegible] 1909	1,480	0.088	[illegible]7
December [illegible] 1909	1,568	0.094	[illegible]28
December [illegible] 1909	[illegible]	0.038	[illegible]28
December [illegible] 1909	[illegible]	0.045	[illegible]29
December [illegible] 1909	866	0.025	[illegible]7
December [illegible] 1909	[illegible]	[illegible]	[illegible]19
December [illegible] 1909	[illegible]	[illegible]	[illegible]18
December [illegible]	[illegible]	[illegible]	[illegible]15

CASE VIII.

Date	Quantity, cubic centimetres	Indican, gramme	Phenol, gramme
December [illegible] 1909	1,096	[illegible]4	0.024
[illegible] 1909	835	0.350	[illegible]
[illegible] 1909	[illegible]	0.088	[illegible]
December [illegible] 1909	[illegible]	0.062	[illegible]
December [illegible] 1909	[illegible]	0.054	[illegible]18
December [illegible] 1909	[illegible]	0.156	[illegible]
December [illegible] 1909	1,845	0.097	[illegible]
December [illegible] 1909	1,500	0.090	[illegible]
December [illegible]	[illegible]515	[illegible]	[illegible]
December [illegible]	[illegible]510	[illegible]184	[illegible]

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POSTDIPHTHERITIC PARALYSIS OF THE ACCOMMODATION.

By Joseph Clothier, M. D.,
Philadelphia.

The eye may be and frequently is the seat of a postdiphtheritic lesion, which occurs usually in the form of a partial or complete paralysis of either the intrinsic or extrinsic muscles. The favorite seat of the lesion is the ciliary muscle which controls the accommodative apparatus, and paralysis of the accommodation is after paralysis of the velum palati probably the most common of the various palsies that follow an attack of diphtheria. It is, furthermore, a condition that may be readily overlooked, especially in its incomplete form, for the external appearance of the eye tells us nothing as a rule, and the loss of vision which the patient may complain of may be looked upon as due to a weakness of the accommodation that may follow any wasting disease.

The paralysis usually comes on during early convalescence. Its development is rapid and often sudden, the vision upon retiring at night, for instance, may be good but is found considerably impaired when the patient awakens in the morning.

In the majority of cases the paralysis of the accommodation exists alone, for while under physiological conditions the sphincter iridis and the ciliary muscle act in conjunction, it is only occasionally that the palsy of the accommodation is accompanied by paralysis of the sphincter iridis and the resultant dilatation of the pupil.

The severity of the attack of diphtheria seems to have no influence on its occurrence, as it has been observed following the mildest as well as the most severe attacks. Nor does the variety of diphtheria appear to influence it, for it may follow any of the clinical forms of the disease.

The patient generally comes to the ophthalmologist complaining of a blurring of the distant vision and inability to see to read or write, both eyes usually being affected. The disturbance of vision which paralysis of accommodation causes, however, varies greatly according to the refractive state of the eyes. If, for example, an emmetrope is affected with the palsy, reading and writing become absolutely impossible, or at least in the incomplete form very difficult or possible only for a few minutes at a time. The distant vision for which the emmetrope is not required to use the accommodation is not affected. In the hyperope the condition makes itself still more noticeable, for not only is the near vision affected to a marked degree but the vision for distance also becomes poor, because the hyperope is unable to see distant objects clearly without the exercise of his accommodation. The reverse is true of the myope, to whom the abolition of this faculty causes little inconvenience. It is in this class of cases that the condition may be easily overlooked. Indeed, in the higher degrees of myopia the paralysis of accommodation may only be discovered accidentally during a painstaking examination of the eyes. In old persons, too, in whom owing to the sclerotic condition of the lens accommodation for near is impossible the condition will remain undetected.

The external examination of the eye shows little if anything. Should the sphincter iridis be involved, which, as already stated, is not the rule, the pupil will be partially or fully dilated, and either sluggish in reaction or absolutely unresponsive to the light reflex.

Some observers have noted a retinal hyperæmia during the attack, but in the majority of cases the fundus is perfectly normal.

Ætiologically the paralysis is due to a toxic neuritis, the cause of the neuritis being the specific poison elaborated by the Klebs-Loeffler bacillus.

The prognosis is good, the condition almost invariably recovering.

The treatment consists in rest of the eyes, which means warning your patient against attempting any near work, and the wearing of dark glasses should the pupils be dilated. Internally strychnine or tincture of vomica should be given in ascending doses. Miotics have been employed locally but are of doubtful value. Indeed, most of these cases would probably recover without any medicinal treatment whatever.

The following is a typical case:

Case: A. L., æt. twelve years, a school boy who had always enjoyed good health, came to me complaining of frontotemporal headaches, and poor vision. V. O. D. 5/7.5, V. O. S. 5/7.5. No imbalance of the ocular muscles. After refraction under hyoscin hydrobromate he was ordered for constant wear,

O. D.—1.25s+0.25cyl ax.90 V. 5/5
O. S.—1.25s+0.25cyl ax.90 V. 5/4

With this correction he was perfectly comfortable and with the exception of a mild attack of acute contagious conjunctivitis a few months later he reported no further trouble with his eyes until October, 1909, when he returned to me with the history that for the past two weeks he had not only been unable to see distant objects clearly but that he was entirely incapacitated for all near work. This state of affairs had come on suddenly and had remained about the same up to the time of his visit to me. His father who had sent him to the office thought that perhaps he needed a change of glasses. Further questioning brought out the information that about a month previous he had had a rather severe attack of diphtheria and that the eye trouble had developed about the second week of convalescence. At this time without his correction V. O. D. 5/30, V. O. S. 5/30. With correction, V. O. D. 5/9, V. O. S. 5/9. By the addition of +0.75s to his correction the vision in each eye was brought to 5/5, and with a further addition of +3.00s he could read 0.50 D type easily at 33 cm.

The external examination of the eye showed the pupils about two thirds dilated and very sluggish in reaction. The ophthalmoscopic examination was negative.

At the time of his first visit his eyes were the only parts affected, but subsequetly his legs were paralyzed also.

The patient made a perfect and uneventful recovery under the treatment outlined above.

247 South Thirteenth Street.

A SIMPLE TECHNIQUE FOR PREPARING SALVARSAN IN OILY SUSPENSION.*

By Alfred J. Hart, M. D.,
New York,
Dermatologist in the Mount Sinai and the German Hospitals, Dispensary Department.

As no anaphylactic action has been shown for salvarsan, the most recent work has been along the lines of administering this drug in series, for complete sterilization in lues.

To do this effectively, salvarsan is given in smaller dose, three or four decigrammes, and at intervals instead of in one maximum dose.

*Read before the Harlem Medical Association, February 1, 1911.

Kronmayer and others have advised the administration of salvarsan suspended in sterile liquid paraffin, oil, or in iodipin. The technique proposed involves the trituration of salvarsan in a sterile mortar or dish with oil until a smooth mass is obtained. This is accomplished with about four cubic centimetres of oil or paraffin for each six decigrammes of salvarsan used.

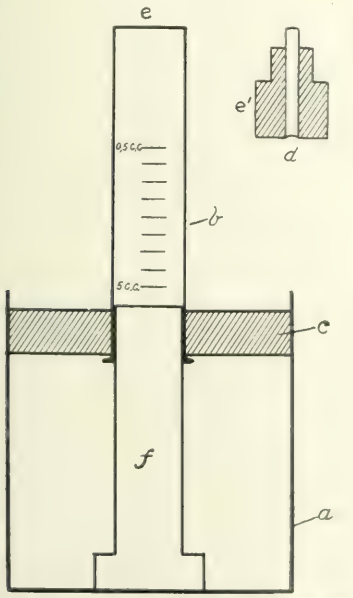
Some of the objections to this method are as follows:

1. All of the apparatus used in this method (mortar, pestle, graduated beaker, etc.) must be sterile. The danger of a break in sterilization and a possible chemical change in the drug increases in direct proportion to the number of articles used for preparation.

2. In using a beaker or pipette for triturating with oil or paraffin, a certain amount of inaccuracy is unavoidable owing to the heavy oils used sticking to the sides and bottom of the measuring glass. This error amounts to several minims and disturbs a correct calculation of the amount of the drug used.

3. However, the greatest objection to the method at present in use, is the loss of a certain amount of salvarsan. A fair quantity is always unavoidably left sticking to the mixing mortar and to the pestle or stirring rod, on account of the small amount of oil used in making the suspension.

The method which I employ involves the use of only the sterile syringe, to be used to inject the sal-



Hart's stand for preparing oil suspension of salvarsan.

varsan, and a sterile, thin, glass stirring rod. The stand I use is made from a sixty gramme ointment pot or a sixty gramme bicarbonate bottle and a cork to fit.

The syringe I use is in three pieces, "Luer" type, made entirely of glass.

The cork is hollowed out in the centre to fit around the barrel (*b*). The piston (*f*) is slipped into the barrel to the 5 c.c. mark, and the whole combination fits snugly into the container (*a*), the piston head impinging on the bottom of the container (*a*). Two cubic centimetres of warm sterile liquid paraffin or iodipin are poured into the barrel (*b*), which is thus made to serve as a graduate. The salvarsan (six decigrammes) is now added, a little at a time, from its original container and thoroughly mixed in the oil, with the sterile glass stirring rod. From time to time a few drops of oil are added until the total amount in the cylinder is about four cubic centimetres. The last few drops of oil are used to wash off the few particles of salvarsan left sticking to the rod. The tip of the syringe (*d*) is fitted into the barrel (*b* at *e*); the whole apparatus is then inverted and the point dipped momentarily in sterile molten paraffin, which effectually seals the syringe. The cork and the syringe are then pulled from the container, while it is still in the inverted position, the cork to act later as the grip when the syringe is used.

A rubber band passed over the tip and over the plunger end, after the manner of carrying a filled blood counting pipette, allows the filled syringe to be transported easily and safely.

If only half the dose (2 c.c. or 0.3 of salvarsan) is used, the piston is pulled back a little, drawing the drop of salvarsan back from the tip, and the point is resealed with paraffin.

The paraffin seal is easily removed by slight heat to the syringe tip, followed by pushing the piston down slightly, the bubble of air descending forcing out the drop of paraffin in the lumen.

For more than two patients for injection a ten cubic centimetre syringe is used and a larger amount prepared.

The advantages of this technique are readily seen:

1. Every bit of salvarsan is utilized.

2. The syringe used to administer the drug being used also as the triturating graduate allows of accurate measurement and therefore accurate dosage.

3. The small number of sterilized parts, i. e., the syringe and a stirring rod, insures perfect sterilization.

4. A minimum amount of exposure of salvarsan to the air is obtained.

A precaution for administration: Warm the syringe slightly and shake well before using.

118 West Seventieth Street.

THE ORIGIN OF CANCER AND ITS CONTROL.

By W. McDowell, M. D.,
Seattle, Washington.

The origin of cancer is the same as the origin of the normal epithelium of which it is a perversion.

The cause of cancer is excess of food constituents (in the blood) which dominate anabolism of epithelial cells; this obviously implies deficiency of (or interference with) elements which would promote catabolism of epithelium.

Cancer or epicytosis is subcatabolism (excessive

anabolism) of epithelial cells to such extent as to make pernicious inroads upon connective tissue and connective tissue elements in their quest for means of activation. When it is said that anabolism is excessive it is implied that catabolism or activation is deficient. When it is said that an epithelial cell is lacking in activating elements the atypical cell is implied. When an atypical cell exists perverted function is the result.

The site of a cancer is determined by influences promoting stasis of epicytogen (that which dominates construction of epithelium). These influences are: 1. Anabolic, excessive blood supply; blood containing dominant epicytogen. 2. Anticatabolic; a, those interfering with return flow; b, blood supply deficient in chemical elements to produce the epicytolysin necessary for the type of epithelium suffering want of it; c, local or systemic chemical antagonism to such epicytolysin.

Epicytogens probably consist of dominant nucleins which apparently depend upon phosphorus and nitrogen, organization of which in turn depends upon lipoids.

Epicytolysins (blood contents which, when the dietary supplies them or their antecedents, activate epithelium, stimulate them to function, by combining with epicytogen or epithelial construction to form secretion or excretion) probably depend upon certain serum salts of alkali or alkaline earths combined with certain acids to form basic, neutral, or acid salts, and in such proportions to dominate conflicting bases, acids, and neutral salts.

Metabolism consists of, 1, anabolism or construction, and, 2, catabolism or destruction. When one of these unduly predominate either, 1, suborganization with possible future disintegration or, 2, excessive wasting is the result.

Subcatabolism or diminished activation means lowly organized tissue. Excessive catabolism means excessive secretion, excretion, or sloughing (perverted catabolism), and consequent deficiency of that particular tissue.

Connective tissue elements constitute the balance for epithelial elements; either may predominate; both may be excessive.

Liberty Building.

Correspondence.

LETTER FROM EDINBURGH.

Dinner to Sir David McVail.—Lord Curzon and Glasgow University.—The Doctor and the Car.—The Royal Society of Edinburgh.—Tuberculin Treatment in Leith.

Edinburgh, February 20, 1911.

Sir David McVail, a Glasgow medical man who has recently had the honor of knighthood conferred on him, was entertained at dinner by a number of professional and lay friends on January 20th at the Windsor Hotel. Dr. D. N. Knox, president of the faculty, was in the chair, and proposed the toast of the guest of the evening. He referred to Sir David's work as a teacher at Anderson's College and as joint founder of the Western Medical School, where he taught systematic medicine until he was transferred to the Royal Infirmary and became professor of clinical medicine at St. Mungo's College. It was due to Sir David's exertions that certain clauses of the 1889 act by which they had benefited had been secured. In acknowledging the toast, Sir David gave some interesting reminiscences of his early student days, referring particularly to Lord Lister and Sir William Gairdner. Later in the evening, Dr. John Patrick, on behalf of the house physicians and students of the Royal Infirmary, presented Sir David McVail with a silver salver, candlestick, and flower vases in recognition of their esteem and to mark the honor conferred upon him.

Lord Curzon was installed as lord rector of Glasgow University on January 26th, and had the degree of LL.D. conferred upon him. He also attended a series of functions promoted in his honor by different bodies associated with the university. The principal gathering was in St. Andrew's Hall, where the installation ceremony was carried through, and the lord rector delivered his address. The building was crowded with people, including students of both sexes, prominent public men, and others interested in the university. At 11 o'clock the bedellus led the procession into the Grand Hall. The platform party were headed by principal Sir Donald MacAlister, who wore the robes of vice-chancellor, and with him was Lord Curzon, also in his academic robes. The principal opened the proceedings by reciting the Latin prayer, after which he called upon Professor Glaister, who presented Lord Curzon for the LL.D. degree. The degree having been conferred, Lord Curzon signed the oath of office and was installed as lord rector, exchanging the scarlet gown of doctor of laws for the gold braided robe of lord rector.

Lord Curzon, in his address, said his own inclination would have predisposed him to choose on that occasion some topic connected with the character and functions of British universities, but he found that the field of academic history and theory had been so thoroughly explored by more than one of his predecessors in the office of lord rector that there did not seem to be any untrodden corner even of that prolific ground. Circumstances had compelled him during the greater part of his adult life to study at first hand that immemorial but ever mysterious connection between the East and the West. At that moment that great drama was entering upon an entirely new phase, complex and startling in its features, and pregnant with eventualities that none could foresee. Could there be a subject better fitted to occupy their minds on that occasion? The fact that Glasgow and its university had themselves played no mean part in the building up of our Indian Empire and in diffusing throughout eastern lands the government and science, the arts and the ethics of the west, was also an excuse for selecting that topic as his theme. In an interesting and stirring address he reviewed the influence of west on east, and of east on west. He dealt with the Russo-Japanese war and the developments arising from it, on the demand for parliamentary institutions,

the benefits of western education, the future of India and the east, and the part played by Great Britain in shaping that future. The early part of the address was marred by noisy interruptions from a section of students—a feature unfortunately too pronounced in recent rectorial addresses—but an appeal from the speaker and another from the principal secured silence for the remainder of the address. A luncheon was held at the university after the ceremony; in the afternoon the lady students of Queen Margaret College gave a reception in the Bute Hall; and in the evening Lord Curzon was the principal guest at a house dinner of the Students' Union.

An interesting article on The Doctor and the Car appears in *The Scotsman* of January 27th, over the initials of a well known medical motorist. The article is opportune, the annual Scottish Motor Show being held in Edinburgh during the present week. A busy doctor, says the writer of the article, fights as much with time as with disease; and, until a dozen years ago, his only aids were the bicycle with its attendant toil, and the slowly moving brougham. With the help of the car, the seers foretold increased efficiency, an extended sphere of influence, and relatively greater leisure. All these prophecies have been fulfilled. In addition the motoring doctor possesses a hobby that provides relief from the cares and worries of a trying profession. Coincidently those who discarded the brougham for the open car have, consciously or unconsciously, been performing an experiment in open air treatment. Many medical men have obtained remarkable personal benefits from the change to the open car, and quite a number have placed on record the fact that they themselves never before enjoyed robustness of health until they had experienced the sensations of motoring. The author then discusses the most suitable type of car for a doctor's use, and goes on to express the opinion that the doctor should himself take the wheel. A general practitioner who invariably drives when on his rounds likens town driving to a game of chess. He sees and overcomes, as skilfully as he can, a constant succession of traffic problems rapidly presented, and finds great exhilaration in successfully negotiating them. His observation, he declares, has been greatly sharpened, and his judgment quickened, since he practised motoring. Worry has departed from him, and the sleep of childhood is his. The great bugbear, it must be confessed, to the doctor desirous of taking the wheel is the professional garb. If the tall hat and the doctor ever part company, and there are indications that they will, the motor car will be partly responsible. At one time it was thought that the man at the wheel suffered from nerve strain to an extent that rendered him unfit for other pursuits. Experienced medical motorists assure us that their nervous stability is never greater than when regularly driving the car.

At a meeting of the Royal Society of Edinburgh held on January 9th Dr. John Brownlee [illegible] a communication entitled The Relation of the Monomolecular Reaction to Life Processes and to Immunity. Dr. Brownlee dealt with the death rates from disease at different ages. He showed that among children the death rates from diseases such as scarlet fever and measles, at each year of life, increased in geometrical progression, and that with the acute diseases of adult life, such as smallpox and typhus, the death rate increased in geometrical progression. In this connection he discussed the old law discovered by Gompertz that the death rate from all diseases at the higher ages increased in geometrical progression. He quoted the statistics of the Sheffield epidemic in 1886-'7 to show that the protection of vaccination, obeying the same law, decreased in geometrical progression.

Dr. Robertson, medical officer of health of Leith, submitted a report to the Leith Public Health Committee at its meeting on January 17th. Dealing with tuberculosis, he said that a new method was being advocated for dealing specifically with tuberculosis, the results of which had been extremely encouraging. In fact, so impressed was he that he had initiated the new principle in Leith. Until now tuberculin had been subcutaneously injected as a curative in small doses in the case of those suffering from tuberculosis. The new treatment went further, since the dose was gradually increased until patients tolerated very large amounts of tuberculin. Further, an even more valuable use of tuberculin had been devised. In this instance contacts were tested with the same type of tuberculin as was employed for testing animals. If the contacts showed a reaction, it meant they were infected with the disease. The disease thus having been located in infected persons, treatment was proceeded with by means of the curative tuberculin. As might be readily understood, this system opened up quite a new era for dealing with tuberculosis. It meant, if the allegations for it could be substantiated, that the disease could be prevented from spreading among the members of a tuberculous household by rendering them immune from attack. This was the real way to fight tuberculosis. The advantages stated for the treatment were that it was harmless and also that it did away with the necessity for dealing with sufferers from the disease in sanatoria.

LETTER FROM LONDON.

[illegible]

LONDON, January [illegible]

At a meeting of the Medical Society of London on January 23rd, Dr. Wilfred Harris showed a case of syringomyelia with total anæsthesia in certain areas. The patient, a man of thirty-five, first noticed numbness in the left hand about twelve months before. This had steadily progressed. There was considerable difficulty in using his left hand, owing to loss of sensation on the part, and well marked athelosis of the hand was present, especially if the eyes were closed. Hemiatrophy of the tongue was present, the left half being much wasted. There was no weakness of the palate or eye muscles and no nystagmus. The deep reflexes were normal and there was no weakness of the

lower extremities. Arthropathy of the right tarsus had been present since early childhood. There was total anæsthesia to touch, pressure, pain, and heat over the left second, third, and fourth cervical areas, including the back of the head and neck from the lower jaw down to the second rib, ending sharply at the middle line. On the right side of the back of the head and neck there was delayed sensation to pain with a certain degree of analgesia, but tactile sensation was good. Below the umbilicus, on the right side of the abdomen, an area of analgesia began, extending down on to the front of the thigh as far as the knee, fading away gradually, involving the eleventh and twelfth dorsal and the first, second, third, and part of the fourth lumbar areas.

Dr. F. J. Poynton showed a case of mediastinitis possibly syphilitic in origin. The patient was a man of seventy-four, who was admitted to University College Hospital on December 30th complaining of pains over the front of the chest, going through to the back and down the left arm. Shortness of breath had been present for six months. The pain was gnawing in character and more or less continuous, having no relation to food. Enlarged veins first appeared about three or four years ago on the upper part of the abdomen and were preceded by a severe pain in that region. Since then they had been gradually increasing in size and distribution, and over the middle of the anterior aspect of the chest had joined into a "caput Medusæ." Dilated, tortuous veins extended over the front of the abdomen and chest, also down the left arm. In both lower limbs there were well marked varicose veins. Since admission the patient had been treated with potassium iodide. The pain had disappeared for the last fourteen days, but more veins had appeared.

Mr. A. E. J. Barker showed a case illustrating the use of Bier's bandage for ununited fractures. The patient was a man, twenty-one years of age, who fell off his bicycle in Suffolk on July 24th, sustaining a transverse fracture of the humerus and an external wound of the soft parts. He was dressed by a medical man and advised to go to a hospital. On admission the next day the bone was wired. There was much laceration of the soft parts and periosteum, with extravasated blood to a large amount. The fracture ran across the insertion of the deltoid. The wound was almost completely closed. Stitches had to be removed on the second day on account of swelling and rise in temperature. A large quantity of altered blood clot and turbid blood was let out. After this the temperature fell to normal. Skiagrams showed perfect coaptation—union did not, however, take place, the ends of the bone necrosed, and a sinus was present. On October 18th Bier's bandage was applied for an hour. On November 1st the sinus was soundly healed, but there was still no repair of bone. The elastic bandage was now applied for two hours morning and evening. On December 17th callus was first seen to be forming and motion between the bones could not be felt as before. By January 1st there was a well marked mass of callus and the fracture appeared firm.

At a recent meeeting of the Society of Medical Officers of Health Dr. Dearden read a paper on the relation of public health to industrial diseases. He maintained that the understanding and amelioration of any conditions attached to associated labor which tended toward deterioration of physique and creation of disease must of necessity form a well defined and distinct part of general hygiene. Apart from the excessive mortality from certain diseases which could be attributed to particular trade processes, alcoholism appeared to pick out certain trades in the exercise of its deleterious effects. The alcoholic tendency of printers, hatters, and shoemakers was well known. Waterproof spreaders, who were subjected to naphtha fumes, were very rapidly affected by alcohol, and it was suicidal for workers in lead to indulge in the habit. The rapid breakdown through alcoholism of men engaged in arduous occupations was well illustrated in the iron and ship building trades. Insufficient air space and bad ventilation had a distinct influence on the occurrence of lassitude in the worker through rendering the respired air impure. Apart from the fouling of the atmosphere by the products of respiration and combustion, it was now pretty generally understood that the presence of an excess of carbonic acid was injurious owing to the increased tension preventing the normal escape of the gas from the blood as well as to the interference with oxygenation both on account of this and the lowered tension of atmospheric oxygen. The factory system was one to a great extent of juvenile labor, and, as the future of the race was now regarded as of great national importance, it became highly necessary to obviate any tendency to deterioration in psysique or the sowing of seeds of disease as a consequence of conditions of employment. Although the age at which children and young persons were allowed to begin work was regulated by statute, the medical supervision of the certifying surgeon was a most prominent and important regulating factor of that form of labor.

Dr. Bate referred to the advantages of the conditional certificate of employment which could now be given as a great advance upon the former practice. He regretted the tendency of junior practitioners to certify workmen as suffering from lead poisoning upon insufficient grounds.

Dr. Edgar Collis urged medical officers of health to take more interest in the conditions of employment in special diseases and spoke of the importance of investigating the invalidity of special industries. He was of the opinion that danger in occupation was indicated more by invalidity than by mortality.

The death has occurred at an advanced age of Mr. Henry Power, M.B., F.R.C.S., consulting ophthalmic surgeon to St. Bartholomew's Hospital. He was appointed assistant surgeon to the Royal Westminster Ophthalmic Hospital in 1856 and assistant surgeon to the Westminster Hospital in 1857. In 1870 he became ophthalmic surgeon to St. Bartholomew's Hospital. He was also professor of physiology at the Royal Veterinary College in Camden Town and president of the Ophthalmological Society of the United Kingdom.

Therapeutical Notes.

The Therapeutics of Iron and Its Compounds.—The *Journal des praticiens* copies from *La thérapeutique en vingt médicaments* an article on the preparations of iron, which is reprinted in the *Practitioner* for February. Of the insoluble preparations the protoxalate and the carbonate are preferred, and of the soluble, the chloride in the form of Bestucheff's tincture.

The following preparations are prescribed by Huchard and Fiessinger, the authors of *La thérapeutique en vingt médicaments:*

℞ Ethereal tincture of iron, ... 3ss;
Syrup of orange, ... 3i;
Infusion of camella, ... q. s. 3viii.
M. et Sig.: Two tablespoonfuls to be taken at each meal.

The insoluble iron tannate formed in this mixture is considered by Huchard to be perhaps the most active of the iron preparations for those who are not too greatly repelled by the taste. Appetite increases and strength returns very quickly.

The tincture of tartrated iron is better tolerated. It is successful in the menorrhagia of young girls; from forty to sixty drops should be taken before meals.

Treatment with iron ought to be continued, as a rule, from six weeks to two months, in order to produce all its useful effects. All three types of anæmia—the toxic, the infectious, and the hæmorrhagic—should be treated that length of time. In toxic anæmia, such as chlorosis, two essentials precede the prescription of iron—the restoration of the gastric functions by the use of diet and absorbent powders, and the regularization of the bowels. Laxatives should be ordered, to be combined later with iron.

℞ Ferrous carbonate, ... gr. iss;
Aloes, ... gr. ½;
Extract of rhubarb, ... gr. i.
M. et ft. pil. Sig.: Two to be taken before meals.

℞ Iron and potassium tartrate, ... gr. iss;
Pulverized rhubarb, ... gr. i;
Heavy magnesia, ... gr. i;
Extract cinchona, ... gr. iss.
M. et ft. pil. Sig.: Two to be taken before meals.

℞ Iron and potassium tartrate,
Extract of rhubarb, ... āā gr. lxxv;
Extract of gentian,
Extract of nux vomica, ... gr. viii.
M. et ft. pil. No. 6.
Sig.: Two to be taken at meals.

Iron is not of use in all anæmias due to hæmorrhage. Hæmoptysis and hæmatemesis may be started again by giving iron. It is useful after traumatic hæmorrhages, and still more so in metrorrhagia due to anæmia. That of young girls can often be stopped by giving the following in pill form. The iron repairs the loss of blood, the other constituents act as vasoconstrictors:

℞ Ferrous carbonate, ... gr. iss;
Extract [illegible]
Quinine hydrobromide, ... gr. ½;
Extract of belladonna,
M. et ft. pil.
Sig. [illegible] to be taken [illegible]

Local Treatment in Gynæcological Cases.—This is the title of a paper by Dr. John van Doren Young contributed to the *American Journal of Obstetrics* for January, 1911. The routine treatment which he has carried out in private practice and hospital work is thus outlined by him:

The external genitalia are cleansed by a boric acid solution and dried. If an acute inflammatory condition is present the same solution is used upon a cotton swab and the vaginal canal is cleansed. Crude pyroligneous acid is then applied to the external genitalia and the vaginal canal. The speculum is then introduced and the cervix cleansed with boric acid solution and the application of the crude acid up to the internal os. Iodine is then applied to the cervix ulcerations. Where a more active agent is required, carbolic acid and iodine are useful. Pure carbolic acid or an actual cautery may be used. Cysts of the cervix are punctured. Scarification of the cervix may be done for the relief of uterine congestion. Tampons are of actual value and may be divided into alkaline, antiseptic, specific antiseptic, and hygroscopic. In this category, the author says, we have no more valuable drug than ichthyol. He uses ichthyol, 10 to 20 per cent., in glycerin, 10 or 20 per cent. in boroglyceride, or combined with iodine, carbolic acid, boroglyceride and hydrastis; pipe clay, glycerin, and ichthyol, or pipe clay and glycerin alone, making a most serviceable and supporting tampon. The tamponade used by Dr. Young is an application of medication upon absorbent cotton held in place by tampons of lamb's wool. The frequency of treatment should vary with the acuteness of the condition from daily to once a week or less often. Irritant applications must be intermitted if the treatment is frequent, or the vaginal mucosa will be damaged. Applications either by applicators or syringe may be used in the uterine cavity with great advantage. Electricity, faradic, galvanic, or ultraviolet rays are advantageous to the treatment. It is his conviction that all treatment, vaginal or intrauterine, should be carried out with surgical precaution, as it is unpardonable to use a dirty or possibly infected speculum; and the mental effect, even if no surgical harm occurs, is distressing to a sensitive patient. Dilation of the cervical canal with Hank's dilators for the relief of stenosis and dysmenorrhœa or the use of a stem pessary, are easily carried out under careful asepsis in the office; also the replacement of a retroverted uterus which is nonadherent and where other pathological conditions do not exist, may be made in the office, and a properly fitted pessary applied.

Niemeyer's Pill.—The original formula of Felix von Niemeyer's pill, formerly used in combating the fever of phthisis, is given by Robert M. Bolenius in the *Journal of the American Medical Association* for February 11, 1911, as follows.

℞ Pulverized digitalis, ... gr. ss;
Pulverized ipecacuanha,
Pulverized [illegible] ..... gr. i;
Extract of helenium, ... q. s.
M. et fiat pilulam No. 1.
Sig.: One pill three times daily.

One grain of quinine sulphate was added to the above prescription when the type of fever became periodical, and the exacerbations and chills much pronounced.

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NEW YORK, SATURDAY, FEBRUARY [illegible]

THE ACADEMY OF MEDICINE'S BUILDING.

More than a year ago we acquainted our readers with the pressing needs of the New York Academy of Medicine in the matter of space for its rapidly growing library, which in our opinion is by far the most important feature of its activities. The situation had engaged the earnest attention of the officers and prominent members of the academy, and they straightway began to labor seriously with its demands. Many difficulties were encountered, but they were finally solved. The scheme arrived at involved the acquisition of additional land adjoining that on which the present building stands, also extensive construction operations.

As may readily be understood, the plan settled upon called for a large increment of the academy's pecuniary resources. The committee appointed to obtain the necessary funds now announces that through its efforts the sum of $68,585 has been pledged thus far, and the amount of $20,000 has actually been placed in the hands of the treasurer. Fifty-four members of the academy have subscribed $1,000 each, twenty members $500 each, nine members $250 each, and fifteen members various sums amounting in all to $1,435. It is particularly gratifying that two physicians who are not members have subscribed $500 each. This generous response, however, comes from comparatively a few individuals, for the membership of the academy now exceeds 1,330. Those members who have not yet contributed are to be canvassed thoroughly, and it is expected that their contributions will increase the amount pledged to at least $150,000, a sum which will have to be still further increased by appealing to the general public.

The thought is not to be entertained that the committee will be balked in its endeavor to obtain the funds necessary to carry out so noble a purpose as that of enabling the academy to keep pace with the growing demands made upon its library, not only by members, but also by the medical profession at large and even by the community in general. The value of a great medical library cannot be overestimated, as every intelligent person must realize. The library of the New York Academy of Medicine is now one of the great collections of the world. The additions to it are made judiciously, its affairs are economically administered, and its service is efficient and helpful to everybody who resorts to it. Moreover, it is conveniently situated both for residents of New York and for visitors from out of town, for it is near an express subway station and the terminal of the New York Central Railroad and not far distant from the new station of the Pennsylvania Railroad. Yet it is in a quiet and rather scholastic neighborhood, so that the reading room is conducive to the satisfactory consultation of books and periodicals. Surely the medical profession and the people of New York will not allow its work to be crippled, and we are confident that the committee will meet with no serious difficulty in raising the funds now required.

A HYPOTHETICAL QUESTION.

An esteemed Denver correspondent sends us the following extract from the notes of an official stenographer in one of the Colorado courts: "Doctor, assuming that a person has been adjudged insane, this person being the father, and assuming that his father before him was mentally unbalanced or irrational at times; and assuming that the grandson, the son of the father thus adjudged to be insane, would leave his home in stormy or inclement weather, remain away from shelter or food for a period of from one to three days; and assuming that this occurred more than once within a year and a half prior to December 5th, 1910; and assuming that on the evening of that date the person thus mentioned would strike an animal with a hammer, and that the animal would immediately thereafter fall to the ground and that the person thus striking the blow would kick the animal, take his pocket knife and try to stick it, and having a shotgun in his own house go a distance of about a quarter of a mile, obtain a rifle, return while the shotgun was in the house, drive away from fifty to seventy-five head of cattle of various kinds, point the gun in the

direction of the animal, turn his head the other way and fire a shot, then try and stick the animal with his knife, then go a distance of about two miles after night to obtain a butcher knife; and assuming that at the time or times he would be in unsheltered places without food or shelter that his eyes would bulge out, the whites of the eyes showing very prominent, more so than at other times; and assuming that he would go into a house, take a butcher knife from the table without any invitation or request; and assuming that he was seen by two persons a few minutes after the striking of the animal and before the obtaining of the rifle and that his eyes were bulging out in the manner indicated; and assuming that he had driven a herd of cattle, from fifty to seventy-five head, twelve or fifteen times before striking the blow, what would you say as to such a person being rational or irrational at the time of striking the blow or firing the shot?"

PUBLIC DRINKING CUPS AND TOWELS.

With the development of sanitary science the evidence increases that a large proportion of the transmission of infectious diseases is by fairly direct contact, and that aerial infection and infection by fomites are rare. Transmission by means of drinking cups may be peculiarly direct, for with a cup or glass used without efficient rinsing by several persons in succession it is almost certain that some moist secretions will be deposited on the edge of the glass. The public drinking cup is therefore justly regarded as a likely carrier of certain infectious diseases. Chief among these are diphtheria, scarlet fever, amygdalitis, "colds," influenza, and other diseases of the respiratory tract, including possibly the tuberculous. It is well established that syphilis may be thus transmitted.

Some years ago Kinyoun found diphtheria bacilli on a drinking cup on a railroad train, and Williams, of the Health Department of New York, found diphtheria bacilli on pencils moistened by children ill with diphtheria. Interesting in this connection is the finding of virulent diphtheria bacilli in the throats of healthy persons. Von Sholly, in 1905, examined 1,000 throats of persons who had not knowingly been in contact with diphtheria, and found true diphtheria bacilli in one half of one per cent. of the cases. Pennington, in 1907, found virulent diphtheria bacilli in nearly five per cent. of a large number of apparently healthy school children in Philadelphia. The average of a large number of such investigations shows that nearly one per cent. of healthy persons harbor true diphtheria bacilli on their mucous membranes. In the case of diphtheria convalescents the figure will be still higher.

Tubercle bacilli have been found on a drinking glass used in school (Davison), in the dregs from communion cups (Anders, Möller), and in the dishwater from a sanatorium (Price). Neild and Dunkley found tubercle bacilli in saliva from the tip of the tongue in ten out of fifty cases of pulmonary tuberculosis. Park found them in the saliva in ten out of fifteen cases. In syphilis, as is well known, exceedingly infectious lesions are frequently found in the mouth at a certain stage of the disease, and mediate infection by all sorts of articles infected with syphilitic saliva has been observed. Among various bearers of such infection reported by Bulkley cups, glasses, and spoons take a prominent part.

There are two efficient substitutes for the public drinking cup, namely, individual paper cups, which are used only once, and drinking fountains. The use of both of these should be regulated by the public health authorities so that the evils attaching to the public drinking cup will be abolished. In particular it is important that drinking fountains be so constructed that the lips of the drinker cannot come into contact with the fountain itself, especially with the spout. Some sanitary authorities regard a continuous flow of water as essential, but this is unnecessary. In general it is advisable to have the flow of water turned on and off by a pedal so arranged that as the drinker stands in front of the fountain the water will flow.

Practically all that has been said in condemnation of the public drinking cup applies to that other abomination, the public towel. In fact it is an open question whether the common towel is not the greater evil. The remedy, however, is not, as some railway officials apparently believe, to supply no towels at all, but to supply individual towels, either of paper or, where circumstances permit, of cotton or linen. We hope the day is not far distant when the use of public drinking cups and public towels will be prohibited by law.

THE DIAGNOSTIC VALUE OF GASTRIC PAIN.

In spite of recent advances made in exploration of the stomach, the study of gastric pain still remains of great semeiological importance. Le Noir, in an interesting paper on the subject (*Journal de médecine interne*, April 20, 1910), points out that the great and varying difference in the intensity of gastric pain as described by patients is not always due to the mental condition of the patient. Much reserve in the diagnosis is to be entertained in those

instances where an exaggerated description of gastric pain is given, which should lead one to suspect a neuropathic condition. However, it should be recalled that carcinoma frequently gives rise only to indefinite sensations.

Pain which occurs in more or less prolonged paroxysms, with intervals of perfect digestion, is rarely of gastric origin, except in a few instances of ulcer, and may be one of the crises of locomotor ataxia. The same applies to permanent pain, without remission or exacerbation after meals, which should cause one to suspect some affection of the nervous system. Patients are prone to indicate a region rather than a distinct point of pain; in the latter case it is more often the epigastric point, and the degree of sensitiveness should be carefully searched for.

Too much must not be expected from the study of gastric pain, but it must be admitted that it distinctly indicates the road to a diagnosis, even when it does not permit of making it complete, and it does allow one to distinguish, in the first place, whether the stomach is really the seat of the trouble and not the nervous system, and then whether or not the stomach is secondarily involved, as in biliary lithiasis, for example, and, lastly, the true nature of the gastric lesion when one exists.

MODIFIED INFLUENZA?

It seems to be generally recognized that "grippy colds" have been unduly prevalent in New York during the past few weeks. The most common form of the infection is that of a severe cold in the head, marked by rather profuse mucopurulent secretion, a little fever, chilly sensations, and marked prostration. The laity, and to a large extent also the medical profession, speak of these infections as cases of grippe, and this raises the old question as to just what shall be called grippe. It is well established that cases clinically identical with the cases of influenza seen in the late eighties and early nineties fail to show any influenza bacilli. The pneumococcus, on the other hand, often seems to be the causative agent. Moreover, cases in which influenza bacilli are found in the nasal and bronchial secretion do not always show the symptoms characteristic of what we term grippe. At the present time, to be sure, it really is quite immaterial whether we identify these cases bacteriologically, for, whether caused by the influenza bacillus, by the pneumococcus, or by still other bacteria, no successful specific treatment has yet been devised. If only an Ehrlich would devise a specific bactericidal substance that would effectively deal with all these bacterial infections at once!

A NOTABLE ITALIAN JOURNAL,

The twenty-seventh anniversary of the founding of a prominent Italian weekly publication, *La Riforma medica,* was marked by the issue of a special number (January 2d and 9th) which deserves notice as a tribute to the work of Professor Gaetano Rummo, the founder and director of that journal. The volume opens with a brief history of the publication and a biography of Professor Rummo. Among the contributors to this anniversary number are several foreign authors, such as Baginsky, Bouchard, Hutinel, Lépine, von Noorden, Reclus, and Teissier, who joined their Italian colleagues in honoring the editor. We offer our congratulations to the distinguished clinician who has so indefatigably labored for twenty-seven years to make *La Riforma medica* one of the most valuable weekly medical periodicals published in any language. The journal is a credit to Italian medicine and to the man who founded it and who has given the best part of his life to its service.

GONORRHŒAL VACCINES AND SERA.

In a paper read at the meeting of the Association of Genitourinary Surgeons in May, 1910, O'Neil has carefully studied the recent literature of gonorrhœal vaccines and sera. In a general way it may be said that a stock vaccine made from a good strain is quite as efficient in gonorrhœal injection as the autogenous and is to be preferred in joint injections. The preparation of an autogenous vaccine requires both time and skill, and in a chronic case it is often a difficult matter to obtain enough material to make a good one. An opsonic index estimate of the amount and frequency of the dose is unnecessary, and the results are quite as good when simply regulated by the clinical phenomena and reaction.

Neither stock nor autogenous vaccines are of any use in the treatment of acute or chronic urethral gonorrhœa, and the discharge is not influenced in any evident manner. Some observers have thought that quicker results were obtained when the vaccine was used as an adjunct, particularly in the stage of decline, but these impressions are not borne out by the larger series of cases. The same statement also applies to antigonococcus serum in urethritis.

Some apparently favorable results are reported in epididymitis from the use of vaccines or sera, but, as the ordinary therapeutic measures were used as well, it is difficult to estimate how much of a part the former played. There is very little evidence to show that vaccines are of any benefit in gonorrhœal prostatitis and cystitis. Therefore, vaccine therapy is, on the whole, of very doubtful

benefit in local complications of gonorrhœa. Better results are derived from antigonococcus serum, and Swinburn gave relief from pain and effected a large percentage of complete recoveries in twenty-seven cases of epididymitis. The experience of Rosenthal is also gratifying in this respect.

The relief of symptoms, particularly pain, in gonorrhœal joint infections is often prompt when vaccines or antigonococcus serum are employed, and when combined with other forms of tretment the practice may be regarded as a distinct advance in therapeutics. From a study of fifty-one cases, Hartwell believes that an autogenous vaccine is to be preferred and that gonorrhœal vaccines are valuable agents in all stages of arthritis, except when ankylosis or other marked joint changes have taken place. Painter has found the vaccines to be more efficacious in the early cases and the serum in the later ones, but both should be regarded as adjuncts to the treatment ordinarily employed.



EDWARD GAMALIEL JANEWAY, M.D., LL.D.

Of considerable interest is the value of the gonococcal reaction in diagnosis. Irons found that no reaction took place in eight nongonorrhœal patients, even when large doses were employed, and that some suspected cases showed reaction. Others have noted the reaction not only in joints, but in other gonorrhœal lesions, so that if this is at all constant it will prove of distinct value and should be further investigated.

THE LATE DR. PIFFARD.

On November 22d Dr. George Henry Fox read before the New York Dermatological Society a memorial sketch of the late Dr. Henry G. Piffard, which is now published in the February number of the *Journal of Cutaneous Diseases*. The sketch is exceptionally felicitous in its portrayal of Dr. Piffard's personal characteristics, including his eccentricities. It well depicts, too, the warm regard in which its subject was held by all his acquaintances, and it will certainly be read with great interest by everybody who knew Dr. Piffard, no matter how slightly. He was of a type rarely encountered in real life.

Obituary.

EDWARD GAMALIEL JANEWAY, M.D., LL.D., of New York.

Dr. Janeway died in Summit, N. J., on Friday, February 10th, in the seventieth year of his age. He was a native of New Jersey, and in that State he obtained his preliminary education. He took his medical degree from the College of Physicians and Surgeons, New York, in 1864. He saw some service in a professional capacity in the civil war, both before and after his graduation, and then settled in practice in New York. The early part of his career was marked by his phenomenal assiduity as a pathologist, but it was not long before he achieved distinction as a practitioner, especially in the domain of diagnosis. It is our belief—a belief shared by the great mass of the profession — that there never lived his superior as a diagnostician, and his diagnoses were arrived at so promptly that there were not lacking those who were ready to say that he reached them intuitively. He was a hospital physician and a teacher in the medical schools for practically the whole period of his activity in medicine, and his time was ever at the disposal of sanitary officials who consulted him. In all these capacities he showed the wisdom that does not always go with great attainments. He was not prominent in society proceedings and he seldom contributed to medical literature, but when his voice was raised it was invariably potent. He was not given to the humorous, but his conversation was always animated and attractive. Rarely has the medical profession of New York met with such a serious loss as in his death.

News Items.

Changes of Address.—Dr. Wilson E. Driver, to the Tazewell Building, Granby Street and Brooke Avenue, Norfolk, Va.

The New Presbyterian Hospital in New Orleans was [illegible] nies.

Raybrook Hospital Enlarged.—Two new wards were opened recently at the State Hospital for Incipient Tuberculosis at Raybrook, N. Y., thus increasing the capacity [illegible]

The National Association for the Study and Prevention of Tuberculosis will hold its seventh annual meeting in Denver, Colo., on June 20th and 21st, under the presidency of Dr. William H. Welch, of Baltimore.

Personal.—Dr. Owen Copp, of Boston, for twelve years executive officer of the Massachusetts State Board of Insanity, has resigned, and will go to Philadelphia in the near future to take charge of the Pennsylvania State Hospital for the Insane.

The Triprofessional Medical Society of New York will hold its forty-first stated metting at the Hotel Astor on Tuesday evening, February 21st, at 8:30 o'clock. Dr. Ross McPherson will read a paper entitled The Treatment of Abortion, which will be discussed by Dr. I. L. Hill, Dr. Walter Dannreuther, Dr. Edward L. Keyes, Dr. G. K. Dickinson, and Dr. Gushee. The Obliteration of the Craving for Narcotics is the title of a paper which will be read by Dr. Charles A. Rosenwasser, and discussed by Dr. A. A. Brill and Dr. Israel Strauss.

The Newark, N. J., Medical League.—The annual ban[illegible] was held on the evening of January 26th, one hundred and sixteen physicians being present. Dr. William J. Robinson, of New York, read a paper entitled The Improvement of the Human Race, which was discussed by Dr. E. J. Ill, Dr. S. E. Robinson, Dr. T. N. Gray, Dr. W. H. Hicks, and Dr. D. E. English. The following officers were elected to serve for the ensuing year: President, Dr. Louis Weiss; vice-president, Dr. Edwin Steiner; treasurer, Dr. Louis S. Davidson; secretary, Dr. [illegible]

The Physicians' Motor Club of Philadelphia.—The annual meeting of this organization was held on Tuesday evening, January 17th, and officers for the ensuing year were elected as follows: President, Dr. S. Leon Gans; first vice-president, Dr. L. Webster Fox; second vice-president, Dr. John J. Robrecht; third vice-president, Dr. Richard C. Norris; secretary, Dr. J. Gurney Taylor; treasurer, Dr. Lewis H. Adler, Jr. This club was organized on August 1, 1909, and it now has one hundred and fifty-nine members. The first official meeting was held on November 22, 1909, and the first annual meeting of the club was held on Jan[illegible]

An Undergraduate Surgical Association has been organized by the third and fourth year students of the University College of Medicine of Richmond, Va., according to a plan adopted a few years ago by the University of Pennsylvania. The association meets every Thursday evening at eight o'clock, and the meetings are largely attended both by the students and members of the faculty. On Thursday, February 16th, the subject discussed was Surgical Complications of Typhoid Fever. The officers for the first year are: President, W. M. Burnet; vice-president, O. L. Hamilton; secretary and treasurer, C. I. Allen. The [illegible] president for subjects consists of R. R. Goad, chairman; W. B. Porter, and [illegible]

The New York State Hospital for Crippled and Deformed Children.—Dr. Newton M. Shaffer, who recently resigned as surgeon in chief and superintendent of the New York State Hospital for the Care of Crippled and Deformed Children, at West Haverstraw, N. Y., is retaining his interest in the work of the institution by acting as chairman of the Executive Committee of the Board of Managers. Dr. Shaffer believed that in this capacity he could best further the interests of the institution, which he founded more than ten years ago, and after mature deliberation he sent in his resignation as superintendent and surgeon in chief. He is still taking an active interest in the work, visiting the institution every week, and gen[illegible]

The American Society of Sanitary and Moral Prophylaxis will hold a regular meeting in the New York Academy of Medicine on Thursday evening, February 23d. The subject for discussion will be Departmental Control of Venereal Diseases. Papers will be read as follows: Venereal Diseases Should be Reported, by Dr. Frederick H. Gerrish, of Portland, Me.; Obligatory Notification of Ophthalmia Neonatorum, by Dr. Lucien Howe, of Buffalo; The Legal Aspect of the Question, by William A. Purrington, Esq. Among those who will participate in the discussion are Dr. William M. Polk, Dr. Abraham Jacobi, Dr. James Warbasse, and Dr. James J. Walsh. As the subject is of great interest to the medical profession as well as to the general public, it is hoped that there will be a large attendance.

The Long Island Medical Society held its eighteenth annual dinner at the Clarendon Hotel, Brooklyn, on the evening of February 7th. Dr. John Osborne Polak, of Brooklyn, recently appointed professor of gynæcology and obstetrics in the Long Island Medical College, succeeding the late Dr. Charles Jewett, was the guest of honor. Dr. Lefferts A. McClelland, president of the society, was toastmaster, and among those who spoke were Dr. W. F. Campbell, Professor Erastus Palmer, of the College of the City of New York, the Rev. Dr. F. W. Loetscher, of Princeton Theological Seminary, and Dr. W. J. Cruikshank. The dinner committee was composed of Dr. Robert E. Coughlin, Dr. Frederick E. Holden, and Dr. John R. Stivers. The officers of the society are: President, Dr. L. A. McClelland; vice-president, Dr. C. E. Lack; secretary, Dr. C. E. Scofield; treasurer, Dr. T. C. Guenther.

The New York Psychoanalytic Society was organized at a meeting held on February 12, 1911, at the residence of Dr. A. A. Brill. The following officers were elected: President, Dr. A. A. Brill, 97 Central Park West, New York; vice-president, Dr. B. Onuf, Knickerbocker Hall, Amityville, L. I.; secretary and treasurer, Dr. H. W. Frink, 34 West Eighty-third Street, New York; Committee on Constitution, Dr. Farnell, Dr. Onuf, and Dr. Poate; Committee on Science, Dr. Karpas, Dr. Ricksher, and Dr. Scripture. The aim of the society is the study and advancement of psychoanalysis in its application to nervous and mental disease. Meetings are to be held on the fourth Tuesday of each month. The society will be incorporated and is to become affiliated with the parent organization in Zurich.

The Prevention of Insanity.—Four hundred thousand copies of a pamphlet entitled Why Should Any One Go Insane? have beeen issued by the Committee on Mental Hygiene of the New York State Charities Aid Association. This pamphlet, which was prepared by Mr. Homer Folks, secretary of the State Charities Aid Association, and Mr. Everett S. Elwood, assistant secretary of the Committee on Mental Hygiene, has been endorsed by eight eminent specialists in nervous and mental diseases in New York. It deals with the extent, cost, cause, curability, and prevention of insanity. It has been printed in several languages, and is being distributed broadcast by physicians, health officers, ministers, labor unions, and in fact, every individual or organization interested in the educational movement against the causes of insanity. Ex-Ambassador Joseph H. Choate, president of the State Charities Aid Association, says that to eliminate preventable insanity would save the State $3,000,000.

The National Confederation of State Medical Examining and Licensing Boards will hold its twenty-first annual convention on Tuesday, February 28th, at the Congress Hotel, Chicago. The annual presidential address will be delivered by Dr. Joseph C. Guernsey, of Philadelphia, his subject being Medical Licensure. The principal feature of the programme will be a "symposium" on the State Control of Medical Colleges. The men whose names are listed on the programme, either to read a paper or to take part in the discussions, have had wide experience in the field of educational work and are well qualified to write and speak with authority on matters pertaining to medical education, curricula, examinations, etc. The present officers of the confederation are: President, Dr. Joseph C. Guernsey, of Philadelphia; vice-presidents, Dr. James A. Egan, of Springfield, Ill., and Dr. Charles A. Tuttle, of New Haven, Conn.; secretary and treasurer, Dr. George H. Matson, of Columbus, Ohio.

Medical Association of the Greater City of New York.—A stated meeting of the association will be held in the Bard Hall, New York Academy of Medicine, on Monday evening, February 20th, a 8:30 o'clock. The programme will include the following papers: Acute Dilatation of the Stomach Following Surgical Operations, by Dr. Edward Wallace Lee; Posture as an Aid in the Diagnosis and Treatment of Certain Medical Conditions, by Dr. Henry W. Berg; Posture in Surgery, by Dr. Alexander B. Johnson; Posture in Obstetrics, by Dr. G. L. Brodhead; Posture in Gynæcology, by Dr. Henry C. Coe.

An Antispitting Crusade in New York.—Commissioner Lederle has recently undertaken, through the sanitary officers of the Department of Health, a special crusade against the spitting nuisance, following the receipt of numerous complaints to the effect that conditions on elevated railroad stations and stairways had again become bad. The department has been exercising particular supervision over such conditions in the subways, at the various elevated stations, and on the bridges, and from January 1st to February 8th, 160 arrests have been made, 60 of which have taken place during the first week in February. Of the 100 arrests made in January, 54 were fined, 10 were discharged, and sentences were suspended in 36 cases. Of the 60 arrested during the first week in February, 40 were fined, 4 [illegible] and 16 had their sentences suspended.

Infectious Diseases in New York:

[illegible] *partment of Health for the following statement of new cases and deaths reported for the two weeks ending Feb-*

	559	152	553	166
	325	27	299	32
	309	15	347	13
	479	19	522	16
Smallpox	**	**	**	**

Vital Statistics of New York.—During the week ending January 21, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,515, corresponding to an annual death rate of 15.86 in a thousand of population, as compared with a rate of 17.45 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 16.99; the Bronx, 15.11; Brooklyn, 14.27; Queens, 14.62; Richmond, 24.47. There were 128 stillbirths. The deaths of children under five years of age numbered 384, of whom 259 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 34; over five years of age, 36. There were 161 [illegible] 99 from bronchopneumonia, 127 from Bright's disease, 164 from organic heart diseases, and 82 from congenital debility and malformations. There were 13 deaths from suicide, [illegible] dred and seventy-six marriages and 2,529 births were recorded during the week.

To Regulate the Sale of Preparations Containing Narcotic Drugs.—At a meeting held on February 7th, the New York Board of Health adopted a resolution amending Section 182 of the Sanitary Code relating to the sale of preparations containing cocaine, morphine, and similar drugs. The ordinance reads as follows:

[illegible]

test of cocaine; and no opium or official preparation of opium, and no morphine or salts of morphine, other derivatives of either or any of them, shall be sold at retail by any person in the City of New York except upon the written prescription of a physician, duly

[illegible] law to practice medicine and administer drugs, or perform surgery with the use of instruments. Any such prescription shall not be refilled.

[illegible] pounded mixtures containing opium or morphine or their derivatives, the formulas for which are given in the latest Dispensatory or National Formulary, in which said mixtures the maximum dose, as

[illegible] equivalent of its alkaloids; or to preparations for external use only.

The last mentioned preparations shall be labeled "For external [illegible]

The University of Pennsylvania.—At a meeting of the board of trustees, held on Tuesday, February 7th, Dr. John B. Deaver was elected to the chair of clinical surgery, to fill the vacancy caused by the election of Dr. Edward Martin to the Barton professorship of surgery. Dr. M. B. Hartzell, associate professor of dermatology, was elected to the chair of dermatology, which was made vacant by the election of Dr. Louis A. Duhring as emeritus professor of dermatology. Dr. Dunlap J. McAdam was voted a Harrison fellowship for research in chemistry or the second school term. Three trustees were appointed, as follows: Dr. J. William White, Attorney General Bell, and Morris L. Clothier.

The Health of Philadelphia.—During the week ending January 21, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Typhoid fever, 19 cases, 7 deaths; scarlet fever, 41 cases, 8 deaths; smallpox, 2 cases, 0 deaths; chickenpox, 45 cases, 0 deaths; diphtheria, 96 cases, 9 deaths; measles, 440 cases, 17 deaths; whooping cough, 11 cases, 2 deaths; pulmonary tuberculosis, 123 cases, 52 deaths; pneumonia, 59 cases, 80 deaths; puerperal fever, 0 cases, 3 deaths; erysipelas, 24 cases, 1 death; mumps, 27 cases, 0 deaths; pellagra, 2 cases, 0 deaths. There were 3 deaths from tuberculosis other than that of the lungs, and 9 from diarrhœal diseases under two years of age. There were 43 stillbirths; 28 males and 15 females. The deaths from all causes numbered 561, in an estimated population of 1,573,509, corresponding to an annual death rate of 18.54 in a thousand of population.

The Health of Chicago.—During the week ending February 4, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 16 cases, 3 deaths; measles, 98 cases, 2 deaths; whooping cough, 9 cases, 0 deaths; scarlet fever, 189 cases, 6 deaths; diphtheria, 180 cases, 28 deaths; chickenpox, 45 cases, 0 deaths; tuberculosis, 130 cases, 73 deaths; pneumonia, 40 cases, 135 deaths. There were 2 cases of influenza, 2 cases of German measles, 1 case of cerebrospinal meningitis, and 67 of contagious diseases of minor importance reported, making the total 781 cases, as compared with 1,131 for the preceding week and 890 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 33, and there were 40 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 170, of whom 122 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 650, corresponding to an annual death rate of 15.2 in a thousand of population as compared with a rate of 17.5 for the preceding week, and a rate of 14.4 for the corresponding period last year.

Society Meetings for the Coming Week:

MONDAY, *February 20th.*—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Hartford, Conn., Medical Society; Medical Society of the County of Erie, N. Y.; Elmira, N. Y., Clinical Society.

[illegible] New York Academy of Medicine (Section in Medicine); Buffalo Academy of Medicine (Section in Pathology); Triprofessional Medical Society of New York; Medical Society of the County of Kings, N. Y.; Psychiatric Society of Ward's Island; Binghamton, N. Y., Academy of Medicine; Syracuse, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Oswego, N. Y., Academy of Medicine; Clinical Society of the Elizabeth, N. J., General Hospital.

WEDNESDAY, *February 22d.*—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society; The Medical Union, Buffalo.

[illegible] New York Academy of Medicine (Section in Obstetrics and Gynæcology); Hospital Graduates' Club, New York; New York Celtic Medical Society; East Side Physicians' Association of New York; Bronx Medical Association, New York; Brooklyn Society for Neurology.

[illegible] New York; Society of New York German Physicians; New York Clinical Society (annual); Manhattan Medical Society; Hospital Graduates' Club, Brooklyn.

[illegible] New York Medical [illegible] Medical Society; Lenox Medical Society.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL

February 2, 1911.

1. Sporotrichosis in Man and in the Horse, By Richard L. Sutten.
2. The Special Relation of Modern Medicine to the Health of Women, By Agnes C. Vietor.
3. Overgrowth of the Epiphysis of the Lower End of the Femur with an Obliteration of the Epiphyseal Line, By James Warren Sever.
4. Breast Abscess during Pregnancy with Report of a Case, By John T. Williams.

2. The Health of Women.—Vietor observes that modern medicine finds two great causes for the weakness of women: 1. Structural defects in their framework; leading to weakness and inefficiency, to the development of internal weaknesses and dislocations and to a lowering of resistance to infection; defects in their mental training, leading to lack of balance in mental equilibrium and control, this in turn favoring the development of physical weakness and inefficiency. 2. Infection, especially venereal infection. As to the remedy, Vietor states that a curious unity runs through the development of all these sources of weakness, inefficiency, disease, and death. They can all be traced to the application of unwritten laws founded on incorrect impressions, false inferences, and erroneous conclusions. The remedy is, therefore, largely a matter of education. This the author only outlines. Taking first the matter of venereal infection. Men must be taught the necessity of avoiding infection; women must be taught the necessity of protecting themselves from infection; boys and girls must be taught sex hygiene, to the end of eliminating the fountain head of infection. Taking then the matter of development of the body and the mind, we must all realize that it is wrong to educate the growing girl child's body and mind according to some fancied "feminine" standard; that the ground plan of the body and mind of both the girl and the boy are human in model; that the existence of common muscles and common mental faculties, and their similar response to common stimuli and laws, are indications for common lines of exercise and cultivation; that sex characteristics are secondary and subsidiary to generic characteristics; that sex specialization normally follows upon the establishment of generic growth; and that the individual must be conserved if the race is to be preserved.

4. Breast Abscess during Pregnancy.—Williams says that 5.5 per cent. of all breast abscesses occur during pregnancy. Organisms are present on the nipples in one hundred per cent. and in the milk ducts in eighty-six per cent. of all pregnant women. When their growth is predisposed to by engorgement or the resistance of the breast tissues is lowered by injury or the organisms present are of unusual virulence, they attack the tissues and produce inflammation. The prophylaxis of breast abscess during pregnancy consists in: Absolute cleanliness of the nipple, and the prompt treatment of mastitis by bandage, ice, and saline catharsis.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

February 11, 1911.

1. Surgical Diseases of the Umbilicus, By Thomas S. Cullen,
2. Physiological Implantation of the Severed Ureter or Common Bile Duct Into the Intestine, By R. C. Coffey.
3. Carcinoma of the Cæcum, By Jacob Frank.
4. A Home Made Electric Centrifuge, By A. S. Brumbaugh.
5. Syphilis in Children, By Louis Fischer.
6. Life and Health as National Assets, By F. F. Wesbrook.
7. Picric Acid and Its Surgical Applications, By Albert Ehrenfried.
8. Colitis, By George D. Kahlo.
9. Case of Extensive Leuchæmic Infiltration of the Mammary Glands and Skin; By Christian Dencker.
10. A New Stain for Bacterial Capsules with Special Reference to Pneumococci, By E. C. Rosenow.
11. A Probable Case of Anaphylaxis, By Alonzo Englebert Taylor.
12. A Case of Air Embolus Occurring during Operation under Air Inflation Urethroscopy; By Ernest G. Mark.
13. Cause and Treatment of Defective Mutation of the Voice. By E. B. Scripture.

1. Surgical Diseases of the Umbilicus.—Cullen reviews the literature of surgical diseases of the umbilicus, taking in consideration the pathological pictures due to partial or total lack of closure of the omphalomesenteric duct and to primary and secondary cancer of the umbilicus. He thus speaks of adenoma of the umbilicus, funnel shaped umbilicus, cystic cavities in the abdominal wall at the umbilicus, Meckel's diverticulum, intestinal cysts, patent omphalomesenteric duct, prolapsus and invagination of the small bowel through the omphalomesenteric duct, origin of adenoma of the umbilicus. These are the nonmalignant abnormalities of the umbilicus, while under the head of malignant growths of the umbilicus he mentions primary squamous cell carcinoma, primary adenocarcinoma, carcinoma, secondary carcinoma.

2 Bile Duct Transplantation.—Coffey states that after going over all the literature which has been written, he has found that the patients who have had the ureters transplanted by direct methods have shown fifty-five per cent. mortality. Dogs operated on by the same method have shown a mortality varying from sixty-six per cent. to one hundred per cent. The former usually represents immediate operative mortality. A large percentage of this mortality both in patients and in dogs, has been due to ascending infection. The mortality is very much greater in dogs than in human beings and some who have investigated the subject are of the opinion that all animals in which the ureter has been transplanted are sooner or later attacked with ascending infection and other complications. His experiments with the direct implantation are in exact accord with all those who have preceded. The experience with physiological implantation is much better. Ascending infection seems to be nearly eliminated as a danger, and if the physiological method should prove to be as much better than the direct method in patients as it has in dogs it seems safe to assume that the mortality in the human being should be reduced to a point which would make the operation justifiable and would

thereby save the lives of many patients suffering from carcinoma of the bladder who now die for want of proper methods of dealing with the ureter.

5. Salvarsan in Syphilis of Children.—Fischer regards these cases of syphilis in children treated with salvarsan. 1. A boy having syphilitic lesions in the knee joint, with infiltration, swelling, and pain on extension or flexion of joint. He had been castrated for gumma of the left testicle several years ago. 2. A child with congenital syphilis having lesions (a gumma and condylomata) on the vulva and around the anus. 3. A girl with congenital syphilis, showing all evidence of malnutrition, having an enormous spleen, palpable two fingers below the umbilicus, swollen glands in various parts of the body, a very large liver and uterus. In each case the treatment was preceded by a positive Wassermann or Noguchi reaction. In one case there was also a positive tuberculin reaction. The first patient was greatly relieved within forty-eight hours. The injection given was of 0.3 gm. salvarsan in the left buttock and was not followed by local reaction. In the second case, the lesions began to disappear within twenty-four hours, but the local symptoms were more severe and a neuritis and paresis, most marked on the left side, suddenly appeared, followed by trophic symptoms which had been only slightly improved by treatment of one month. The prognosis was dubious. In both cases there was a decided leucocytosis. The third patient had been treated for syphilis for two years. The glands, liver, and spleen were not greatly reduced after the injection, though the patient was otherwise improved. Fischer concludes: "From a study of the foregoing experience the following deductions are justified: First, the toxicity may be due to a supersensitive body, possibly an idiosyncrasy. Second, the dose of the drug (0.3 gramme) is too large for children, and hereafter I shall advise no more than 0.1 gramme of the Ehrlich-Hata preparation, the dose not to be repeated for at least several weeks, or until we are justified in assuming that there are no systemic symptoms associated with the first dose. From my present experience I would strongly advise against the injection of ambulant patients, but would require the injection to be given either in the hospital or in a sanatorium, where proper medical supervision and competent nurses can supervise details, and note toxic symptoms as early as possible."

7. Picric Acid in Burns.—Ehrenfried remarks that the saturated aqueous solution of picric acid is incontestably superior to any other antiseptic surgical dressing at our disposal for the treatment of superficial wounds and lesions in which the rete Malpighii of the skin is not completely destroyed—particularly in first and second degree burns. It is cheap and simple in application and induces rapid regeneration of the skin without pain or irritation. Deeper lesions may be made to heal by the formation of a smooth, level, nonsecreting granulating surface, over which dermatization will proceed rapidly, or which will serve as an ideal base for the reception of Reverdin or Thiersch grafts. . The mild toxic symptoms which have been reported as occasionally occurring will never be seen if reasonable care is exercised.

MEDICAL RECORD

1. Address of the Retiring President of the New York Academy of Medicine, By John V. Wyeth
2. Inaugural Address of the President of the New York Academy of Medicine, By William Mecklenburg Polk
3. Transfusion of Blood in Three Cases of Pernicious Anæmia, By David Bovaird, Jr.
4. Direct Inspection of the Rectum and Sigmoid Colon, By Edwin Beer.
5. Infantile [illegible] View of Eliciting the Cure, Prevention, Suppression, and Final Eradication, By De Lancy Carter.
6. Is Sterilization of the Habitual Criminal Justifiable? By [illegible]
7. Asphyxia of the Newborn Relieved by Placental Aeration, By M. H. Freund.
8. Appendectomy with Cocaine Analgesia: Report of Seven Cases, By Charles R. Hancock.

3. Transfusion of Blood in Three Cases of Pernicious Anæmia.—Bovaird reports three transfusions of blood in pernicious anæmia. The transfusion after union of the vessels occupies an hour or more, as a rule. During that time the appearance of deathlike pallor which these patients present changes to that of comparative health. The color first reappears in the cheeks and tongue and then mounts into the lips, the conjunctivæ, and the skin generally. The hæmoglobin can easily be followed, and in Dare's or Fleischl's instrument shows a steadily increasing percentage. In Bovaird's two favorable cases this amounted to an increase of three or four times the original percentage. There is a corresponding change in the patient's mental condition and vitality, which seems, in patients so near to death, almost miraculous. This was strikingly true in the first case. In both his favorable cases the transfusion introduced a period of improvement which in the first case has now lasted nine months, in the third, two. The hæmoglobin and the number of red cells have increased steadily until eighty per cent. and more has been attained. The general vigor and well being have been correspondingly improved. The relapse and recovery oberved in the first patient show clearly that equally remarkable improvement may be observed without transfusion, yet when the hæmoglobin falls below twenty per cent. and the patient becomes comatose waiting for natural recovery regularly proves vain. How long the improvement, Bovaird concludes, secured in his two patients will continue no one can say. The disease is, of course, not cured, and relapse with its usual outcome is to be expected. His experience seems to indicate that as a last resort transfusion in pernicious anæmia offers the possibility not only of averting death, but for a time at least restoring the patient to comparative health and comfort and initiating one of the periods of quiescence so characteristic of the disease. Transfusion in this condition is fraught with perils of its own, first, from immediate hæmolysis of the new blood, secondly from the effect of the new serum such as occurred in two of his patients, an effect apparently in the nature of an anaphylactic reaction. The first danger can be avoided by careful preliminary studies of the two bloods, the safety of the red cells of both patient and donor being assured by testing them in the serum, each in that of the other. Whether a patient can be guarded against the pos-

sibility of a serum reaction by preliminary testing of his susceptibility to a small quantity, as may be done with diphtheria or other antitoxic sera, is a question for future experience.

5. **Inebriety.**—Carter regards every inebriate as an insane man who should be restrained in order to be cured and should be placed in a suitable hospital, with every resource for cure, until his self respect is restored and he is physically and mentally able to stand alone. He should not be treated as a criminal and punished for what he cannot help. Moral treatment has failed to cure the drunkard. Measures should be international. The patient must be where control and restraint are possible with physical restoration. Opportunities for physical labor in hygienic surroundings should be provided.

6. **Sterilization of the Habitual Criminal.**—Nammack concludes that if the operation for sterilization is ever to command general approval, it must be voluntary on the part of the person undergoing it, and not compulsory. The idea of sterilization as punishment is not only barbarous, but degrading, and unlikely to have any beneficial effect, as it would return the victim to society with all his antisocial instincts aroused and thirsting only for vengeance.

7. **Asphyxia of the Newborn Relieved by Placental Aeration.**—Freund reports a case of asphyxia of the newborn infant relieved by placental aeration. The child on birth was asphyxiated, skin livid, heart beating visibly, and pulsations in the cord distinctly palpable. There was no effort at normal respiration. The placenta was at once manually loosened and delivered. The child was placed in a basin of warm water, the placenta being held, maternal surface upward, exposed to the air, and washed with warm water to free it of blood clots. After a few minutes the child, though making no attempts at respiration, improved in color, as did the pulsation in the cord in quality and quantity. Thus during thirty-five minutes respiration through the exposed maternal surface of the placenta continued uninterrupted; the pulsations of the cord during this period of time were good, but decreased in number and were of decidedly worse quality as soon as the maternal surface of the placenta was placed on the table. Whenever the child showed signs of cyanosis the turning of a stream of oxygen on to the maternal surface of the placenta brought about immediate recovery of color, and the pulse improved in quality. The cord was tied and cut; the child cried lustily and has since behaved like normally born children. Mother and child are perfectly well.

BRITISH MEDICAL JOURNAL

January 28, 1911

1. The History of Yellow Fever in West Africa, By Sir Rubert Boyce.
2. Puerperal Eclampsia: A Comparison with Venom Poisoning and a Suggestion for Treatment Following Theorell, By H. Leith Murray.
3. Scopolamine-Morphine Anæsthesia in Labor, By J. R. Freeland and Bethel A. H. Solomons
4. Cæsarean Section for Dystocia Due to Ventrifixation of the Uterus, By Amand Routh.
5. Absence of the Falloppian Tubes and of Menstruation, Associated with Recurrent Peritonitis, By W. G. Spencer.
6. Case of Prolapse of the Inverted Uterus during Labor, By Alfred S. Hendrie.
7. The Treatment of Rectal Cancer, By Harrison Cripps.
8. A Note on the Treatment of Rheumatoid Arthritis by Vaccines, By Gilbert A. Buckmyne and James Lindsay.
9. The Proposed Coroners Bill, By Joseph Griffiths
10. The Pitfalls of "Mental Tests." By Charles S. Myers.

1. **Yellow Fever in Africa.**—Sir Rubert Boyce gives a review of the history of yellow fever in Africa. It is a carefully prepared paper, divided in ten subheads, each followed by a bibliography. In this present issue the first three parts are treated, that is general review and history of yellow fever in Sierra Leone and Southern Nigeria.

3. **Scopolamine-Morphine Anæsthesia in Labor.**—Freeland and Solomons report their experience with scopolamine-morphine anæsthesia in one hundred primiparæ. The results were as follows: Ten women exhibited complete analgesia, having no knowledge of pain even when the child was born. In fifty-seven cases there was a marked effect; sleep between and often during the pains, with great decrease in suffering. In twenty cases the effect was fairly good as regards relieving the pain to a certain extent, but the patients did not sleep at all. In thirteen cases there was no effect whatever. In four of these the drug was lost because of rapid vomiting. Eight received too small a dose; in none of them was it repeated. One patient, after two doses by mouth and one hypodermic injection of 1/120 grain, 1/180 grain, and 1/180 grain respectively, showed no result. They began with a dose of scopolamine hydrobromide, 1/500 grain, and morphine sulphate, one quarter grain. After trying various amounts they fixed on scopolamine, 1/120 grain, and morphine, one sixth grain, as a safe and efficient dose. When repeated the morphine is omitted. Merck's preparation was used throughout. It is supplied in 1/60 grain tablets. As they always made up a fresh solution for each dose, it was found convenient to use half a tablet each time. This accounts for the dose of 1/120 grain instead of 1/100 grain as usually advised. Other makers' preparations are no doubt equally good, but many contradictory symptoms occur from using different preparations of apparently the same drug. Therefore they thought it advisable to confine themselves to one trustworthy preparation. They conclude that scopolamine need not be given in larger doses than 1/120 grain. In the majority of cases it may be given advantageously by the mouth. It is undesirable to keep patients in a darkened room while under its influence. The patient should be carefully watched. This can be done equally well by the nurse as by the doctor. No ill effects to mother or child need be expected to follow the rational administration of scopolamine. While its chief indication will be found during the first stage of labor, the fear of rapid delivery following its use is not a contraindication.

5. **Absence of Falloppian Tubes and of Menstruation.**—Spencer reports the case of a woman, aged thirty-one, married three years, never pregnant, who had never had any menstrual flow. No blood nor blood stained fluid had ever been passed: the only escape from the vagina had been whitish

yellow material, and that never enough to require a diaper. At the age of fourteen attacks of pelvic pain began and recurred monthly, lasting three to seven days, during which there might be a very little whitish yellow discharge, but not always. These attacks had not lasted longer than a week, but had become more and more severe, recurring regularly at intervals of four weeks. The attacks affected the lower half of the abdomen, beginning on one side and spreading to the other, but the pain had always been worst on the left side. She had been under treatment privately and at two hospitals without benefit. Upon operation a median hypogastric incision was made, and the omentum found adherent over the pelvis, especially to the abdominal wall. This was freed and turned back. Then the small intestines were pushed upward without any adhesions being noted, and the uterus was drawn up by means of a volsella. The uterus appeared quite normal; the right tube had a normal junction with the uterus, but at 2 cm. from the uterus it ended conically in the upper edge of the broad ligament. The left tube was also normal at its junction with the uterus, but ended conically 1 cm. from it. Both ovaries were fixed in Douglas's pouch by dense adhesions at the back of the broad ligaments, external to the uterus. As the finger was passed into Douglas's pouch it entered on each side a sac lying under the ovary, into which the peritoneal surface of the ovary projected. On separating the adhesions and drawing up the ovaries they appeared normal and rather large. There was no sign of a corpus luteum nor of remains of blood clot. The broad ligaments were otherwise normal, the round ligaments being well marked. The uterine cavity was laid open. Then a drainage tube was passed downward to reach from the upper end of the uterine cavity to the vaginal orifice. Next the ovaries and sacs were fixed over the uterine cavity, and all were covered in by an omental graft. The patient made a good recovery. A month after the last attack of pain, when another could otherwise have been anticipated, the patient felt no disturbance whatever. This relief cheered her up, and she notably improved in color, and put on weight. She went home, [illegible] well.

LANCET

[illegible]

1. The Hospital Unit in University Work, [illegible] By William Osler.
2. On Auscultation of Joints, By A. E. Garrod.
3. [illegible] with Report of a Case, By Seton Pringle.
4. Puerperal Convulsions, or Eclampsia, at the Liverpool Workhouse Hospital, By William Alexander.
5. The Rôle of Autoinoculation in Medicine; a Plea for Its Rational Extension, By Clive Riviere.
6. Cerebral Tumor Affecting the Under Surface of the Corpus Callosum and Filling the Right Ventricle, By R. T. Williamson.
7. Subluxation of the Knee, By J. J. W. Evans.
8. Atonic Dilatation of the Stomach, By Percy A. Mitchell.
9. Power of Speech in Cut Throat, By Dhanjibhai H. Mehta

2. Auscultation of Joints.—Garrod remarks that it is a familiar fact, that noises are produced in joints, for such sounds are in some instances so loud as to be clearly audible to bystanders, and far more often attract the notice of the persons in whose joints they are produced. The loudest articular sounds are those which have little or no morbid significance, and, speaking generally, the most noisy joints are seldom those which are the seats of the more serious forms of disease. Apart from these more conspicuous reports and crackles, there are abnormal articular sounds, of much fainter character, which are only audible with the stethoscope, and, from experience gained from systematic examinations extending over some years, the author has become convinced that auscultation affords valuable aid in the diagnosis of the several forms of morbid change to which the joints are liable. He states that the method of examination is very simple. The only apparatus needed is an ordinary binaural stethoscope, and any difficulty which may be experienced in keeping the mouth of the stethoscope accurately applied to the changing surface of a joint in movement is easily overcome by the use of a small chest piece, or, better still, by affixing to the chest piece one of the india rubber ring coverings which are sold by instrument makers. Of all joints the knees are those which best lend themselves to such examination, and no difficulty is met with in keeping the chest piece applied over the soft parts on either side of the patella. During the examination the joint should be slowly flexed and extended, either by the patient himself or in a passive manner by the examiner. Auscultation of the shoulder joint is also easy, and the sounds produced during rotatory movements, as well as during elevation and depression of the arm, may be alike studied. Nor is any serious difficulty met with in the application of the method to any of the larger joints, such as the elbow, wrist, or ankle. Even small articulations, such as the temporomaxillary or the carpometacarpal joint of the thumb, admit of examination with the stethoscope. In the case of joints the opportunities of confirming our findings by actual examination of the parts are few, and therefore the acquisition of certain knowledge as to the meaning of articular sounds must be mainly a matter of clinical observation, checked by such information as x ray pictures afford—information which must, in the nature of things, chiefly relate to the condition of the bony structure. When examined with the stethoscope a normal joint of a young subject is silent. It is true that loud reports are sometimes produced in such joints, and can be produced by some persons at will. Such sounds have no morbid significance, and may be compared to the click produced by lifting a ball from a closely fitting socket; in other words, they are vacuum sounds. In the joints of subjects past middle life abnormal sounds are often heard, even though the patient makes no complaint of his articulations, and is conscious neither of pain nor stiffness. They may be ascribed to the changes due to wear and tear, but experience teaches that in cases of incipient osteoarthritis abnormal sounds may precede all subjective sensations. On the other hand, silence of a joint is by no means a sure indication of health. In cases of synovitis, in which the articular surfaces are held apart by effused fluid, no sounds are heard, as a rule, but when the effusion has been absorbed a pronounced crackle becomes audible at any part to which the

stethoscope can be applied, and this sound, to which the name of synovial crackle may be applied, is one of the commonest of morbid sounds heard in joints. Long after the attack of synovitis is past, especially in cases in which the joint which was its seat is apt to give trouble after any unusual use or strain, the synovial crackle may still be audible, and, as far as can be judged on clinical grounds alone, it would appear to indicate a swollen condition of the synovial membrane. In its most characteristic form it resembles closely the crackle heard when the stethoscope is applied to a region which is the seat of surgical emphysema. It is not only when effusion is present that diseased joints are silent. A very limited experience of auscultation of tuberculous joints leads him to believe that these are frequently or even usually silent, and the same is also true of joints affected by the more acute forms of rheumatoid arthritis, although in the later stages the synovial crackle is usually heard in them. The knee joints of patients in or past middle life, and especially of women about the period of the menopause, are often the seats of pain and stiffness, which is especially felt in kneeling, or in going up and down stairs, and for which medical advice is sought. In such joints a peculiar abnormal sound is heard, especially well when the stethoscope is applied on either side of the patella. In characteristic cases this is rather a scrunch than a crackle, and has a wholly different character from the synovial sound already described. The character of the scrunch suggests abrasion of cartilages rather than synovial swelling, and radiograms of the articulation in which it is heard usually show slight but distinct evidences of osteoarthritic changes. He believes that this scrunch is an early and important sign of osteoarthritis. It must be mentioned, however, that cases occur in which it is difficult to decide to which class the sounds heard should be assigned, and it is more than probable that in many instances the synovial crackle and osteoarthritic scrunch coexist. There is another articular sound which is much less commonly heard than either of those which have already been referred to, and which can usually be felt as well as heard. It is a rubbing noise, which suggests the friction of ill lubricated surfaces upon each other, and is such as might result from the movement upon each other of eburnated surfaces of bone. However, such an explanation is not tenable in view of the fact that after persisting for a time the friction may wholly disappear, and it is in the more advanced stages of rheumatoid arthritis, rather than in association with osteoarthritic changes, that this abnormal sound is heard. Lastly, the friction which may be felt over inflamed tendon sheaths produces a quite characteristic noise, which must be distinguished from those produced within the articulations. He concludes by stating that auscultation of joints is capable of affording early warning of troubles in articular structures and sometimes reveals the commencement of disease in joints which to inspection and palpation appear to be normal, and which may even cause no discomfort to their possessor. Again, the method gives promise of help in the distinction of articular diseases, and in distinguishing between those in which the cartilages and bones are implicated, and those in which the synovial membranes and soft parts around the joints alone suffer.

8. **Atonic Dilatation of the Stomach.**—Mitchel remarks that the usual treatment adopted in atonic dilatation of the stomach is diet, alkalies, antiseptics, and antiferments (carbolic acid, creosote, etc.), and in later stages lavage of the stomach with warm antiseptic fluids by means of the stomach tube. To the tube there are great objections, and in many cases it is impossible to use it. Moreover, although it frees the stomach of its contents and palliates the condition it does nothing to restore the impaired motor function, nor to reeducate the stomach to work automatically. Gastroenterostomy gives only partial relief, for in these cases there is no actual obstruction at the pylorus, and consequently the stomach very soon becomes dilated again. The radical cure is to restore the motor function of the stomach and to reeducate it to perform its work automatically as it does under normal conditions. The instrument essential for the carrying out of the treatment is a modification of the phonendoscope. It is a large, fairly heavy instrument (not less than eight ounces) called Bazzi et Bianchi's, and when placed on the abdomen (the patient recumbent) leaves both hands of the operator free. The patient should lie flat on his back, with the head well down, and the phonendoscope is placed on the epigastrium, where its weight holds it in position; the two ear pieces are introduced into the ears, and the stomach, liver, colon, intestines, etc., are percussed. It will be found that by this method the organ can be mapped out with the greatest accuracy, and less difficulty will be experienced in distinguishing the stomach from a dilated colon or small intestine. Without the instrument it is often impossible to distinguish a dilated colon from the stomach. The slightest degree of splash, inaudible without the instrument, can now be detected. The patient is firmly grasped by both hands, the instrument is steadied with the tips of the thumbs, and sharply shaken. The splash is quite clear. Another method is, with the instrument in the same position, press, with the right hand, sharply under the margin of the ribs when a splash is easily obtained. By means of this instrument certain definite sounds can be heard, and it is essential that the physician should train himself to distinguish these and learn their significance: "Pistol shot sound": small successive quantities of gas passing through the pylorus. "Explosion sound": large quantities of gas passing through the pylorus. "Sizzling sound": small quantities of fluid passing through the pylorus. "Gushing sound": larger quantities of fluid passing the pylorus. "Debacle": a long continued rush of fluid occurring toward the end of the treatment, when the stomach completely empties itself into the duodenum. "Waves"; (*a*) a low "crunching sound" resembling that made by a man walking on frozen snow, due probably to the churning movements of the antrum; (*b*) a soft "sighing sound," which is only got in an empty stomach across which peristaltic waves are passing. These are not obtained except at the very end of a treatment. The point on which the whole treatment turns is the discovery of a series of superficial skin areas, the gentle stimulation of which causes contraction of the distended stomach, the

opening of the pylorus, and consequent emptying of the contents into the duodenum. It is a pure reflex action. The areas lie along the margin of the ribs, commencing at the tip of the tenth costal cartilage on the left side, ascending to the tip of the sternum, and down the costal margin on the right side. The manipulation is carried out as follows: With the patient flat on his back, place the phonendoscope on the right of the umbilicus and seat yourself on his right side facing his head. Place your right hand on the patient's abdomen with the tips of the fingers at the costal margin, find the tip of the tenth rib, and with the tips of the first, second, and third fingers very gently glide, with a trembling motion, over the skin. A hard tap produces a spasm of the pylorus, and all attempts to empty the stomach are futile for some time. It is the delicate, light touch which is efficacious. After a few seconds or minutes (it varies), action will be heard beginning in the stomach. The first to leave is always gas; consequently "pistol shot" or "explosion sounds," according to the quantity escaping at one time, will be heard. Cease the stimulation until that contraction has stopped, then proceed again in the same manner, and all the gas will thus be driven out. Then quite different sounds can be heard: a low, muttering, crunching sound begins; it increases in intensity as it approaches the pylorus, and, this opening, a sizzling or rushing sound of fluid is heard. These waves succeed one another until the stomach is quite empty, and when there is nothing more left the soft blowing sighing sound can be heard as wave after wave travels across the empty stomach. These sounds are greatly modified by the various conditions in the diseased stomach. In a simple case of gastric stasis, without inflammation or erosion, the sequence of events can be obtained fairly easily about six hours after a meal. In distention the sound of the escaping gas is one of the most remarkable phenomena of auscultation, and is followed by rush succeeding rush of fluid. In gastritis with excoriation or erosion the gas escapes fairly well, but the sound as the highly acid fluid reaches the raw spot in the mucous membrane is quite characteristic. The wave commences with the low crunching sound and works up to the point where one momentarily expects to hear the rush of fluid, when it suddenly stops short. There are two elements that cause this sudden stoppage of the wave. A peristaltic wave cannot pass over an eroded area. This is what we find in other parts of the body, the muscular coats hold rigid where the mucous membrane is eroded. The second element is the spasmodic contraction brought about by the highly acid nature of the fluid. In atonic dilatation it is more difficult and takes longer to start the contractions, but once started they continue very well. There is always in this condition a great deal of gas in the stomach, and before the fluid can pass the pylorus this gas must be expelled. Owing to the weakness of the muscular coats there is very little strength in the contraction, and very frequently the sound heard is a characteristic one; it suggests a "ball valve," the accumulation of gas in the pyloric antrum moving up to the pylorus, but not escaping, and making a curious metallic snap as it is forced against the closed pylorus. When, as is always the case after a little time, the gas escapes through the pylorus, it does so with a very loud report, and is followed by a rush of fluid. In a case of atonic dilatation the treatment for the restoration of the motor function of the stomach is carried out as follows: About five hours after a meal the treatment as described before is performed. At the first treatment great patience is required, and usually half an hour or more is necessary to completely empty the stomach. This routine is carried out daily, and at the end of two or three weeks the actual symptoms and signs of dilatation have subsided. It is necessary to continue the daily treatment until after an ordinary luncheon, there is no sign of splash, distention, or retention of food; in other words, the stomach carries out its motor function without any external aid. It is necessary, in order to prevent a relapse, that the treatment be continued daily until the sounds heard are normal—viz., smooth, regular, intermittent waves, and the passage of fluid through the pylorus at every second or third wave. If there is a great deal of gas, or if the waves are broken, irregular, and choppy, then the stomach is still abnormal, although the patient may feel perfectly well. This disease in all its stages is accompanied by obstinate constipation, and it is one of the most gratifying features of this treatment that at the end of the first week, often earlier, without drugs, the bowels begin to move regularly each morning and continue to do so.

MEDIZINISCHE KLINIK

January 22, 1911

1. Scarlet Fever and Its Complications, By Hermann Luedke.
2. Symptomatology of Cerebral Embolism, By B. Hippel.
3. Some Cases of Urticaria Cured by Serum, By [illegible]
4. Acute Yellow Atrophy of the Liver Due to Syphilis, By W. Braunschweig.
5. A Hydrocephalic Monster, By Johannes Linke.
6. A New Way of Using Amidoazotoluol, the Active Constituent of Scarlet Red Ointment, By Paul Michaelis.
7. Is Forced Expiration Proper in the Treatment of Bronchial Asthma? By Ludwig Hofbauer.
8. Paralysis of the Peroneus after Subcutaneous Injection of Salvarsan in the Region of the Shoulder Blade, By Georg Walterhoefer.
9. Modern Methods for the Demonstration of Tubercle Bacilli in the Sputum and in Pathological Secretion and Tissues, By M. Kawai.
10. Further Studies Concerning the so Called Mutation of Bacteria, By [illegible]

2. Cerebral Embolism.—Hippel reports two cases of cerebral embolism neither of which presented the characteristic symptoms. In the first case the man drank a cup of coffee, tried to stand up, and then learned that his left arm and leg were paralyzed. He did not lose consciousness at all and the paralysis soon passed away. For two days he ate, drank, and felt well. He then became unconscious and remained so until his death eleven days later. Autopsy revealed an embolism of the artery of the Sylvian fossa on the right side with some softening of the brain. In the second case, a boy, fifteen years old, convalescent from diphtheria, suddenly began to vomit frequently, became very pale, had facial spasms, finally paresis of the left side of the face, uttered from time to time a

cry like the hydrocephalic cry of children with meningitis, and grated his teeth. At times he was apathetic, at other times restless. On the morning of the day of his death there was noted a slight facial paresis on the left side, vomiting, great thirst, clear sensorium, no paralysis of the limbs, ate, drank, and slept well; pupils alike, reacted promptly. Lumbar puncture revealed nothing pathological. That evening he died and the autopsy revealed an embolus of the right artery of the Sylvian fossa, dense, dry, and extending into the finer branches of the artery. The lesion therefore in both cases was the same, but the clinical courses differed both from each other and from that which usually accompanies such a lesion.

3. **Urticaria Cured by Serum.**—Linser reports that he has cured four cases of urticaria, some of long standing, by the intravenous injection of twenty-five or thirty cubic centimetres of serum taken from a healthy man.

7. **Forced Expiration in the Treatment of Bronchial Asthma.**—Hofbauer considers that forced expiration is not only not beneficial, but is harmful in bronchial asthma and should therefore not be practised.

8. **Paralysis of the Peroneus after Subcutaneous Injection of Salvarsan in the Back.**—Walterhoefer reports the case of a young man with secondary syphilis, but negative Wassermann reaction, who was injected with 0.5 gramme of salvarsan subcutaneously in the region of the shoulder blade. Eight to twelve days later he noticed a weakness and a slight motor disturbance of the right foot. The syphilitic symptoms passed away and the man returned to his work, but the trouble in his foot increased until he finally reentered the hospital, where he was found to have a total paralysis of his right peroneus.

WIENER KLINISCHE WOCHENSCHRIFT

January 26, 1911

1. [illegible] Adrenalin Glycosuria by Preparations of the Pancreas,
By Otto von [illegible] and Carl Schwarz
2. The Origin of the Melanotic Pigment,
By Kreibich.
3. Epidemic Cerebrospinal Meningitis and Its Curative Serum,
By Paul Schepelmann.
4. [illegible] Nasal Extension,
By Hans Ehrlich.

2. **Origin of the Melanotic Pigment.**—Kreibich concludes from his observations that with the increased function of the melanoblasts a lipoid substance appears in them which is closely related to the formation of pigment. Whether this substance is present in the body in a crystalline form, crystallizes first on cooling is uncertain at present. If this conclusion is correct melanin must be reckoned among the fatty pigments.

3. **Epidemic Cerebrospinal Meningitis and Its Curative Serum.**—Schepelmann reviews *in extenso* the literature on this subject and states that unfortunate results in the serum therapy of cerebrospinal meningitis are as uncommon as in other infectious diseases; that the anaphylactic symptoms that sometimes appear, such as headache, cardiac weakness, albuminuria, exanthemata, disturbances of the bladder and rectum, fever, pains in the joints, and œdema soon pass away without leaving the least permanent injury. Better results are to be obtained by the administration of a single large dose than by the use of many small doses.

4. **Nail Extension.**—Ehrlich reports a complicated case of fracture of the femur in which the nail extension method was employed with a good result. On the basis of this experience he warmly commends the method and suggests that it may well be combined with a lateral adhesive plaster extension. In urgent cases of compression of important vessels or nerves by the dislocated fragments of the bones of the limbs the nail extension method is superior to any other operative treatment.

AMERICAN JOURNAL OF OBSTETRICS.

February, 1911.

1. Brief Analysis of Ninety Cases of Puerperal Eclampsia and a Critical Review of the Treatment of This Disease, By E. Zinke.
2. On the Significance of Anatomical Histological Examination Methods in Obstetrics and Gynæcology with Special Reference to Curettage and Exploratory Excisions, By I. C. Rubin.
3. A Note on the Ætiological Influence of Pregnancy upon Molluscum Fibrosum, By B. C. Hirst.
4. Myoma of the Uterus with Special Reference to Degenerative Changes,
By J. B. Deaver and D. B. Pfeiffer.
5. Intravenous Injection of Magnesium Sulphate in Bacteriæmia, By R. R. Huggins.
6. Two Right Sided Femoral Hernias in the Same Patient, By N. S. Scott.
7. Obstetric Surgery in Private Practice,
By K. H. Aynesworth
8. Two Cases of ante partum Infection,
By C. B. Ingraham.
9. Puerperal Tussis and Its Treatment,
By D. H. Stewart.
10. Treatment of the Retroflexed Gravid Adherent Uterus with Report of Two Cases, By X. O. Werder.
11. A Method of Teaching Vaginoabdominal Examination,
By F. J. Taussig.
12. A Case of Complete Inversion of the Uterus of Fourteen Years Standing, By S. E. Tracy.
13. The Treatment of Congenital Syphilis by the Administration of 606 (Salvarsan) to the Nursing Mother,
By H. D. Chapin.
14. The History of the Treatment of Cerebrospinal Meningitis with Special Reference to the Serum Treatment, By H. T. Radin.
15. Nervous Children, Their Care and Treatment,
By I. T. Smart.
16. The Therapeutic Use of Tuberculin in Intrathoracic Tuberculosis of Children, By L. C. Ager.

1. **Brief Analysis of Ninety Cases of Puerperal Eclampsia and a Critical Review of the Treatment of this Disease.**—Zinke draws the following deductions from his study: 1. The cases are not alike, much depends upon the degree of involvement of liver and kidneys. The malignant form is fatal from the beginning, the benign form is equally sure to get well. 2. The prognosis is worse both for mother and child if the convulsions supervene during pregnancy. 3. Prophylaxis is the most important treatment both before the appearance of symptoms and before the eclamptic attacks when prodromal signs exist. 4. Chloral in large doses per rectum is effective when there is restlessness in the intervals between attacks. Chloroform and morphine are sources of danger. 5. Antitoxine treatment may play an important part in the future,

thyreoid and parathyreoid extract and nephrin being used. 6. Saline and sugar water instillations may be beneficial. 7. Diminished maternal mortality in recent years is due to careful prophylaxis and intelligent medical care, more than to surgical procedures. 8. Decapsulation of the kidneys, manual, balloon, and metal dilatation are unjustifiable in puerperal eclampsia. 9. If the symptoms are threatening and the measures have failed conservative Cæsarean section may be done for those near them, but not in labor, vaginal hysterotomy when viability has just appeared, and deep cervical incisions if viability has not occurred. 10. No one who is inexperienced should do either of these operations, and asepsis must be rigid in all of them.

4. Myoma of the Uterus with Special Reference to Degenerative Changes.—Deaver and Pfeiffer find the mere presence of a fibroid not an indication in itself for operation. While the mortality for removal of these tumors is low, operations should not be delayed when there is proper indication for performing them. The prognosis of fibroid disease as to its pathological outcome is very important. The possible changes may be: 1. Malignant or nonmalignant degeneration of the tumors themselves; 2, malignant diseases of the body or cervix of the uterus associated with fibroid disease. Of the benign changes hyaline degeneration is most frequent, occurring in probably eleven per cent. of cases, yielding a fluid which may be gelatinous or thin and watery. It may affect all or only a portion of a tumor and may result in sepsis. Calcareous degeneration occurs in twenty-four per cent. of cases. Malignant degeneration can of course be only sarcomatous and probably does not exceed two per cent. Association of myoma with carcinoma of the uterus is a real danger, and it is also noteworthy that the form of cancer is more often fundal than cervical. The fundal form is believed to be the most serious and insidious of the degenerative processes set in motion by fibroids. The general rule of treatment for these forms of disease is to operate as soon as any symptoms are apparent.

9. Puerperal Tussis and Its Treatment.—Stewart states that while there is no lesion to this reflex or neurotic cough, it is accompanied by traumatisms and damage to the pulmonary and respiratory tract and to various parts of the body. These injuries are brought about by the constant straining and hammering which is scarcely less than in whooping cough. The author has seen as results umbilical and inguinal hernia, prolapsus of the anus, uterus, and bladder, gastroptosis, enteroptosis, and epistaxis, together with constant vomiting, inanition, and insomnia. The urine revealed extensive indications of kidney irritation. Only whooping cough is to be excluded in the diagnosis. The treatment should avoid morphine mixtures as far as possible. Sleep is the first essential to be secured by a warm bath in a solution of sodium chloride and sodium carbonate, lasting twenty minutes. Five grains of veronal may be given as a hypnotic if necessary. Electricity in the form of galvanism is often very soothing. A simple cough mixture of ammonium chloride and syrup of wild cherry will probably furnish all the medication which will be required.

PRACTITIONER

1. The Improved [illegible] Subsequently M[illegible] Hopeful Aspects of the Surgery of, Cancer of the Large Intestine, By Arthur E. Barker.
2. Extraperitoneal Cæsarean Section and Its Scope in Modern Obstetric Surgery, By A. W. Russell.
3. General and Spinal Anæsthesia, By E. Canny Ryall.
4. The Indications and Contraindications for the Use of Spinal Anæsthesia, By E. Canny Ryall.
5. Cocaine Anæsthesia in Minor Surgery, By L. R. Braithwaite.
6. On the Administration of Anæsthetics on the Open Mask, By William Rankin.
7. The Behaviour of the Blood Pressure in Chloroform and Ether Anæsthesia, with Special Reference to Shock, By H. P. Fairlie.
8. The Surgical Treatment of Chronic Pleural Effusions, By J. Lionel Stretton.
9. Neuroretinitis in Anæmia, By R. Beatson Hird.
10. The Relation of the Chemical Composition of Human Milk to Chronic Diarrhœa and Eczema in Nurslings, By William J. Maloney.
11. The Treatment of Acute Pneumonia, By A. G. Reid.
12. Review of Diseases of Children, By Hugh Thursfield.
13. [illegible] By Mac Leod Yearsley.
14. The Ament: His Position in the Community and His [illegible] By Archibald R. Douglas.
15. Medical Practice in Stuart Times, By Alert Shepperd.

3. General and Spinal Anæsthesia—Brownlee speaks of general consideration, relative safety, after effects, immediate and remote, and from the point of view of the patient, of general and spinal anæsthesia. He quotes statistics and says that these figures only serve to prove that, even if spinal analgesia is a useful adjunct to medical men of the present day, it is not by any means free from danger. Comparing them with the mortality rate of general anæsthesia, it will be found that in the last report to the German Surgical Society the figures were 21 deaths in 71,000 cases (1 in 3,380). In the same number of cases of spinal anæsthesia, combining experienced with inexperienced, the figures work out at 9 (1 in nearly 8,000), in the same number or less than half. But it must be remembered that general anæsthetics are largely given by haphazard methods by inexperienced persons, and the patient suffers, whereas up till now spinal anæsthetics have been given by experienced surgeons with a lively sense of their responsibility to their patients and themselves. As far as modern technique, expert knowledge, and ripe experience go, the figures therefore, so far as figures go, put the best possible complexion on spinal analgesia. But if general anæsthetics were only administered by men of equal calibre, as those who use spinal anæsthesia, they would show an incomparably better result than they do at present. The fact that spinal analgesia while abolishing pain leaves the patient fully conscious of his surroundings does not seem to be an unqualified blessing. Some patients would much rather not be aware in any shape or form of what is taking place. So much is this the case that some investigators have practised the administration of hyoscine and morphine along with spinal analgesia, while others have suggested and carried into practice the administration of ether to do away with the element of consciousness to the surroundings.

Surely this is complicating the practice of anæsthesia quite unnecessarily. When complete unconsciousness to pain and the surroundings can be procured by general anæsthesia (ether or chloroform), it is surely an unnecessary elaboration, not to speak of the very doubtful benefit, to load the patient's system with a multiplicity of toxic substances. The same conclusions would apply to patients who are merely anæsthetised because of the delicacy of examination. He refers to gynæcological examination in young unmarried women. It is practically only to prevent consciousness to the surroundings that anæsthesia is used in these cases. Spinal analgesia, therefore, is totally out of the question in these. Most authorities object to its use in children, but others have reported its use as satisfactory, and in Gautier's wards it was said to be asked for by children. The majority of writers recommend its use in old and feeble subjects, although others consider this a contraindication. Some consider arteriosclerosis a contraindication, but others do not. Marked differences of opinion also exist with regard to septic cases, the question of elimination of shock, and the results obtained by raising the pelvis and the Trendelburg position.

4. **Indications and Contraindications for the Use of Spinal Anæsthesia.**—Ryall gives as indications for the use of spinal anæsthesia: Operations involving the possibility of great shock; severe injuries associated with shock; urgent operations; operations on the head and neck; abdominal operations; prostatectomy; rectal surgery; military and naval surgery; in certain diseases which make the avoidance of general narcosis desirable, such as acute pericarditis, severe valvular diseases or degeneration of the heart muscle, arteriosclerosis, etc., acute pneumonia, bronchitis and emphysema in old people, phthisis and severe asthma, severe cirrhosis, abscesses associated with emaciation, diabetes, typhoid perforation, status lymphaticus, and kidney troubles; alcoholics; in gynæcology and obstetrics; pregnancy; former syncope under general anæsthesia; prevention of shock in cases not requiring operation; relative measures; alleviation of pain and spasm. Contraindications are: Operations which can be performed under either local or venous anæsthesia with some success; acute infective diseases; suppurating processes in the neighborhood to the proposed site of puncture; alterations in the spinal column; diseases of the central nervous system; recent syphilis; if the patient cannot rest in bed for twenty-four hours after the injection; hysterical, very excitable, and nervous patients.

5. **Cocaine Anæsthesia in Minor Surgery.**—Braithwaite states his belief that cocaine is superior to eucaine and other similar preparations. He has tried sterile water but has found it indefinite, incomplete, and most transient. He uses a 0.5 per cent. solution of cocaine hydrochloride in sterile water; to 100 c.c. of this solution are added 3 minims of fresh adrenalin chloride (1 in 1,000), and the mixture is stocked in sterile colored bottles each holding 10 c.c., each bottle having a glass stopper sealed with wax. He has found that the sealed bottles remain unimpaired for at least two months, but a solution which has been exposed to the air should never be used again. It is also noticed that the adrenalin frequently turns pink, but apparently without altering its potency. After repeated trials he finds that a 0.25 per cent. solution of cocaine is in reality sufficient for nearly all purposes, and it is probable this will be the standard strength of future stock solutions. He has frequently used two ounces of this solution (0.5 per cent.), and is sure that much more may safely be used, especially if the first incision is to pass through, and release, a pool of solution lying in the subcutaneous tissues. Adrenalin acts in three ways: It contracts peripheral vessels, locally at any rate, and so produces a localized pallor, which is useful in that it indicates, in the "cutaneous" type of anæsthesia, at any rate, the exact area of anæsthesia. For the same reason it delays the absorption of cocaine and prolongs the duration of the anæsthesia. It is very rare that the duration of anæsthesia is insufficient; as a rule, one can rely on a full hour. It acts as a hæmostatic for capillary, small arterial, and venous hæmorrhage.

EDINBURGH MEDICAL JOURNAL.

February, 1911.

1. Congenital Family Cholæmia, By A. W. Mackintosh, E. W. Falconer, and A. G. Anderson.
2. Some Operative Procedures about the Knee Joint, By Alexander Orr.
3. Fungus Infections of the Finger Nails, By R. Cranston Low.
4. Erythræmia, with Notes on Two Cases, By H. L. Watson-Wemyss.
5. Some Conditions Associated with Enlargement of Lymphatic Glands, By Charles H. Melland.

1. **Congenital Family Cholæmia.**—Mackintosh, Falconer, and Anderson remark that congenital family cholæmia may appear in various types. Of these, the most hereditary and familial affection occurring in several generations (*e. g.*, three or four) and in several members of each generation. Examples of such cases are recorded by Minkowski, Hayem, Wilson, Krannhals, Barlow, and Batty Shaw, Benjamin and Sluka, Hutchison and Panton, Tileston and Griffin (four families), and others. When occurring as a hereditary affection the disease affects males and females equally, and may be transmitted both by males and females. In some of the recorded families males only are affected, in others females only. So far no case has been recorded in which an unaffected member has transmitted the disease. In a second type the disease appears as a familial affection, but no history can be obtained of its previous occurrence in the family. Examples of such cases are those recorded by Lereboullet and Hawkins and Dudgeon, and the present case. In a third class they have isolated cases first appearing at birth or in early childhood, and there is a fourth type in which the disease first appears in early adolescence or adult life. This last type differs from the others only in the fact that the cases, as a rule, present much more severe symptoms than the hereditary or congenital cases. Strauss's and Oettinger's cases, in which autopsies have been obtained, belong to the acquired group. One of the most remarkable features of the condition is the frequent absence of any symptoms of disease. Not a few patients of the familial cases, who were found to present all

the characteristic features of the disease, were discovered only during a systematic examination of the family. The condition appears to have little tendency to shorten life. The females can bear large families with impunity. At times, however, some even of the congenital cases show exacerbations, accompanied by slight pyrexia, a deepening of the jaundice, and an increase in the anæmia. At such times the patients may look very ill, and, unless a correct diagnosis is made, a very erroneous prognosis may be given. The acquired cases, as a rule, tolerate their condition much less readily than the congenital or familial, and in them it is the exception rather than the rule to be without symptoms for any length of time. Pigmentation of the skin other than the jaundice is no feature of the condition. Repeated epistaxis is not infrequent, and, more rarely, hæmorrhage from the gums occurs. Hæmorrhages from the stomach and bowel, so frequent in the Banti syndrome have not been observed. Attacks of pain over the splenic region, probably due to perisplenitis, have occurred in several cases. Attacks of true biliary colic due to complicating gallstones have also been present in some cases. In not a few of the cases the urine at irregular intervals has shown a heavy deposit of urates. On those days the patients are "off color," both literally and metaphorically. Ascites or any other sign of venous engorgement has not been noted.

4. Erythræmia.—Watson-Wemyss states that treatment of erythræmia is unsatisfactory, as so little is known of the essential nature of the condition. Still, much may be achieved by regulation of the daily life of the patient and careful attention to diet. Moderate and regular outdoor exercise must be insisted upon, as there is no doubt that a sedentary mode of life aggravates the condition. Excessive use of tea and coffee should be avoided, and red meat should be sparingly taken. The constipation, which is so frequently a marked and troublesome feature of the condition, must be met by appropriate drugs when other measures fail to give relief. While other treatment is being carried out the severe headaches may be temporarily relieved by such drugs as butyl chloral and gelsemium. Free venesection has in several instances proved beneficial, and has at least temporarily relieved the most distressing symptoms. This benefit has been most marked in cases accompanied by a high blood pressure. In cases with a low blood pressure little benefit has been derived. Complete extirpation of the spleen has been tried, but has given most unsatisfactory results and is certainly not to be recommended. This operation has, in patients who have been subjected to it, frequently brought about a rapidly fatal termination. The possibility of the development of an even greater degree of polycythæmia after splenectomy must also be kept in mind. Treatment by x rays has usually been considered to be uncertain and, on the whole, unsatisfactory. There are very few cases recorded in which any decided benefit accrued from the treatment. It would appear that the x rays form a most valuable therapeutic measure, especially in the earlier stages of the disease. It is, unfortunately, precisely in these early stages that it is so difficult to interpret aright the true significance of the clinical symptoms, as both polycythæmia and cyanosis may be entirely absent. Excepting such treatment as may be beneficially employed for the relief of isolated symptoms, such as headache and constipation, drugs have very little influence on the course of the disease. Oxygen inhalations, with the object of reducing the cyanosis, have been lauded by some, while others have observed no benefit from their use. It is generally believed that oxygen is of very little value in cyanosis, as the atmospheric air invariably contains more oxygen than can be taken up by the lungs under any circumstances. Arsenic is usually regarded as being contraindicated, as it tends to increase the polycythæmia and aggravate the subjective symptoms. Geisböck mentions marked improvement in a case of polycythæmia hypertonica after a prolonged course of iodothyrin. Begg and Bullmore record great benefit from large doses of quinine and inunction of the red iodide of mercury over the region of the spleen. Iodide of potassium and the nitrites have been extensively employed, but, while marked improvement has followed their use in some few cases, this result is by no means constant.

Proceedings of Societies

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting of December 19, 1910.

The President, Dr. Reynold Webb Wilcox, in the Chair.

(Concluded from page 291.)

Reflexes Dependent upon Nose and Throat Conditions (Reflexes and Reflex Neuroses from the Upper Air Tract).—This paper was by Dr. W. Sohier Bryant. He defined a reflex as a normal automatic reaction to stimulation. The impulse passing over a centripetal path through a ganglion structure, and out over a centrifugal path. A reflex neurosis was an abnormal involuntary reaction to stimulation, and the term included circulatory, trophic, sensory, and motor reactions. In general, reflex neuroses might be divided into two large groups: 1. Simple reflex neuroses. This group included all exaggerated reaction to normal or nonpathological stimulation, as the paroxysmal sneeze produced by the smelling of a flower. Its distinguishing characteristic was the hyperæsthetic condition of the part stimulated or the abnormal intense reaction to a normal stimulus. Hence these reflex neuroses did not occur in normal individuals. 2. Complex reflex neuroses. In this group might be included all those reflex neuroses produced by abnormal stimuli, by hyperæsthesia of the nerve endings, and by disease of the nerve tract and nerve centres through which the stimulation passed. Examples of complex neuroses were headache or face ache excited by intranasal pressure, an asthmatic paroxysm caused by titillation of the nasopharynx with a cotton application, and an epileptic seizure induced by intranasal pressure with a probe.

Reflexes and reflex neuroses emanating from the upper air tract were of greater variety and importance than those from any other region. This was explained by the fact that the nerve supply of the

region was largely sympathetic in character. Especially was this true of the nose, and hence, in comparison with nose strain, eye strain took a secondary place. The latter was intermittent and voluntary, while nose strain was constant and involuntary.

Typical examples of simple reflex neuroses from the upper air tract were hay fever, rose cold, and paroxysmal cough and sneezing. In the group of complex neuroses were asthma, asthenopia, headaches, and aprosexia, as well as other neuroses more difficult of demonstration, such as cardiac and uterine pains. The simple neuroses were caused by repeated or prolonged stimulation carried to the point of nervous exhaustion. The complex neuroses depended upon structural and peripheral changes which caused abnormal nerve stimulation.

The diagnosis of reflex neuroses in simple cases could be made by experimentally inducing an attack. This was done by carefully stimulating with a cotton application every suspected supersensitive part. If the diagnosis could not be made in this positive way, cocainization of hyperæsthetic areas during a reflex paroxysm would stop the attack and establish the diagnosis. In the complex cases, as a rule, an attack could not be produced experimentally. If in these cocainization did not indicate the point of departure of the attack, the diagnosis could be determined only through the treatment of local abnormities. The diagnosis between reflex neuroses and toxic effects from infection of the upper air tract was sometimes extremely difficult, because the character of the peripheral irritation was often similar. The speaker believed we were justified in calling the phenomena a reflex neurosis when the removal of pressure immediately checked a paroxysm, for the excision of the toxic focus could not have so rapid an effect. There had been recorded more than 257 different reflexes and reflex neurotic symptoms from the upper air tract, emanating from at least twenty-one different anatomical structures. The 257 manifestations were due to two causes, local inflammatory or structural conditions, and each symptom might travel over at least two different nerve routes. By multiplying the 257 by approximately half of the animal structures, which would be ten, by the two causes and by the two routes, we got 257x10x2x2, giving a total number of 10,280 different manifestations as a conservative estimate. The number of symptoms from the nose alone was 228, and these effects of a common stimulation were traced in twenty-four different groups, including the nose itself.

The treatment consisted in the elimination of the peripheral pathological exciting cause, the hyperæsthetic area, because the nerve path was less amenable to treatment and the fundamental neurotic tendency was still more resistant, while it was always possible to remove the peripheral cause. Removal by resection was preferable to cauterization, because by the former method the good effects were permanent, which might not be the case in the latter. When removal of the peripheral factor had been effected, the prognosis for the permanent relief from further attacks was good. In very neurotic patients a similar or different reflex neurosis occasionally appeared from some other part, but this in turn would yield to appropriate treatment.

Reflex Disturbances Referable to the Ear.—This subject was treated by Dr. John Randolph Page, who said that in the limited time at his disposal he could consider only a few of the disturbances which were of more or less general interest and practical value. The contraction of the muscles of the body which occurred when the acoustic nerve was irritated by a loud or unexpected sound was familiar to every one, but it was not generally known that these reflex contractions could be produced in the new born, and that the extent of the contractions could be made to vary with the intensity of the sound employed. Dizziness and spasm of the respiratory muscles and changes in the heart's action could be produced by musical tones or by certain kinds of sounds, and neurasthenic persons were particularly sensitive to irritation of this kind. More interesting clinically, however, were those disturbances caused by irritation of the nerves supplying the auricle and external auditory canal, namely, the neuralgias and coughs due to irritation of the trifacial and Arnold's branch of the pneumogastric. Intractable coughs, particularly in children, and neuralgias which had resisted prolonged treatment were sometimes relieved by the removal of a plug of inspissated wax from the canal. The disturbances caused by affections of the middle ear were more deeply involved, but fortunately the cases resulting in suicidal mania or profound melancholia, referred to by some authors, were rare. It was true, however, that headache and mental depression were often due to even slight catarrhal affections of the middle ear and Eustachian tube which interfered with the proper ventilation of the inside of the drum. Inflation through the tube afforded prompt relief in such cases. Slight inflammations of the middle ear also occasionally caused intense facial neuralgia, which might be followed by temporary facial paralysis. Instances of herpes oticus, too, were occasionally met with.

Some idea of the number and complex character of the reflex disturbances in connection with the internal ear might be inferred from the fact that every symptom of seasickness in its most aggravated form could be produced by irritation of a normal labyrinth. In irritation of the labyrinth the peculiar movement of the eyes known as vesticular nystagmus was caused by a movement of endolymph in the semicircular canals, and the study of this phenomenon had proved of great service in the diagnosis of labyrinthine disease. Barany's observation of the disturbances produced by heat or cold in the ear led to the development of his caloric test, which consisted in irrigating the ear with either hot or cold water. When cold water was used in a normal ear a movement of endolymph was produced by convection in the anterior vertical canal downward and toward the side irrigated, and there was a corresponding nystagmus or quick movement of the eyes to the opposite side. If the irrigation was prolonged, dizziness, nausea, and vomiting, with profound prostration, resulted. The same symptoms appeared when hot water was used, only the nystagmus was then toward the side irrigated. Where the water reached the drum membrane for five minutes or more without the recurrence of any reaction the labyrinth might be considered functionless.

What is the Meaning of Reflex?—In this paper Dr. EDWARD D. FISHER said that all action was reflex—breathing, swallowing, in fact, every act, unless it had its initiative from the brain in some voluntary purpose. Even this, however, was indirectly reflex, since it depended on original, primary reflex action. The child when born had had no previous cerebral impressions, because the conscious ego had not as yet existed. The cerebral cortex was a blank sheet, ready for and by heredity prepared to receive impressions. At first the infant acted simply reflexly; i. e., a sensory or afferent irritation or impulse was received by a cell group or centre, which responded through its motor, or efferent, nerves. The same reflex action took place in the spinal cord, without its recognition by the cerebral cortex, or, in other words, by consciousness. When we spoke of referred reflex conditions we were dealing with actual states. We should be careful, however, not to misinterpret them. A reflex action was fundamentally the same in all conditions. From the simplest form of protozoal life to the complex mammalia, we were always dealing with the afferent, or sensory, nerve irritation, the receptive centre, and the efferent, or executive action, fibres. In the mammalian repeated sensory impressions were permanently registered in the perceptive centres, and thus became memories; so that many reflex acts became automatic, though this could not have occurred unless they had passed through the primary simple process which had been referred to. When we tried to understand and explain all the conditions involved in reflex action it would be found that much must remain indefinite. The sympathetic had its part to play, and this modified our idea of the simple character of a reflex act, as seen in the brain and spinal cord. We as yet understood very little, either anatomically or physiologically, about the sympathetic system; it still remained practically a terra incognita. This was the reason why the theories of Head, so far as regarded our acceptance of them as of practical diagnostic value clinically, had failed of conviction. It was difficult to acknowledge positively that pain or sensory anæsthesia in a certain area indicated disease in an underlying abdominal organ; if by it we were to decide definitely on an operation. Academically, we could easily discuss the question or take it up in the laboratory, but the active practical worker had to decide on a life and death issue.

A pain was not necessarily reflex, but was a referred condition. Dr. Morris and others who had participated in this discussion had spoken of cases as reflex in character, in which, in reality, there was in no sense reflex action. It should be remembered that reflex was not only an afferent, but also an efferent phenomenon. The confusion which existed in regard to this subject was due to the misuse of the term reflex. In cases such as those cited Dr. Morris had very properly insisted that we were not to make our diagnosis on a simple referred pain, but ought to take in all the features as brought out by a thorough general examination of the patient. Thus, we should not speak of the gastric crises in tabes as reflex. In this disease the reflex action was lost. If we substituted the designation "referred" for the "reflex," so commonly spoken of, we should have a clearer conception of the actual conditions.

Reflex in Diseases of the Nervous System.—Dr. WILLIAM M. LESZYNSKY said it was quite possible, as Dr. Morris had said, that the cause of reflex disturbances of the nervous system was apt to be overlooked by diagnosticians. It was much more frequent, however, for organic nervous disease to pass unrecognized, particularly intracranial disease and atypical tabes. Hence, stretching or incision of the anal sphincter for the rectal crisis of tabetics; exploratory laparotomy for vomiting associated with brain tumor; extraction of healthy teeth for the relief of the douloureux, etc. The term "reflex neurosis" came into existence about thirty years ago, when practical medicine was subdivided into a number of specialties, different reflexes arising in each circumscribed specialty. It was to be deplored that the same old unjustifiable expression was still heard from time to time. To those who still adhered to the exploded doctrine of the ancient reflex theory it might be said that the perpetuation of such a misconception had repeatedly been conclusively demonstrated to be unscientific and irrational. That is was our duty to make every reasonable effort to discover the cause of apparently inexplicable nervous phenomena was axiomatic. A slight physical defect might be significant in one individual and inconsequential in another, but to interpret, as some had done, such deviation from a standard which was entirely arbitrary as the reflex cause of disease of the nervous system was a *reductio ad absurdum*. Among notable medical fallacies, none had been more prominent and persistent than that of attributing seemingly obscure nervous manifestations either to some reflex irritation originating in the female genitalia or to so called "imbalance" of the ocular muscles. Having referred to the sacrifice of normal ovaries that was formerly so extraordinarily and alarmingly frequent, the speaker said that some years ago a certain observer had maintained that chorea and epilepsy were reflex conditions resulting from "imbalance" of the ocular muscles. As to published reports of cases of chorea, epilepsy, insanity, etc., having been cured by the surgical adjustment of ocular muscles, he had no desire to question the judgment or veracity of certain observers, but many of the cases thus reported would not bear critical neurological analysis. As the result of his personal observations at that time, and from subsequent investigation, he had reached the conclusion that muscular anomalies producing latent diplopia and unconscious efforts to maintain binocular single vision were undoubtedly a drain upon the nervous energy, but he was yet to be convinced that such was the cause of chorea, epilepsy, or any other constitutional disease of the nervous system. To assert that patients had recovered from such neuroses after oophorectomy or after the correction of ocular defects or cauterization of the nasal mucous membrane, urethra, etc., was begging the question, and did not necessarily imply that such affections were of reflex origin. In many cases the alleged rapid (but usually temporary) recovery had been due to suggestion, and

the same result could often be accomplished by simpler and safer means. The disastrous effects of the deflex theory of nervous disease were quite familiar, and needed no further demonstration. Yet its misapplication was still more or less prevalent. The unfortunate tendency to ascribe many misunderstood nervous symptoms to so called reflex causes was due in a large measure to the neglect of the majority of physicians to avail themselves of a working knowledge of the fundamental principles of neurology.

Dr. J. H. Woodward said that the practical point urged by Dr. Morris, that the patient's entire system should be examined before any serious measures were undertaken, was certainly well taken. This was what this discussion amounted to, if it meant anything at all. A given case might present various conditions referable to a number of different organs, and in order to arrive at a correct diagnosis it would be necessary to collect all the data possible and then select such points as proved to have significance.

Dr. Anthony Bassler said that he had been early interested in the theory of Head, and therefore for a year he had conscientiously and diligently tested it as an aid to diagnosis in his clinical work. He had been entirely disappointed in the results, however, as he found that there was absolutely nothing of practical value in the Head zones.

Dr. Morris said that Dr. Fisher's point about the misuse of the word "reflex," for which "referred" should be substituted, probably explained the reason why there was so much controversy over a subject which should be more stable. He had himself thus misused the term "reflex" and would now correct the error. He agreed with Dr. Woodward that the important thing for diagnosticians was to get complete testimony from many specialists, and then edit the testimony. The position of the diagnostician as "editor" was his most important function.

Dr. Fisher said that, after all, what he meant was that in arriving at a diagnosis we should make a complete examination of the patient—all his organs.

Dr. Leszynsky said that many cases of symptomatic facial neuralgia were due to toxic conditions arising in the intestine, and it seemed probable to him that in the case referred to by Dr. Morris such a toxic condition was induced by the pressure of the ovarian tumor. He was glad to learn that the specialists were going forward and not backward; for in this discussion he had expected to hear of all sorts of conditions being cured by operation. As to Head's theory, it really seemed worthy of consideration, though no one with experience believed that the simple presence of a zone of hyperalgesia would justify laparotomy. What was maintained was that there was an irritation of the visceral sympathetic nerves which was conveyed to certain spinal segments, and there reflected to a cutaneous sensory area corresponding with the neighborhood of the viscus involved. When found, it was valuable as a corroborative sign. The investigation of the Head zones was a waste of time, however, without the intelligent cooperation of the patient.

Letters to the Editor.

THE INTRAVENOUS USE OF SALVARSAN—A CORRECTION.

24 West Sixtieth Street, New York.

To the Editor:

In the description of the simple apparatus proposed by me for the intravenous use of salvarsan, which was published in the *Journal* for February 11th, I inadvertently omitted to mention that in the preparation of the solution the use of sodium hydroxide solution is necessary for the neutralization of the fluid prior to injection. After the salvarsan is added to the water, and it has dissolved to a clear acid solution, there should be added from five to ten drops of normal sodium hydroxide solution. The precipitate caused by this should be redissolved by the careful addition, drop by drop, of more sodium hydroxide solution, accompanied by vigorous shaking. The solution may then be completed as already described. Edward F. Kilbane, M. D.

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Lehrbuch der Chirurgie. Bearbeitet von Prof. Klapp, Berlin; Prof. Küttner, Breslau; Prof Lange, München; Prof. Lanz, Amsterdam; Prof. Payr, Königsberg; Prof. Perthes, Tübingen; Prof. Poppert, Giessen; Prof. Preysing, Cöln; Prof. de Quervain, Basel; Prof. J. Riedinger, Würzburg; Prof. Ritter, Posen; Prof. Rovsing, Kopenhagen; Prof. Sauerbruch, Zurich; Prof. Schloffer, Innsbruck; Prof. Tilmann, Cöln; Prof. Wilms, Heidelberg; Prof. Wullstein, Halle a.S. Herausgegeben von Prof. Wullstein, Halle a.S., und Prof. Wilms, Heidelberg. Zweite umgearbeitete Auflage. Erster Band: Allgemeiner Teil. Chirurgie des Kopfes, des Halses, der Brust und der Wirbelsäule. Mit 355 zum teil mehrfarbigen Abbildungen. Zweiter Band: Bauchdecken, Leber, Milz, Pankreas, Magen, Darm, Hernien, Harn- und Geschlechtorgane und Becken. Mit 207 zum teil mehrfarbigen Abbildungen. Pp. vi-482. Dritter Band: Extremitäten; Erkrankungen und Veletzungen der Weichteile, Deformitäten, Missbildungen, Verletzungen und Erkrankungen der Knochen und Gelenke, Amputationen und Exarticulationen. Mit 5 Tafeln und 448 zum teil mehrfarbigen Abbildungen. Pp. ix-602. Jena: Gustav Fischer, 1910. Pp. xii-636.

We have reviewed the first edition of this great variorum book in our issues of September 5, 1908 and September 25, 1909. We are glad to see that the book has been so well received that a second edition has become necessary. There do not seem to have been any important changes made.

The Stereoclinic. By Dr. Howard A. Kelly. Troy, N. Y.: The Southworth Company.

This work combines both lecture and demonstration. It consists of a stereoscopic apparatus with light attachment and a series of stereoscopic photographs bound conveniently in handsome volumes which also contain the lecture of the surgeon performing the operation. The idea is a new one and is well carried out. The physician sits in his office and has before him a lecture on an operation,

surgical or gynæcological, which he wishes to study. While reading the lecture, he sees also in consecutive steps the whole operation, instead of following an operation quickly performed in a crowded amphitheatre. The reader can study every detail at his leisure and reads a well prepared lecture which it is impossible for the operator to deliver at the operation itself. The lectures are contained in thirty sections, which can be bought singly. The photographs are taken under the direction of Dr. Kelly, and among the operators we find such men as Howard A. Kelly, G. W. Crile, Harvey Cushing, J. M. Munro Kerr, J. Whitridge Williams, Harold J. Stiles, A. H. Ferguson, A. D. Bevan, A. J. Ochsner, B. G. A. Moynihan, Hugh H. Young, John B. Murphy, Joseph C. Beck, Emil G. Beck, E. S. Judd, Charles H. Frazier, John G. Clark, E. Terry Smith, Cuthbert H. J. Lockyer, Herbert J. Paterson, Robert Jones, John A. Bodine, Samuel T. Earle, D. J. Mayo, and Charles Mayo. The whole affair makes a very good impression. No expense seems to have been spared and the result therefore is a very good one. We wish to call our readers' special attention to this stereoclinic.

Polycythämie und Plethora. Von Prof. Dr. H. Senator, Geheimer Medizinalrat in Berlin. Berlin: August Hirschwald, 1911. Pp. v + 50.

Professor Senator, as honorary chairman of the Berlin Medical Society, has dedicated this pamphlet as a *Festschrift* to the celebration of the fiftieth anniversary of this society. The subject was touched upon by him at the Sixteenth International Congress of Medicine at Budapest, held in 1909, and he has greatly enlarged it and presents it now in a finished form. The index of authors who have treated polycythæmia, as given by Senator, contains over 250 names, a proof that the subject is of great interest.

The Family Health. By Myer Solis-Cohen, M. D., Fellow of the College of Physicians of Philadelphia: The Penn Publishing Company, 1910. Pp. 267.

This volume is intended for the layman, and presents in nontechnical language the various factors of dwelling, water supply, food and drink, dissemination of disease by insects, and personal hygiene, that are essential to maintain health. The volume is practical and deserves to have great popularity.

Pulmonary Tuberculosis and Sanatorium Treatment. A Record of Ten Years' Observation and Work in Open Air Sanatoria. By C. Muthu, M. D., M. R. C. S., L. R. C. P., Associate of King's College, London, Physician to Mendip Hills Sanatorium, Wells, Somerset, etc. New York: William Wood & Co., 1910. Pp. ix-201. (Price, $2.)

It is not an agreeable duty to be obliged to point out errors of fact and wrong deductions in a work written with evident sincerity and good intention. The candid reader will find many things to dissent from in Dr. Muthu's volume, and few authorities would be willing to accept it as representative of the practice in modern sanatoria. His curious belief in spontaneous tuberculosis and the possibility of "infection from within" is interesting as a survival of the dark ages preceding the discovery of the Koch bacillus. There is no scientific warrant whatever for the opinion that common forms of bacilli may change their properties and become identical with those of tubercle bacilli. Also, no physician experienced in the treatment of tuberculosis will agree that a rise of temperature with physical signs is more hopeful than no rise of temperature with the same physical signs. Fever is not an "index of the patient's resistance to the disease. Laryngologists and phthisiotherapists cannot approve of the statement that in tuberculous laryngitis, if the disease is early taken in hand, the majority of patients will get well—unfortunately the contrary is the case. Many of the author's ideas on treatment are as unsound and extravagant as are his pathology and interpretation of symptoms. His views on exercise and "yozi breathing" are pernicious and would be dangerous for many patients. Several proprietary food preparations are praised beyond their merits, and he attaches much importance to formaldehyde inhalations and static electricity. The latter he believes restores "the normal balance of metabolism"—that much abused word—and "increases glandular activity." How these vague and dubious influences affect favorably the course of tuberculous disease is not very clearly indicated. The very slender merits of this book would not seem to require a lengthy notice, but it is an example of much loose and inaccurate writing on tuberculosis which has recently found ready acceptance in the newspapers and magazines. When a work so bristling with errors is seriously offered to professional readers it is difficult to restrain one's impatience. With the popular interest which has been aroused in the campaign against consumption, however, nearly anything labeled tuberculosis will find a publisher.

Confidences. Talks with a Young Girl Concerning Herself. By Edith B. Lowry, M. D. Chicago: Forbes & Co., 1910. Pp. 94. (Price, 50 cents.)

It is the author's intention that this book shall form a close intimacy between mother and daughter, so that the knowledge set forth in the book will prepare the young girl for coming events. The instructions given by the mother following the advice laid down in the book will prevent the formation of such wrong ideas as might be acquired from the young girl's companions. The book will help mother and daughter alike to overcome difficulties which otherwise would prevent the mother from becoming a useful adviser to her daughter or the daughter from finding in her mother the best friend she has.

Oxypathie. Von Prof. Dr. Wilhelm Stoeltzner, Direktor der Universitäts-Poliklinik für Kinderkrankheiten in Halle a.S. Mit 16 Kurven. Berlin: S. Karger, 1911. Pp. 62.

The author wishes to introduce into therapeutics a new word, "oxypathy," which expression would be identical with the *arthritisme* of the French, the lithæmia of the English, and the *exsudative Diathese* of the Germans; all three names meaning the same, that is, an alimentarily or constitutionally produced insufficiency of the body to secrete incombustible acids without affecting the amount of the alkalies necessary to the welfare of the body, so that a detrimental condition may not be produced. Oxypathy will therefore be found under certain

conditions in all ages, but Stoeltzner speaks in his pamphlet especially of oxypathy in infants. He states that the poor condition of infants fed on cows' milk is the alimentary result produced by chronic phosphoric acid poisoning; but oxypathy can also appear in breast fed children where the milk is very rich in fat, and will, under certain conditions, liberate phosphoric acid in the intestines. To overcome these conditions, he has formulated certain rules in artificial feeding which he gives in his book.

Lehrbuch der Augenheilkunde. Heraugsgegeben von Dr. Theodore Axenfeld, Professor der Augenheilkunde in Freiburg i. Br. Zweite Auflage. Mit 11 Farbentafeln und [illegible] Theil mehrfarbigen Abbildungen im Text. Jena: G. Fischer, 1910.

The first edition of Axenfeld's System of Ophthalmology appeared two years ago and was well received. There are in the last issue special chapters on ophthalmoscopic diagnosis by Elschnig, on functional examination by Heine, on motility by Bielschowsky, on embryology by von Hippel, on injuries and sympathetic ophthalmia by Hertel, and a number of Oeller's beautiful color drawings of the fundus oculi. The text is most instructive, fully abreast of the latest scientific advance, and complete as well as authoritative. The illustrations are of unusual excellence artistically as well as technically. The subject of ophthalmic surgery suffers somewhat by reason of the description of the operations being scattered throughout the various chapters.

[illegible] d'anatomie pathologique. Par le Dr. L. Bérard, Chef des travaux d'anatomie pathologique à la Faculté de Lyon, médecin des hôpitaux. Avec 232 figures dessinées par l'auteur. Paris: G. Steinheil.

In this elementary treatise on pathological anatomy, designed primarily for the writer's own students, a topographical classification is followed, and the subjects are treated simply and concisely—almost too concisely perhaps to be entirely adequate. Although the ordinary microscopic as well as gross lesions are described in considerable detail, there is a curious omission of any allusion whatever to pathogenic microorganisms in their important relations to such subjects as tuberculous disease, syphilis, suppurative inflammations, and other infective processes. The numerous illustrations are reproduced from the author's own drawings and are very well done.

A Textbook of Bacteriology. A Practical Treatise for Students and Practitioners of Medicine. By Philip Hanson Hiss, Jr., M. D., Professor of Bacteriology, College of Physicians and Surgeons, Columbia University, New York, and Hans Zinsser, M. D., Associate Professor in Charge of Bacteriology, Leland Stanford, Jr., University, Palo Alto, California. With One Hundred and Fifty-six Illustrations in the Text, Some of Which are Colored. New York and London: D. Appleton & Co., 1910. Pp. xiv-745. (Price, $3.75.)

Although it may be doubted whether another textbook was needed in a science already represented by such excellent manuals as those of Park, Jordan, Muir and Ritchie, and Abbott, there is no doubt that the work before us will at once take high rank with the best. Particularly interesting are the general discussions in connection with infection and immunity. In the sections devoted to the individual bacteria more attention, it seems, might profitably have been given to a discussion of sources and modes of infection. Under typhoid fever the reviewer takes exception to the statements that the dangers from infected ice are considerable and that "excluding water and milk, all remaining causes of typhoid dissemination constitute about twelve per cent., and are found chiefly in the use of vegetables contaminated from infected soil and other food products." Under tuberculosis the rôle played by bovine bacilli in the causation of human infection is inadequately treated. In view of the immense amount of discussion to which it has given rise, this question might well be given an extra page or two. So also with the chapter on the diphtheria bacillus; more space would well be given to the occurrence of the organism in nature and to the ordinary modes of infection. It is apparent that none of these criticisms are serious objections to the work, and they are made mainly as suggestions for the next edition.

Atlas und Grundriss der Verbandlehre für Studierende und Aerzte von Dr. Albert Hoffa, a.o. Professor an der Universität Berlin, Geh. Medizinalrat, Direktor der Universitäts-Poliklinik für orthopädische Chirurgie. Nach des Verfassers Tod bearbeitet von Privatdozent Dr. Rudolf Grashey, München. Vierte, wesentlich vermehrte Auflage, mit 170 Tafeln und 134 Textabbildungen. München: J. F. Lehmann, 1910. Pp. v-152.

Grashey has produced a very good new edition of Hoffa's book on surgical dressing. The teaching of how to apply a proper bandage has, of late years, not received the proper attention from professors of surgery, and when, therefore, the late Professor Hoffa, in 1896, published his atlas, it was well received by the medical profession. Grashey's changes in the contents only add to the merit of the book, which he has brought up to modern ideas.

[illegible] Von Privatdozent Dr. A. Schüle, Oberarzt am ev. Diakonissenhause zu Freiburg i. Pr. Halle a.S.: Carl Marhold, 1910. Pp. 44.

Achylia gastrica is a topic with which the readers of our *Journal* should be well acquainted. The literature on the subject is very large, and the author does not add anything new, but gives a review of it. Of interest are his food table for the achylic and a description of how to prepare the nourishment.

The Prevention of Sexual Diseases. By Victor G. Vecki, M. D., Ex-President of the San Francisco German Medical Society, Member of the American Urological Association, etc. With Introduction by William J. Robinson, M. D. New York: The Critic and Guide Company, 1910. Pp. 132. (Price, $1.50.)

In this volume Dr. Vecki has presented a brief discussion of the various problems involved in the prevention of venereal diseases in a bold, direct, and we must say convincing and attractive manner. The author does not pose as a moralist, but tries to see things as they are and to show that the duty of the physician, the parent, and the statesman lies in the recognition of the sexual instinct as an ever present factor in human life and in the endeavor to prevent so far as possible any physical harm that may come from indulgence in sexual intercourse. Beginning with an account of the prevalence of the venereal peril and its consequences, Vecki passes on to a very brief, nontechnical description of the

venereal diseases. The need of education in sex hygiene is next considered, with special emphasis on the avoidance of alcohol as one of the most powerful promoters of sexual excitement. The problem of the prostitute is next considered, the author leaning toward sensible supervision as the best solution. "The problem of proper control is an exceedingly difficult one," he admits, "but is this a reason why we should not do some good or even only a little good?" The closing chapters deal with the duties of the government and of physicians in the prevention of venereal diseases and with measures of individual prophylaxis. The keynote of the work is "No one can be safe from venereal infection unless he knows all about it and is willing to use his knowledge to protect himself." The introduction, by Dr. Robinson, is written in his usual pithy manner, but few medical men will agree with him when he says that absolute continence is neither feasible nor desirable from a hygienic point of view. The book makes very pleasant and profitable reading and ought to be read by everyone who has occasion to advise young people on this subject.

Die Faeces des Säuglings und des Kindes. Die Bedeutung und Technik ihrer Untersuchung. Von Dr. ADOLF HECHT. Kinderarzt in Wien. Mit einem Vorwort von Hofrat Prof. Dr. TH. ESCHERICH. Berlin und Wien: Urban & Schwarzenberg, 1910. Pp. vi-186. (Through Rebman Company, New York.)

The nourishment of infants, its physiology and pathology, has lately received the proper attention of pædiatrists. If the incongruity between the food received and the capacity of absorption by the intestine is one of the most important causes of intestinal disturbances, then the examination of the fæces should lead to the solution of this much discussed subject. Hecht has for a number of years made examinations and experimentations with the fæces of infants at Escherich's clinic at Vienna and thus accumulated a great store of knowledge, which he produces in this book. He thus gives us a good review of the present knowledge of the examination of fæces of infants.

A Textbook of General Bacteriology. By EDWIN O. JORDAN, Ph. D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Fully Illustrated. Second Edition, thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1910. Pp. 594. (Price, $3.)

We heartily commended this book on its first appearance, in 1908, and will therefore only express our pleasure in being able to welcome a second edition in so short a time. Professor Jordan gives an interesting and eminently judicial presentation of his subject.

Das Virulenzproblem der pathogenen Bakterien. Epidemiologische und klinische Studien von der Diphtherie ausgehend. Von Edv. LAURENT, Stockholm. Mit 7 Kurven im Text und 7 Tafeln. Jena: Gustav Fischer, 1910. Pp. [illegible]

The author has made extensive researches on the epidemiology of diphtheria and other infections, studying particularly the course of individual cases as compared to the course of the epidemics. He is convinced that our present methods of studying the course of epidemics are insufficient and that entirely new viewpoints will have to be adopted in order to deal satisfactorily with the problems involved. He regards an epidemic as an organism consisting of other organisms and itself part of higher organisms, all of which are governed by the laws of life. They come into existence, develop, reach a certain acme, then age and die, and throughout are subject to change like other living organisms. The book contains a wealth of facts and raises many suggestive points.

MEDICOLITERARY NOTES

In the February installment of The Ne'er-Do Well, a tale of the Panama Canal, by Rex Beach, in *Everybody's*, Kirk Anthony, the hero, kisses a married woman. Better that no canal should have been dug, say we, than that such an incident should have occurred, and, what is worse, found a chronicler in one of our family magazines. It is well known that this sort of thing caused the downfall of the Roman Empire and some of our ablest prophets are awaiting, sadly perhaps but implacably, a similar fate on the part of the French Republic. Samuel McComb, D. D., discusses The Curse of Insomnia; we never knew it was a curse in the theological sense. Treatment of the curse includes, according to the reverend therapeutist, physiological, psychological, moral, and religious remedies. We wish to say that the article will be of great value to the sleepless, but we find it difficult to phrase the tribute without giving rise to misunderstandings, The remainder of the February *Everybody's* is also entertaining.

* * *

In a recent issue of a New York evening paper, there were by actual count thirty-six quack advertisements, not including the announcements of advertising dentists. Fitting glasses and treating deafness by mail seem to be particularly unconvincing. One "professor" takes three columns to expound his new method of curing epilepsy, hay fever, Bright's disease, and other ailments by the instillation into the eye of a colorless, odorless liquid; this, it appears, is the latest method of reaching the sensitive filaments of the nervous system. Wrinkles, piles, rupture, obesity, baldness, liquor and tobacco habits, heart disease, consumption, and all the various pathological conditions in the genitourinary tract are specialties of the quacks. The quack saves a good deal of time by having the patient make his own diagnosis, a detail which the regular practitioner is notoriously slow and finicky about.

* * *

We learn on good authority that the correspondent in the subscription book department of a large publishing house, a post of considerable importance we should imagine, receives for his services twelve dollars a week. Having had the privilege of perusing three of his answers to carefully written letters of inquiry, we have come to the conclusion that he is overpaid.

* * *

Readers of The Grain of Dust, the posthumous novel of David Graham Phillips, running in the *Saturday Evening Post,* will feel if possible an added pang of regret at the untimely death of that captivating and virile writer. He died at the age

of forty-three years, just when the oversureness of youth was beginning to mellow into the charity and breadth of manhood, without, however, any loss of strength in his fictional men or of unreasonableness and blindness inseparable from their sex in his women, who possessed all the charm of their defects. We consider his delineations of character and its development really wonderful in view of the limits within which popular taste has confined the novel, and his exposition of the secret springs of thought and action was often startling in its accuracy, artist though he was.

* * *

We have had the somewhat dubious pleasure of perusing *Courtship under Contract*, a novel by James Henry Lovell Eager, published by The Health-Culture Company, of New York and Passaic, N. J. Mr. Eager has ideas concerning matrimony which perhaps are worth listening to, but the construction of a story is not his *métier*. The style is involved and without distinction and the dialogue is forced and unnatural to the furthermost limits of grotesqueness.

Mr. Worldly-Wiseman was evidently so delighted with the visit of the staff of the *American* to his superb country residence, as told in the February issue, that he has decided to purchase the magazine together with all the contracts between the publication and the members of the staff. It will be interesting to note whether there will be any change in the policy of the *American* which has made of it so far such a conspicuous success among the low priced periodicals.

* * *

Apuleius, author of the *Metamorphoses*—generally known under the absurd name of *The Golden Ass*—is a writer little known except to the few who keep up their Latin after graduation, for his style is considered too provincial and corrupt to be studied by those whose Latin prose is in process of formation. The *Metamorphoses*, however, is well worth reading, not only as the earliest long novel, but for its genuine interest; it contains the famous story of Cupid and Psyche. We may claim Apuleius as a physician, for among other works lost to us were a treatise on botany, one on materia medica, and several hymns and other tributes to Æsculapius. Apuleius was a wit, an erudite writer on many subjects, and, it is interesting to note, like many a modern physician, a great "joiner" of secret societies. He was also greatly interested in magic, a somewhat dangerous recreation in his time. In fact he was accused of using magical arts to woo the widow who became his wife. His answer to this charge, which still exists, is very clever and without difficulty convinced his judges that there was nothing necessarily magical about the winning of a widow of thirteen years' standing by a young man, handsome, eloquent, accomplished, and fairly well to do.

* * *

The Coming Home of Madge's Johnny to found a hospital in his native Irish town is an excellent yarn by Seumas MacManus in the February *Red Book*. Contraband Skins, a story of opium smuggling, is a timely tale by Hulbert Footner in view of recent disclosures.

The excellent work of Dr. Laura B. Bennett among the school children of Los Angeles is the subject of another article in *Good Housekeeping;* in this the author, Bertha H. Smith, tells of Dr. Bennett's lectures to young women on personal and sexual hygiene in the public schools of the enterprising California town. Such lectures, we are most willing to admit, have saved many a girl from prostitution and many another from much unhappiness in matrimony.

* * *

Probably there are no recruits whatever to the ranks of prostitution from among the graduates of the institutions for the higher education of women. There is, however, occasionally an unhappy marriage by a graduate, and of such marriages a certain number must be due to sexual ignorance. In one famous women's college, noted for the high grade of its curriculum, there are *four* lectures on maternity given to fourth year students only, and on these attendance is voluntary. Apparently this comprises all the instruction given in any branch of physiology. We think, in view of what marriage means to a woman, that this makes a poor exhibit. As some one has remarked, the study of the sexual habits of the clam is thought to be refined and scientific, but that of human sexual hygiene commonplace and vulgar. Greek and economics are great intellectual comforts, but they can be thoroughly enjoyed after graduation only after the baby has been put healthily to sleep. It is not only that maternity cannot be properly expounded in four lectures, but its vast importance is wrongfully minimized in the minds of the girls as they compare the time the schedule gives to it with that devoted to purely ornamental themes.

* * *

Sir Arthur Conan Doyle concludes in the February *Strand* the hair raising Adventure of the Devil's Foot, which the emmetropic Holmes saw through at once. We found this story the least convincing of all the detective's exploits, in its resort to the realm of the grossly improbable. Mr. Maskelyne carries out his promise to disclose the trickery of the Davenport Brothers, an event too long delayed, for belief in the supernatural power of those mountebanks has misled countless thousands of people and their children.

* * *

Here is a neat phrase from The Reader's Love Story, by C. H. Bovill, in the February *Strand:* "'A tonic, my boy, that's what you want,' announced the other, with all the cocksure finality of the amateur physician." In An Academy for Waiters, by Paul Edwards, the reader can learn much of value in ordering a meal. He may learn, also, that a waiter must possess the patience of Job, the wisdom of Solomon, the wit of a diplomat, the skill of an artist, and the bearing of a prince—no bad equipment for a physician. The Barnes Mystery, by William Marsh, depends upon the villainy of two London surgeons, as coldblooded a couple of scoundrels as we have ever met in fiction. We do not believe that we are often considered villainous, we doctors, but coldbloodedness is only too often mistakenly laid at our doors.

An important and, to oculists, a startling article is Why Our Glasses Don't Fit, by Algernon Tassin, in the February *Good Housekeeping*. After having been personally fitted with twenty-three pairs of glasses for a complicated refractive error, Mr. Tassin discovered the astonishing fact that the lenses in many trial cases were wrongly numbered, the deviation reaching in some cases as high as five degrees. Oculists will find in this discovery the explanation of some of their most baffling and heart breaking cases, where an excellent result has been obtained in the office, but the patient has never been comfortable after the prescription has been filled.

NEW PUBLICATIONS

Bresler, Johannes.—The Treatment of Syphilis by the Ehrlich-Hata Remedy (Dioxydiamidoarsenobenzol). A Compilation of the Published Observations. Second Edition, Much Enlarged. With the Portraits of Ehrlich and Schaudinn. Translated by Dr. M. D. Eder, with an Abstract of the Most Recent Papers. London: Rebman Limited; New York: Rebman Company, 1911. Pp. xii-122. (Price, $1.)

Bizard, Léon, et Lesage, Louis.—La Préparation 606. (Etat actuel de la question). Paris: Vigot Frères, 1911. Pp. 58.

The Proceedings of the Charaka Club. Volume III. New York: William Wood & Co., 1910. Pp. xii-174. (Price, $3.)

Zenner, Philip.—Education in Sexual Physiology and Hygiene. A Physician's Message. Cincinnati: The Robert Clarke Company, 1910. Pp. viii-126.

Barnhill, John F., and Wales, Ernest de Wolfe.—Principles and Practice of Modern Otology. With 314 Original Illustrations, Many in Colors. Second Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 508. (Price, $5.50.)

Keith, Arthur.—Human Embryology and Morphology. Second Edition, Revised and Enlarged. Second Impression. New York: Longmans, Green, & Co.; London: Edwin Arnold, 1911. Pp. xi-402.

Patrick, Hugh T., and Bassoe, Peter.—Nervous and Mental Diseases. Volume X of the Practical Medicine Series, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery, Under the General Editorial Charge of Gustavus P. Head, M. D., and Charles L. Mix, A. M., M. D. Series 1910. Chicago: The Year Book Publishers, 1910. Pp. 248. (Price, $1.25.)

Miscellany.

A Physician's Fate.—Some time ago, a Dr. Franz in an Austrian village reported a case of typhoid fever and had the patient removed to a hospital for infectious diseases. Unluckily, just at that time maneuvers of the army were to take place in this district, and the village of Reidan, where the above mentioned case occurred, was to have been the headquarters. On account of the typhoid patient this plan was altered and the villagers lost the prospect of the pleasure and profit due to the temporary occupation. The grocers and innkeepers of the village therefore instituted a veritable boycott against the physician. Their influence caused him to lose his appointment as district physician and his practice with the population. Finally his life, his family, and his house were exposed to the greatest danger. The people wanted to starve him and his family out for having done his duty. When the infuriated peasants failed to drive the doctor away, actions for damages were brought against him. The excitement was too much for the poor doctor; he suddenly died at the age of thirty-six from paralysis of the heart. But now the organization of medical practitioners has cooperated and the village is under boycott. It can get no doctor until full provision has been made by the local authorities for the family of the outraged doctor. Furthermore, the government has turned its attention to the matter, so that the guilty will receive punishment. In order to prevent a recurrence of similar events, strict regulations will be made in all cases of appointments of country physicians, in which the duties of the doctor toward public health will be clearly defined. The incident shows what a doctor can expect if the population is of a low standard of enlightenment. (*Journal of the American Medical Association*, February 4, 1911.)

Official News.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the United States Public Health and Marine Hospital Service for the seven days ending February 8, 1911:

ANDERSON, J. F., Passed Assistant Surgeon. Directed to proceed to lower Potomac River on special temporary duty.

BAHRENBURG, L. P. H., Passed Assistant Surgeon. Granted one day's leave of absence, January 8, 1911, under paragraph 191, Service Regulations; granted thirteen days' leave of absence from January 21, 1911, on account of sickness.

BLOUNT, B. B., Acting Assistant Surgeon. Granted thirty days' leave of absence from February 1, 1911.

KOLB, L., Assistant Surgeon. Granted three days' leave of absence in January, under paragraph 191, Service Regulations.

MULLAN, E. H., Passed Assistant Surgeon. Granted one day's leave of absence, January 22, 1911, under paragraph 191, Service Regulations.

SALMON, T. W., Passed Assistant Surgeon. Granted two months' and ten days' leave of absence from February [illegible].

SCHWARTZ, L., Acting Assistant Surgeon. Granted two days' leave of absence, January 13 and January 22, 1911.

SINCLAIR, A. N., Acting Assistant Surgeon. Granted one month's leave of absence, with pay, and four months and fifteen days without pay, from April 1, 1911.

STEMPLE, LOUIS, Pharmacist. Directed to proceed to San Francisco, Cal., and report to the medical officer in command of the United States Marine Hospital, for duty and assignment to quarters.

WETMORE, W. O., Acting Assistant Surgeon. Granted one day's leave of absence, January 22, 1911, under paragraph 210, Service Regulations.

WHITE, J. H., Surgeon. Leave of absence, without pay, for one month from January 5, 1911, amended to read [illegible]

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States [illegible]

AUSTIN, THOMAS C., First Lieutenant, Medical Corps. Left the Army General Hospital, San Francisco, Cal., for service in the field on the Mexican border.

AYDELOTTE, JOHN T., Lieutenant, Medical Corps. Left Fort Sam Houston, Texas, with troops F and H, 3d Cavalry, for duty in the field at Marfa, Texas.

BIERBOWER, H. C., Lieutenant, Medical Reserve Corps. Left Fort Robinson, Neb., en route to Fort Meade, S. D., for duty in the field with 4th Cavalry.

Bourke, James, Captain, Medical Corps. Relieved from duty at Fort Leavenworth, Kansas, and ordered to Fort Crockett, Texas, in time to arrive there about March [illegible], 1911.

Cowles, Calvin D., Jr., First Lieutenant, Medical Corps. Ordered to report to Lieutenant Colonel Henry P. Birmingham, Medical Corps, president of the Examining Board, at the Army Medical Museum Building, Washington, D. C., for examination for promotion.

Duncan, William A., Captain, Medical Corps. Relieved from duty at Vancouver Barracks, Washington, and will repair to this city and report for duty at the Field Medical Supply Depot.

Foster, George B., Jr., Lieutenant, Medical Corps. Relieved from duty at the Army Medical School, Washington, D. C., and ordered to Fort Leavenworth, Kansas, for duty.

Fox, James S., Lieutenant, Medical Corps. Ordered to duty with troop L, 3d Cavalry, in field at Samfordyce, Texas.

Ireland, M. W., Major, Medical Corps. Ordered to proceed to Chicago, Ill., to attend the Seventh Annual Conference of the American Medical Association, to be held in that city March 1, 2, and 3, 1911.

Johnson, Howard H., Captain, Medical Corps. Leave of absence extended to and including February 15th; left Fort McDowell, Cal., on leave of absence to include February 15, 1911.

Kerr, James D., Lieutenant, Medical Reserve Corps. Resignation accepted by the President to take effect February 7, 1911.

Le Hardy, Julius C., Lieutenant, Medical Reserve Corps. Directed to proceed from Manila, P. I., to San Francisco, Cal., on March 15, 1911, instead of February 15, 1911.

Moncrief, William H., Captain, Medical Corps. Upon arrival at San Francisco, Cal., will proceed to Fort Riley, Kansas, for duty.

Napier, Edward L., First Lieutenant, Medical Corps. Left Army General Hospital, San Francisco, Cal., for duty in the field on Mexican border.

Phillips, Hiram A., First Lieutenant, Medical Corps. Ordered to report to Lieutenant Colonel Henry P. Birmingham, Medical Corps, President of the Examining Board, at the Army Medical Museum Building, Washington, D. C., for examination for promotion.

Pulver, Arthur L., Lieutenant, Medical Reserve Corps. Granted leave of absence for one month and ten days.

Schmitter, Ferdinand, Captain, Medical Corps. Ordered to repair to this city for special duty in the laboratory at the Army Medical School for a period not to exceed seven days.

Trinder, John H., Lieutenant, Medical Reserve Corps. Reported for temporary duty at Fort Totten, N. Y.

Weed, Frank W., Captain, Medical Corps. Reported for temporary duty at Madison Barracks; left Fort Totten, N. Y., February 1, 1911.

Welles, Edward M., Jr., First Lieutenant, Medical Corps. Left Army General Hospital, San Francisco, Cal., for service in the field on Mexican border.

Williams, Harry B., Lieutenant, Medical Reserve Corps. Granted twenty-nine days' leave of absence.

The following named first lieutenants, Medical Corps, are ordered to report to Major William E. Purviance, Medical Corps, President of the Examining Board at Manila, P. I., for examination for promotion: John R. Barber, Mahlon Ashford, Edward G. Huber, and William L. Hunt.

The following named first lieutenants, Medical Corps, are ordered to report to Lieutenant Colonel James D. Glennan, Medical Corps, President of the Examining Board, Army General Hospital, San Francisco, Cal., for examination for promotion: John S. Lambie, Jr., Joseph A. Worthington, Arthur N. Tasker, Howard McC. Snyder, and Garfield L. McKinney.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending February 11, 1911.

Brown, H. L., Passed Assistant Surgeon. Ordered to the navy recruiting station, Los Angeles, Cal.

Douglass, S. W., Pharmacist. Detached from the Naval Hospital, Mare Island, Cal., and ordered to the Asiatic Station.

Ely, C. F., Passed Assistant Surgeon. Ordered to temporary duty at the Naval Hospital, Naval Home, Philadelphia, Pa.

Furnell, C. B., Pharmacist. Detached from the Naval Hospital, Washington, D. C., and ordered to duty at the Naval Hospital, Mare Island, Cal.

George, C. McI., Assistant Surgeon. Ordered to duty at the Naval Hospital, Navy Yard, New York, N. Y.

Haynes, J. P., Passed Assistant Surgeon. Detached from the naval station, New Orleans, La., and ordered to the Asiatic Station.

Lumsden, G. P., Medical Inspector. Transferred to the retired list from February 7, 1911.

Munger, C. B., Passed Assistant Surgeon. Detached from the navy recruiting station, Los Angeles, Cal., and ordered to the *Yorktown*.

Randall, J. A., Passed Assistant Surgeon. Ordered to the naval station, New Orleans, La.

Sheldon, L., Jr., Assistant Surgeon. Ordered to duty at the Naval Hospital, Norfolk, Va.

Births, Marriages, and Deaths.

Married.

Gaines—Castle.—In New York, on Thursday, February 2d, Dr. Clement C. Gaines, and Miss Elizabeth Castle.

Knox—Blackman.—In Bridgeport, Connecticut, on Friday, January 27th, Dr. Louis G. Knox, and Mrs. Bertha P. Blackman.

Died.

Allen.—In Charlotte, Michigan, on Sunday, February 5th, Dr. Giles B. Allen, aged sixty-seven years.

Bosworth.—In Atlanta, Georgia, on Wednesday, February 1st, Dr. Josiah Bosworth, aged sixty-four years.

Bradford.—In Philadelphia, on Wednesday, February 1st, Dr. John M. Bradford, aged fifty-two years.

Davis.—In Hot Springs, Arkansas, on Thursday, February 2d, Major O. F. Davis, Surgeon, United States Army, aged fifty-two years.

Estill.—In Colorado Springs, Colorado, on Thursday, February 2d, Dr. J. T. Estill, aged sixty-one years.

Gaudet.—In New Orleans, Louisiana, on Wednesday, February 1st, Dr. Charles A. Gaudet, aged sixty-three years.

Hamnett.—In Washington, Pennsylvania, on Friday, February 3d, Dr. Charles J. Hamnett, aged seventy-six years.

Hopkins.—In Denver, Colorado, on Saturday, February 4th, Dr. Samuel D. Hopkins, aged thirty-nine years.

Janeway.—In Summit, New Jersey, on Friday, February 10th, Dr. Edward Gamaliel Janeway, of New York, aged sixty-nine years.

Kimball.—In Jackson, Michigan, on Sunday, January 29th, Dr. Amy Kimball, aged sixty-four years.

Low.—In Pulaski, New York, on Friday, February 3d, Dr. Frank S. Low, aged eighty-two years.

McClung.—In Leipsic, Ohio, on Friday, February 3d, Dr. John C. McClung, aged sixty-seven years.

Nugent.—In Chicago, Illinois, on Friday, February 3d, Dr. William R. Nugent, aged seventy-eight years.

Patterson.—In New Brighton, Staten Island, N. Y., on Monday, February 6th, Dr. Horace W. Patterson, aged forty years.

Reed.—In New York, on Thursday, February 9th, Dr. Augusta Reed, of Lowell, Massachusetts, aged fifty-nine years.

Stoddard.—In Prattsburg, New York, on Friday, February 3d, Dr. Philo K. Stoddard, aged eighty-five years.

Truesdale.—In Poland, Ohio, on Sunday, February 5th, Dr. Seth H. Truesdale, aged sixty-eight years.

Von Galny.—In Galveston, Texas, on Wednesday, February 1st, Dr. August Von Galny, aged eighty-four years.

Wallace.—In Aledo, Illinois, on Wednesday, January 25th, Dr. Joseph M. Wallace, aged fifty-seven years.

Ward.—In New York, on Wednesday, February 8th, Dr. George Whitfield Ward, aged sixty years.

Wilder.—In New York, on Sunday, February 5th, Dr. Louis de Valois Wilder, aged ninety-seven years.

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Original Communications.

REPORT OF A CASE OF MENINGOMYELITIS WITH COMPLETE RECOVERY.*

BY WILLIAM M. LESZYNSKY, M. D.,
New York,

Neurologist to the Lebanon and Harlem Hospitals.

This man, thirty-seven years of age, is a cooper by occupation. He has always been extremely moderate in the use of alcohol; has never contracted syphilis; has not indulged in sexual excesses, nor suffered from any traumatism. In November, 1908, after unusually laborious work, and while in a profuse perspiration, he became thoroughly chilled after riding in an open wagon exposed to a cold wind. Within a few hours he complained of pain in the lumbar region, and the posterior portion of the left thigh, lasting several days. He returned to work, having more or less lumbar pain for two weeks, which was severe enough at times to prevent sleep. The pain gradually ceased, and he remained entirely well for three weeks. Then, after over-exertion and exposure to wet weather again, pain returned in the lumbar region and in the left thigh both anteriorly and posteriorly. He continued at work, however, until four days before I saw him in consultation with his physician, Dr. A. A. Mendel, when the pain had become worse, and extended to both hips and thighs. There was retention of urine, and both lower extremities were weak and he was unable to walk. At that time, paraparesis was well marked, but confined principally to the iliopsoas and posterior thigh groups. The pain was increased by flexing the thigh upon the abdomen with the leg extended, but there was no tenderness over the nerve trunks or vertebral column. The plantar reflexes and knee jerks were feeble, the cremasteric and Achilles reflexes abolished on both sides.

One week later (December 4, 1908) he was admitted to my service in the Lebanon Hospital with almost complete flaccid paraplegia, only slight power of dorsal flexion of the right foot remaining. Pulsation was very feeble in all palpable branches of the femoral arteries, and both feet and ankles were cold, cyanotic, and œdematous. The left knee jerk was feeble and the right absent. Plantar, Achilles, and cremasteric reflex absent on both sides. The abdominal reflex was present on the left, and absent on the right. The abdomen was prominent and slightly distended. No tenderness or pain on pressure over the peripheral nerve trunks or muscles. Tactile and temperature sensibility were normal. Hypalgesia was present over both extremities extending anteriorly to four inches below Poupart's ligament, being more pronounced over the anterior portion of the left thigh, and posteriorly to the level of the lower border of the sacrum. Sensibility to pain was also diminished over the perinæum. There was persistent retention of urine which had to be regularly relieved by catheter, and a bed sore had formed over the sacrum. The heart, lungs, abdominal organs, and vertebral column presented no evidence of disease. Rectal examination was negative. The upper extremities, pupils, and eyegrounds were normal. Temperature, 101.6° F.; pulse, 108; respirations, 24. Urine, acid; specific gravity, 1.018; albumin, phosphates, and glucose absent; no casts or renal epithelium; a few leucocytes. The cerebrospinal fluid was clear and under normal pressure; no lymphocytosis; Wassermann and globulin reactions were negative. Blood showed, hæmaglobin, eighty-five per cent.; white blood corpuscles, 8,100; red blood corpuscles, 4,466,000; polynuclears, seventy per cent.; lymphocytes, twenty-eight per cent.; mononuclears, two per cent. Wassermann test negative.

Three days later the paraplegia was complete, with the abolition of all reflexes, and the patient complained of severe continuous pain radiating from the lumbar region to the toes. The faradic muscular irritability was diminished in the crural and peroneal groups, and lost in the anterior tibial groups on both sides. The pain continued more or less for about ten days, and was relieved by the cautery applied over the lumbar region. The Babinski toe reflex then developed on the right side, the knee jerks gradually returned and became exaggerated, with bilateral Babinski reflex, and pseudo foot clonus, and there was some return of motility in both iliopsoas. The hypalgesia was replaced by hyperæsthesia, and the urine was passed voluntarily at the end of the fourth week. About the fifth week, cystitis developed, but subsided in a few days after irrigation of the bladder and the use of hexamethylenamine. During the first six weeks of the illness the temperature ranged from 101° to 104° F.

Four weeks after admission, improvement commenced and progressed slowly. At the end of the second month the bed sore was completely healed, motility had returned in both extremities, and the knee jerks were still active without clonus. The Babinski plantar response persisted for several weeks and then disappeared, and the faradic reaction became normal. The duration of the illness was about five months. He gradually made a complete recovery and resumed his usual occupation. It is nearly two years since his recovery, and he has continued in perfect health without a single sign to indicate previous spinal cord involvement.

The treatment was frequent change in the position of the patient; passive movements and general massage of the lower extremities; cauterization over the lumbar region; sponge baths when indicated; catheterization; hexamethylenamine; saline cathartic or enema when required, and regulation of the diet. After the first week, I looked upon the case as a neuritis of the dorsolumbar roots, which had extended upward and produced an incomplete form of localized meningomyelitis. In the presence of normal cerebrospinal fluid, and the complete recovery of the patient, the myelitic process must have been of a very mild degree, in all probability being a so called inflammatory œdema or vascular congestion.

[illegible] sensory symptoms were very slight, and that all reflexes were completely abolished for four weeks. When the knee jerks returned and became exaggerated, and the Babinski reflex developed and persisted, I was inclined to assume that the lateral columns of the cord had become involved, and would degenerate as a residual condition occasionally observed after acute transverse myelitis. This assumption rendered the prognosis as to complete recovery rather dubious.

As to the prognostic value of the Babinski type of plantar response, it is now pretty well conceded

*Patient exhibited [illegible]

that it is a very valuable indication of involvement of the pyramidal tract in some part of its course. But, its presence cannot always be accepted as significant of pyramidal degeneration. I have seen it quite frequently as a transient symptom after head injuries, and I have also noted its presence, disappearance, and return in the course of brain tumor cases, probably as a result of fluctuation in the intraventricular pressure.

Cases of myelitis are on record in which complete recovery has taken place, but they are exceedingly rare. They have usually been either of a mild or atypical character, or of the type associated with or following some acute infectious disease.

145 West Seventy-seventh Street.

A CONTRIBUTION TO THE STUDY OF FATS AND LIPOIDS IN ANIMAL TISSUE.

II. *Soap and Cholesterin in the Tonsils.*

By Jonathan Wright, M. D.,
New York.
(From the [illegible] Eye, Ear, and Throat Hospital.)

Lipoids was a term introduced, it is said, by Overton in order to designate certain bodies found in living tissue which possess some at least of the physical properties and of the chemical constitution of fatty matter, such as their reactions toward the alcohols and other narcotics and fat solvents. While some seem inclined only to include in the term those compounds containing nitrogen and phosphorus, the general biological idea is more comprehensive. The name itself, inexact and indefinite as it is, has given rise to considerable misapprehension as Aschoff[1] points out, for the term is taken a little too seriously as indicating an intimacy of relationship with and a directness of genesis from the fats which has been far from satisfactorily established. The important point, it seems to me, is to remember that in watery media they present certain phenomena of surface tension and of behavior dependent thereon which we are identifying even more closely with what, since the beginning of scientific observation, we have been pleased to regard as "vital" actions. With the more general aspects of the subject I will deal elsewhere. Here I am chiefly concerned, in addition to the study of the soaps in the tonsil, with the indications of the presence of the lipoids cholesterin and lecithin, as revealed by recent processes of histological technique.

I have chosen to associate the soaps with this study of cholesterin, because in the tonsil morphologically and tinctorially at least, they seem to me at this stage of our technical knowledge to be inextricably associated with it. It seems very clear that through the fatty acids the soap is derived from the neutral fat, but there is some reason to believe that in some way the process, in the laboratory of the cell, is also reversed, because after emulsion it is supposed that the neutral fat assumes the form of soap before it can be taken up through cell membranes, in the intestine and elsewhere; yet within the cell it again answers to the tinctorial and chemical reactions for neutral fat, which apparently under the terms of experiment is inert as regards osmosis, by which for the most part nutritive material finds its way into the cell. While it is vigorously denied that in the "living" processes these laws hold and that neutral fat *is* absorbed through cell membranes, as a matter of fact such a transposition has not been clearly proved, and the only transfer of fat from the outside of a cell to the inside which we can demonstrate, is by means of phagocytosis. The fat is then enclosed in some outer envelope which *opsonofies* it, to use a term more mysterious than osmosis, but much in vogue. In our study of the neutral fats we have watched this act of transfer, especially by means of the erythrocytes, in the lymphoid tissue of the tonsil.

For the detection of soap, which we have reason to believe is usually present in the tissues in the form of an oleate of one of the basic salts and, more important for us here, in the form of an oleate of cholesterin, I have made use of the formula given by Schmorl.[2] Portions of the same material were used alike for the detection of neutral fat, soap cholesterin, and lecithin.

Staining for Soap and Fatty Acids

1. Small pieces hardened in saturated solution of calcium salicylate in ten per cent. formalin, several hours.
2. Frozen sections in concentrated solution of copper acetate, for twenty-four hours, in thermostat, or cold.
3. Wash out in distilled water.
4. Stain sections in Weigert's hæmatoxylon at least twenty minutes.
5. Differentiate in much diluted Weigert's borax ferricyanide of potassium solution until the red blood cells are decolorized.
6. Wash out in water. Dehydrate. Xylol. Balsam.

For fatty acids alone, omit calcium salicylate.

Since in the living tissue and in the perfectly fresh tissue when neutral fat is broken up into its glycerine and its fatty acid the latter immediately forms with the sodium or potassium or calcium an oleate or a soap, I have made no attempt to differentiate the fatty acid from the soap. In Schmorl's formula the use of the calcium salicylate in the formalin fixative is for the purpose of forming a calcic oleate, which, in distinction to the other oleates, is insoluble in subsequently used reagents. Just how much of the other oleates escape change into calcic oleate by this method is a question. In the absence of a satisfactory answer I am led to conjecture that some of them are not thus converted. The frozen sections are then put into a *lack* or mordant of copper acetate, as is done in neurological technique, whereby the hæmatoxylon in Weigert's formula is adsorbed to them in a distinguishing way. It will be noted I have retained Schmorl's direction to use this mordant in the thermostat. Fischer, who had to do with introducing this so called Benda-Fischer method, insists that when so used the cholesterin in the tissue is also made receptive for the hæmatoxylon. I have some reason to doubt this, but I have used it both hot and cold and since cholesteryl oleate, a soap of cholesterin, seems to be the form of the material as demonstrated by this method, one is compelled to draw inferences from comparison of a large number of sections treated in this varying way and from a comparison of the sections stained for cholesterin alone.

Still further embarrassment arises from the direction to decolorize until the red blood cells no longer contain the stain. There is every reason to suppose that soap in the form of a cholesteryl oleate exists normally in the erythrocytes, and carrying the decolorization to this extent, especially if one carries it to the extent of decolorizing the red blood cells effused everywhere in the lymphoid tis-

[illegible] Nov. 1, 1902.

2. Schmorl. Die pathologisch-histologischen Untersuchungsmethoden. Leipsic, 1900, 1st edition.

sue, one rarely finds any soap left anywhere except as detritus and irregular masses. Varying this step in the process also seems the only way of arriving at any appreciation of the presence of soap in the tissues. However, by a prolonged experience with the stain manipulated in varying ways one comes to have some little idea of the way the fats and the lipoids occur when they are in the form of soaps.

As intimated, their presence in the erythrocytes meets with difficulty of demonstration owing to their association with the cholesterin regularly present there. Perhaps the most suggestive pictures are furnished by that stage of decolorization in the ferriccyanide, which removes the stain from some and not from others of the blood cells existing side by side in the lumen of a vessel or in effused masses of erythrocytes. It is difficult to interpret this appearance in any other way than that the cholesterin, which exists as a soap in the erythrocytes, varies with the individual cell or that the other oleates also vary in that way. It is probably true of both, but the evidence in regard to either is unsatisfactory. The stipple cell or granulocyte, the leucocyte among the erythrocytes in the vessel, when it shows the appearance analogous to that represented by the artist in Fig. 3, as free in the tissue, retains the

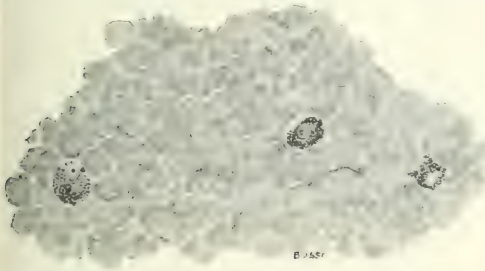


FIG. 3.—Showing the [illegible] stipple cells [illegible] granulocyte [illegible] by the stains for soap and for cholesterin.

stain after the erythrocytes have all lost it. As it presents an appearance identical with that shown by the cholesterin process, I assume that in the leucocyte, when cholesterin is present, it is always present as an oleate. As to the endothelium, I have observed soap under the same conditions as have been described for the neutral fat with the simple stain. Within the healthy vessel I have not remarked that the endothelium shows any fat or soap granules. Outside there are some cells which might be identified as the endothelium of the lymph spaces which do contain it. Indeed since with this soap stain process cell definition is not very good, the possibility of such appearances being wrongly ascribed to the endothelial cells is more pressing than with the Sudan stain for fat. Before discussing this, however, the following observation must be considered. Practically in all tonsils, children or adults, one of the processes of regression is vascular obliteration often accompanied by proliferation of the endothelium. Such buds of cells are often seen densely stained, with an intensity that does not yield to the decolorizing process. In such vessels, as has been demonstrated for the degenerated aorta walls, the fibrous structure also shows a deposit of the calcic soap to a marked degree. Careful scrutiny is necessary not to confuse this black mass of all but indistinguishable structure with a similar appearance due to the deep pigment frequently retained by the erythrocytes in a plugged arteriole, where what I take to be cholesteryl oleate also frequently persists. Very curious pictures are sometimes presented in thick sections by either of these conditions, whether the soap stain or that for cholesterin is used. As you focus up and down with the high objective the spiral course of the capillary or arteriole when running slightly obliquely to the axis of vision is beautifully demonstrated. The reason for this, in a teleological way, is apparent in erectile tissue like that of the nasal turbinates, but for the tonsil the *raison d'être* does not intrude itself.

During the course of these investigations I had occasion to examine one of the rare cases of bone formation in the tonsils, a specimen sent me by Dr. Freudenthal. In these cases the bone is formed in the stroma which supports the lymphoid elements and is in the deeper layers. Cartilage cell formation seems to be the preliminary stage. Noting in sections of the specimen that the routine hæmatoxylon stain was more intense in the lymphoid areas in immediate juxtaposition to the bone areas, the Benda-Fischer stain as described was employed, though fat dissolving agents had already been used. The bone cells were densely stained by it and the fibrous layers of the periosteum, as were the other cells in the neighborhood. Evidently, then, we had here an insoluble calcic oleate as a tissue component (since ether, alcohol, and xylol had not dissolved it), and we may conjecture that this came about through some trick of metabolism whereby a fatty acid was produced in the fibroblasts, which resulted in the deposit of the bone salts from the circulation. Singular to say, however, the cartilage cells showed not a vestige of the stain. Whether these cells had intra vitam, as a constituent, an oleate of the soluble salts, which were exchanged for the calcic salt in the change to bone cell, is an interesting question which cannot be entirely solved at present, but it seems probable. The connection of areas of fat in pathological areas with heterogeneous bone deposits in old lesions thus receives a rational explanation, not possible otherwise. It may be claimed by some also that this is good evidence of fat appearing as the result of cell degeneration, but it is aptly illustrated here that it is better to say *cell change*.

The consideration of soap as existing in the stipple cells I shall leave to be more thoroughly taken up under the head of cholesterin. As it is shown in thoroughly decolorized sections treated with the copper acetate in the cold to exist in the mononuclear lymphocytes, we must conclude, if we accept the method of staining as of any differential value at all that other forms of soap than that of a cholesteryl oleate do occur.[3] Such demonstrations of it,

[illegible] regularly present as an agent of cell resistance to bacterial in-

however, are so infrequent that I hesitate to ascribe to it any differential value. Indeed I am unable to do so aside from the rarity of its demonstration, since neither the topography of its occurrence nor the morphology of the granulocyte differentiate it any way from the cholesterin cell which is shown in Fig. 3, where they are seen to differ in shape from the neutral fat granulocyte, though the artist has failed to give enough of the oblong appearance which distinguishes it, that being lost somewhat in perspective. Like the cholesterin cell it is apparently always a mononuclear. In genesis and in chemical structure soap is clearly more nearly related to neutral fat than to the lipoids, but morphologically and

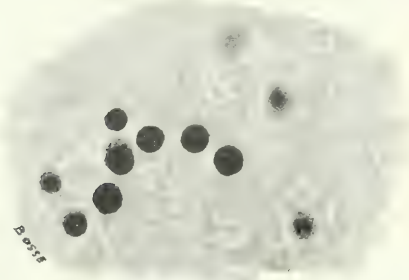


Fig. 4.—Showing the stained globules of cholesteryl oleate free in the tissue as a cluster, evidently scattered from some "lipoid cell" in which they originated.

tinctorially it is thus seen to be closely bound up with cholesterin, and the conclusion is unavoidable that cholesterin frequently exists in the tissues in the form of a soap. Indeed until more extended study failed to reveal it, I had supposed that a certain amount of saponification took place on the surface of the tonsil and in this form fat found an entrance into the epithelial cells. So far as I have been able to detect it, such does not seem to be the fact, though it is true that there is occasionally some reason to suppose that it exists there. Rarely small globules, more frequently unorganized detritus, is seen in and on the epithelial layers with the soap stain, as used differentially, but this is infrequent and is not the characteristic of soap distribution. There are one or two observations in my notes of an appearance of the black soap color in the interstices of the surface squamous epithelium, as though some of the material had been carried in from the surface by means of capillary attraction from the passing food, but in the large number of sections studied, one is not impressed when such appearances are only noted once or twice. Nevertheless, bearing in mind the probable inefficiency of the process in demonstrating all the forms of soap one can enter no reliable negation of the fact.

Another observation, repeatedly noted in the soap stained sections in regard to the epithelium, was that when there was a solution of continuity in the epithelium (whether it was an artefact or the result of trauma before the removal of the tonsil was not always apparent), the broken ends of the epithelial cells showed the deep black stain. It is one of the many instances which have induced many workers with the fat and lipoid stains to remark that even the slightest effect of the environment of a foreign kind is enough to disturb the normal condition of these tissue components. The same observations as to the effects of ether administration were noted in the soap stained sections, as recorded in the previous paper for neutral fat.

The most striking structure revealed by the soap stain is the globule or ring body. Indeed it is more frequently and clearly revealed with the soap stain process I have used than with the other stains employed, though the lipoids, especially cholesterin, apparently enter into the composition of the majority if not of all of the globules. Notwithstanding such pictures as are seen in Fig. 4, are frequent with the soap stain, inasmuch as such globules and ring bodies are revealed in all the work to a certain extent I will leave a description of the conditions under which they are found until something has been said of the demonstration of cholesterin and of the attempts to identify lecithin tinctorially in the tonsillar tissue.

Cholesterin: For the demonstration of this I have employed the formula recently published by Dietrich which follows:

Process of Dietrich[4] for the detection of cholesterin, a modification of the method of Lorain-Smith:

1. One to two days fixing in formalin.
2. Frozen sections.
3. Put in saturated watery solution of potassium bichromate in thermostat for from twenty-four to forty-eight hours.
4. Washed in water.
5. Stained in Kul-chinski[5] acetic acid hæmatoxylin from four to five hours in thermostat.
6. Wash off in water.
7. Differentiate over night in Wiegert's boropotassium ferricyanide.
8. Thoroughly wash out in water.
9. Mounted in lævulose syrup.

This differentiates from neutral fat, fatty acid, the oleinate of calcium showing faintly.

In regard to the remarks which have been made about the oleate of calcium, I may add that the oleate of cholesteryl is the most common form, apparently, under which cholesterin is found. There are certain appearances connected with the demonstration of degenerating bloodvessel walls alluded to in discussing the soap stains, which lends probability to this statement, which is taken from Dietrich's paper, though, since the cholesterin is often demonstrated by the soap stain in the erythrocytes and since this cholesterin stain stains the erythrocyte plug of such vessels deeply, I am unable to confirm it. Indeed it is at once evident that the erythrocyte is the one cell which everywhere most constantly imbibes the hæmatoxylin and retains it. In this respect the reaction is even more prompt in the erythrocyte for the cholesterin than for the neutral fat, but as with neutral fat and as with the soap stain continued differentiating very soon reaches a stage where it is seen there is a difference in the reaction of individual blood cells, some remaining intensely black and others side by side having lost all of the color. A very vivid instance of this is

[4] Dietrich. *Centralblatt für Pathologie*, xxi, 10, May, 1910.

[5] Ten per cent. hæmatoxylin in absolute alcohol, 10 c.c.; two per cent. acetic acid in water, 90 c.c.

seen in Fig. 5, where within a vessel a few blood cells are seen intensely black and others quite free from tint. It is well to note in passing that it is the red cells deformed by pressure which take the cholesterin stain.

What I have said for the stipple cell or granulocyte under the heading of soap may be repeated for the cholesterin, only perhaps with the cholesterin process the stipple cells are more frequently seen, less often with the soap process, and least frequently with the osmic acid, the neutral fat stain revealing a different phase of the same cell as noted. The most interesting demonstration of cholesterin is seen in its relationship to the surface epithelium. In Fig. 5 I have had the artist draw a sketch of

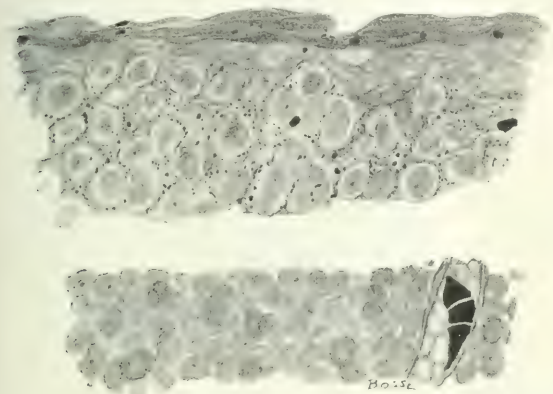


Fig. 5.—Showing the distribution of cholesterin in the epithelial layers, and its absence from the stroma just beneath the epithelial area, except for the deep stain of some of the compressed erythrocytes in a capillary.

the epithelium with its subjacent stroma support and then move the section so that the region but a few microns beneath it should show. I do not mean to assert that all regions show such a sharp distinction as this, but the illustration is exact for the regions shown and represents fairly well a very large number of similar contrasts. The dark streak, along the epithelium, of the hyaline layers so called, frequently much darker than here shown and regularly in a crypt showing as a densely black mass, is, next to the erythrocyte stain as mentioned, the most striking feature of the cholesterin stained sections. It is necessary again to draw attention to the fact that in the epithelium, soap is, as a rule, apparently not associated with the cholesterin, as it seems so often to be elsewhere. The dots representing the cholesterin are much larger than the granules of the stipple cells; they resemble somewhat the osmic acid droplets when free of the cells. These cholesterin staining bodies are extracellular as well as within the cell cytoplasm. None of the bodies so far referred to are demonstrated as existing within the nuclei. These cholesterin droplets are for the most part about one or two microns in diameter, when of a circular form. There are other irregular masses which may be larger, as are seen in the figure, but I have called them detritus and, as I have intimated for the other stains, I am disposed to look on them as artefacts, since the number increases markedly in those tonsils roughly handled and pressed in the process of removal from the throat. Between the regular droplet forms and the globules, to be discussed later, there does not seem to be any relationship, though I presume it is possible that globules may arise by the extra cellular coalescence of these droplets.

These cholesterin droplets are by no means confined to epithelial structure as there are some areas in the stroma of the lymphoid structure, to some extent even in the germinal centres, where they are seen to be abundant. It is to be conjectured that the origin of these bodies is, in the tonsil, from the effused blood cells. Permeating the tissue everywhere the erythrocytes, when they break up, apparently give rise to these small cholesterin droplets in and out of the various cells, especially in the epithelial border. The origin within the stipple cells of the lipoids, as for the neutral fat, is not to be traced definitely and directly to the erythrocytes. If the material comes from them indirectly it seems evident some chemical change has altered their condition, as they exist in a different form, with different intensity of stain, the origin of the globules can be traced to the stipple cell, but not to these extracellular materials.

In the striated muscle fibres, so frequently removed with the tonsil in the present day operation of amygdalectomy, very striking figures can be seen with the cholesterin stain. The narrower alternate stripes of the fibre are seen to be deeply stained, the broader one only faintly tinted.

In the cholesterin preparations at room temperatures across the sections, in the vacuoles and at the edges of the sections, are long unstained threads and acicular crystals of cholesterin, while birefringent bubble formation on the sections betrays the potentialities of the surface tension of the cholesterin material. When the slide holding such sections is gradually warmed to a higher degree than room temperature and the thread or crystal is watched under the microscope, it is seen to melt and draw together in the form of a birefringent drop. With the soap stain this is never seen, the presumption being that such forms of cholesterin are not saponified. They are evidently derived from the tissues on cooling and contraction even after the sections are cut. Indeed this has been watched by Adami and others under the microscope with polariscope attachment. That part of the investigation of the tonsillar lipoids I intend to leave for future study.

As for the control material stipple cells are seen very abundant in the subepithelial tissue of the chronically inflamed and œdematous mucosa of the nasal turbinate bones. The droplets of cholesterin are seen in the straight tubes of the kidney and in other internal organs removed fresh from healthy animals, and in the epithelial cells lining the seminiferous canals of the testicle.[6]

[6] [illegible] differentiates some cells from others of the same origin

In the polyp tissue the stipple cells can be definitely identified in and out the vessels as small lymphocytes. They rarely show a dividing nucleus while the neutral fat-holding granulocytes there always do. The cholesterin stipple cell of the nasal polyp seems a true lipoid carrier for the surface epithelium in and beneath which it may be seen penetrating in much larger numbers than in the tonsillar epithelium, where, as was said, the cholesterin seems largely derived from the red blood cells. Cholesterin may also be seen as intracellular globules, somewhat resembling "B" in Fig. 2 in the previous and the following papers.

44 West Forty-ninth Street.

REMARKS ON NEUROFIBROMATOSIS.

By William B. Trimble, M. D.,
New York,
Lecturer on Diseases of the Skin, New York University, Clinical College Clinic; Assistant at the New York Skin and Cancer Hospital.

The object of this little sketch is merely to put on record a group of cases of this peculiar affection, which has fallen to the lot of one observer; it contains also some revised notes delivered before the section in neurology of the New York Academy of Medicine.

The case histories are accompanied by photographs, which will probably make them more interesting. At the time the cases were exhibited before the Section in Neurology, an effort was made to

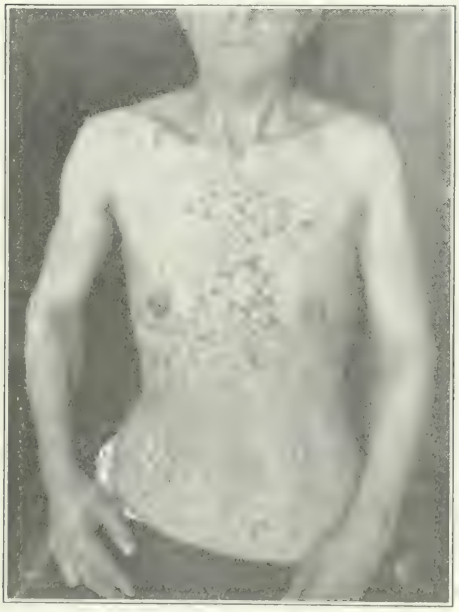




Fig. 2.—Case I. Back view

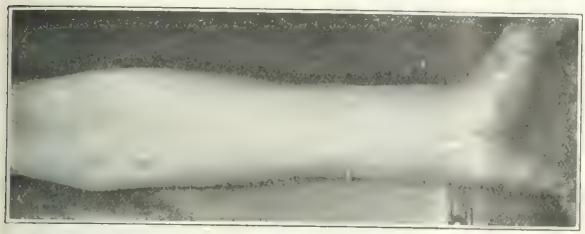
show a connection with the nervous system; this is pointed out in the notes, which tell their own story.

Fibroma molluscum presents a strange picture. The great number of cutaneous out shoots in the form of small tumors, some hard, but most of them soft, some hanging baglike, with an occasional large fibroma mingled with the areas of pigmentation, renders the patient a hideous sight; and it is the more deplorable, because the malady has baffled medical science these many years, and as yet no light is thrown on the condition from a therapeutic point of view.

One interesting feature in connection with this disease is that of heredity. Case I and II in this report are mother and daughter, and the lesions began to develop in both of them at the age of sixteen. Other observers have made mention of similar instances, when the disease appeared in the children of parents suffering from fibromatosis. Another point to be made here is that cases of this nature are by no means so rare as the literature would lead one to believe. I am convinced of the fact that there is a goodly number in New York.

Von Recklinghausen, having made a very extensive study of the condition, has declared that the origin of the disease is from the connective tissue sheath of the nerves. There is some little confusion as to whether all cases of fibroma molluscum should be called von Recklinghausen's disease, or whether only those with a certain syndrome should be called by that name. Other observers have stated that the connective tissue overgrowth commences in the fol-

licle, and sometimes in some of the glandular elements of the skin. It might be stated here that there are incomplete forms of von Recklinghausen's disease, and Weber and Little have pointed out an



interesting feature which is, that light brown pigmentations frequently precede by years the development of the tumors.

This fact would seem to make it akin to neurology, as some dermatologists have for years been prone to speak of anomalies of pigmentation as trophoneuroses. Weber also made up a short classification of the different varieties. His first class comprises those cases of, 1, plexiform neuroma, unaccompanied by multiple molluscous tumors of the skin, with or without cutaneous pigmentation; 2, cases of multiple molluscous tumors of the skin unaccompanied by any obvious neurofibromatosis of the nerve trunks, with or without decided cutaneous pigmentation; 3, cases of pigmentation of the skin, not as yet accompanied by any neurofibromata of nerve trunks or molluscous tumors; 4, anomalous cases of neurofibromatosis complicated by the coexistence of bony overgrowth usually of the skull. A fifth class might be added to these, in which would be present the multiple tumors, the cutaneous pigmentation, and some apparent neurofibromata without the bony overgrowth; this could be called the complete form.

Significant points regarding the possible relation to the nervous system are von Recklinghausen's findings in regard to the origin from the connective tissue sheath of the nerves, the elder Hebra's statement that most of his cases were of defective mental development, the pigmentations that precede or accompany the disease, and the fact that sometimes the small tumors have been found on the nerve trunks themselves.



Case I. (Previously reported in *Journal of Cutaneous Diseases*.) The patient, a woman, had been under observation for about two years. She was a native of Germany; but had spent most of her life in the United States. She was forty-seven years old, a widow, and had one daughter of nineteen years. During her life she had had five children, four of whom were dead, one died at birth, one of marasmus, one of summer complaint, and one of pneumonia. She had never had a miscarriage. In her younger days, she had all the usual diseases of childhood, but since puberty had been in excellent health with nothing to disturb her except the dermatological complaint. The family history did not seem to have any bearing on the case. In her knowledge, none of her ancestors suffered from any chronic ailment, or had anything like fibroma. The patient was practically covered with small fibrous tumors, varying in size and color. Some of these were as small as the head of a match, while others were as large as a walnut. The color of the majority of these growths was the same as the healthy skin but a few took on a bluish tint. The location was general, but the lesions were more numerous on the trunk and upper extremities; however, the lower extremities were by no means free. The growths were soft, and some of them, when picked up between the thumb and finger, were found to be almost empty; this absorption took place in such a marked degree in some of the tumors, that it gave them the appearance and feel of small collapsed bladders. There were areas of pigmentation scattered over the woman's body; whether these preceded the development of the tumors, she did not remember.

Case II. The daughter of the previous patient. The father's death was caused by tuberculosis in his thirty-third year. Her age was nineteen; birthplace, United States; occupation, seamstress. She was single. During her childhood she had a perilous experience with the different diseases, scarlet fever, measles, chickenpox, whooping cough, etc. At one time, the mother said, the girl, when quite young, had an outbreak of bullous lesions on the face. From her description, this sounded like impetigo. Her mentality seemed normal considering her station in life. Since her fourteenth year she had been in very good health. Her menstrual periods began at sixteen. On the right forearm were several small tumors. There were two lesions on the left forearm. The rest of the body was free. These growths were first noticed in her sixteenth year, and slowly increased in size up to this time.

sia. Duration of condition about ten years. Pigmentation preceded the development of the tumors by several years. Scattered over the whole body were light brown pigmentations and small tumors, somewhat hard to the feel. On the right forearm especially, a number of these small tumors seemed to be arranged in a chain, like lymphatic glands. This was in the vicinity of the musculocutaneous nerve; but it did not seem that this nerve could be so large. One or two of the tumors in the leg were somewhat painful on pressure.

Case IV. Man; aged forty-four; nativity, United States; duration, thirty years; location, general. Numerous small, soft tumors were scattered over the body, the largest of which was about the size of a hen's egg. Myriads of minute ones could be seen; there were also a few pigmented areas. The patient's general health was exceptionally good, and no other member of the family was affected.

Case V. Woman; aged about thirty. None of her ancestors were affected with fibroma so far as she could remember. The patient's physical condition was good, and her past history was of no consequence. Scattered over her back from the neck to buttocks were variously sized areas of pigmentation, some round, some irregularly shaped, probably due to a coalescing of smaller lesions. There were no subjective symptoms, and the duration was indefinite; the patient's attention had been called to the condition about two years previously, but the lesions might have been present for a much longer time. The case was a curious one, and did not seem to correspond with any known dermatosis. The idea occurred to me that it might be the primary stage of fibroma molluscum, the forerunner, as it were, of the tumor formation. For that reason it is placed in this group.

30 East Twenty-eighth Street.

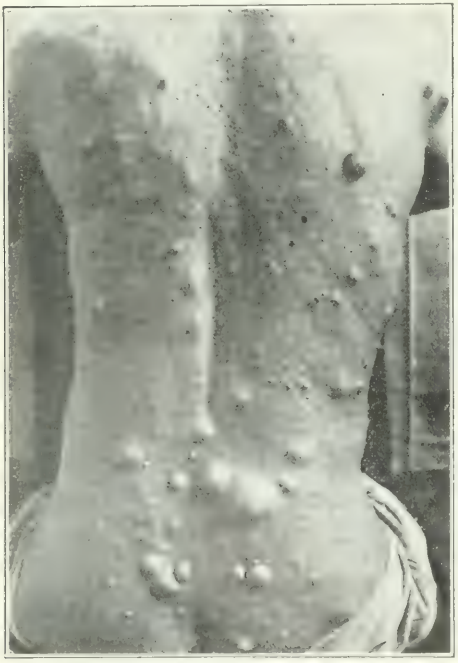


Fig. —Case IV. Large and small tumors. Photograph by Dr. Mock.



Fig. 6.—Case V. Circumscribed areas of pigmentation, no tumor.

ON THE NATURE OF THE VIRUS OF YELLOW FEVER, DENGUE, AND PAPPATACI FEVER.*

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It has been with some hesitation that I have ventured, at the request of Professor Novy, to address you on this subject, for while I have had the good fortune to work upon the ætiology of dengue, I have had no personal connection with experimental work upon yellow fever or pappataci fever. However, I have endeavored to give a summary of the experiments of others upon these fevers and to compare their results with those obtained by Major Asburn and myself in our work upon dengue fever.

Yellow fever, dengue, and pappataci fever are diseases of great interest to the epidemiologist, clinician, and investigator; all three are transmitted by an insect, resemble one another in many of their clinical features, and are alike due to a filterable virus the exact nature of which is still one of the unsolved problems of medicine.

Because of its great mortality yellow fever early attracted the attention of the medical investigator and much of its ætiology has been worked out, but we are still ignorant of the nature of the parasite

*Read in the "symposium" upon "The Filterable Viruses" before the Section in Physiology and Experimental Medicine of the American Association for the Advancement of Science, at Minneapolis, Minn., December 30, 1910.

causing this disease and of other important points concerning its ætiology.

Dengue has received comparatively little attention, although its close ætiological resemblance to yellow fever, the benign character of its symptoms, as well as its frequent occurrence in many localities, should have stimulated research in this direction. It is more than probable that every new fact elicited in the ætiology of dengue fever will lead to new knowledge regarding that of yellow fever.

Pappataci fever has only been thoroughly studied during the past two years, but we already know that, like yellow fever and dengue, it is due to a filterable virus, and is transmitted by an insect.

In a paper such as this I can consider but briefly the work which has been accomplished in the elucidation of the ætiology of these diseases, but a comparison of the results which have been obtained will prove of interest and significance as showing how closely related these fevers are, and how any discovery regarding the virus of one will throw a flood of light upon that of the others. The evidence concerning the filterable nature of the virus is of the greatest importance and will be considered in detail for each of the diseases.

cis and Beyer, Marchoux, Salimbeni and Simond, and Otto and Neumann. The following facts regarding the ætiology of this disease are definitely established:

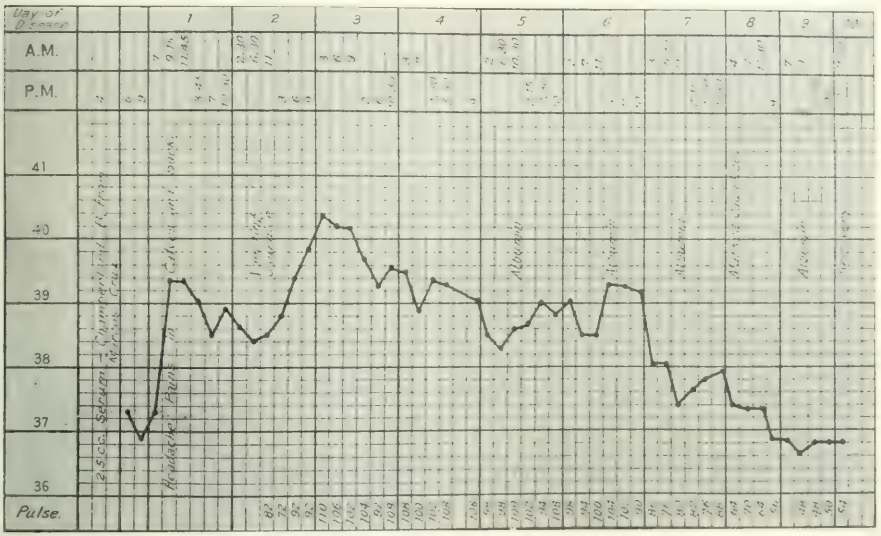
1. That yellow fever is naturally transmitted through the bite of a mosquito, *Stegomyia calopus*.

2. That the mosquito, in order to become infective, must bite the patient during the first three days of the fever, and must live for at least twelve days afterward.

3. That the disease may be produced by the subcutaneous or intravenous inoculation of unfiltered or filtered blood removed from the patient during the first three days of his illness.

4. That the disease is not contagious.

The production of yellow fever by the subcutaneous or intravenous injection of unfiltered or filtered blood is what especially concerns us at this time, as the fact that the blood is infective proves that the causative agent is present therein, while the fact that it can pass through a filter is of the greatest significance, for it at once explains the negative results obtained from the microscopical examination of the blood, and places the cause of the disease in the class of ultramicroscopic parasites.



[illegible] temperature chart [illegible] patient [illegible] Rosenau, Parker, Francis, and Beyer.

YELLOW FEVER.

The epoch making discoveries of Walter Reed and his coworkers, Carroll, Agramonte, and Lazear, regarding the transmission of yellow fever, have resulted in the disappearance of this disease from nearly every region in which it was formerly endemic. Their work, as we know, has been confirmed by many observers, among whom may be mentioned Guiteras, Ross, Rosenau, Parker, Fran-

In 1901, Dr. Carroll went to Havana for the purpose of making experiments regarding the character of the virus contained in the blood of yellow fever patients. The army commission had already proved that the disease was transmitted through the bite of *Stegomyia calopus*, having thus produced typical attacks in nine individuals, the incubation period varying from two days, twelve hours, to five days, seventeen hours, the average period of incubation being three days, eighteen hours. They had

also proved that the injection of unfiltered blood into healthy men produced the disease and that an interval of twelve days is necessary before the infected mosquito can transmit the infection, although after this period the insect remains infective for as long as fifty-seven days. Carroll's experiments were primarily for the purpose of determining whether filtered blood was capable of transmitting the infection, but he wished also to compare the effect of the injection of unfiltered blood and of partially defibrinated blood heated at 55° C. for ten minutes. He found that if healthy men were injected with fresh unfiltered blood from yellow fever patients, in quantities varying from 0.5 to 5 c.c., a typical attack of yellow fever developed in 85.7 per cent. of those injected, provided the blood was taken during the first three days of the attack, thus providing that the causal organism is present in the blood during that period.

Furthermore, if the blood was heated at 55° C. for ten minutes, it was found that the virus became attenuated so that the injection of 1.5 c.c. proved harmless, though one half of that quantity before heating was sufficient to produce a typical attack of the disease.

As careful examinations of the blood, both microscopically and culturally, had failed to demonstrate any organism, it was determined to try the injection of yellow fever blood which had been passed through a filter, and for this purpose a laboratory Berkefeld filter was used for filtration. It was found that the subcutaneous injection of 1.5 c.c. of the filtered blood serum produced yellow fever in two of three healthy men, thus proving that the parasite causing the disease was able to pass through the pores of a Berkefeld filter.

In order to answer the objection that the blood serum injected might contain a soluble toxine, blood was taken from one of the patients in whom yellow fever had developed after the injection of the filtered serum, and was injected into a third individual, who was promptly attacked with the disease. Regarding this case Reed and Carroll say "in view of these data we believe that we are justified in expressing the opinion that the source of infection in the case just described must be attributable to the injection of blood rather than to the injection of serum derived from the blood, and, further, that the blood contained the specific agent of yellow fever, which had therefore passed through the filter along with the filtrate with which the individual in this case had been inoculated."

The work of Reed and Carroll regarding the nature of the virus of yellow fever was confirmed and added to in 1903 by the French yellow fever commission, composed of Marchoux, Salimbeni, and Simond. These investigators confirmed the findings of the American commission regarding the transmission of the disease by the mosquito; the period during which the blood contains the infective agent; the period of twelve days necessary before the mosquito, after biting a patient ill of the fever, can become infective; the lack of contagion; and that the virus can pass through a Berkefeld filter. They determined, in addition, that as small an amount as 0.1 c.c. of blood injected subcutaneously could produce the disease; that in defibrinated blood, preserved under liquid petrolatum, the virus remains active for five days, but becomes inactive in eight days, although such blood is capable of conferring a relative immunity; that five minutes' heating at 55° C. renders the virus harmless; that exposure to the air at temperatures between 24° and 30° C. renders the virus inactive; and that, in undiluted serum, the virus is able to pass through a Berkefeld and Pasteur-Chamberland F. filter, but is unable to pass through a Pasteur-Chamberland B. filter. Their later observations regarding the hereditary transmission of the infection from the mosquito to the larvæ are not generally believed to be correct and have never been confirmed.

The work of Rosenau, Parker, Francis, and Beyer is confirmatory of the reports of the American and French commissions as regards the production of yellow fever by the injection of filtered blood. While the French commission found that the virus passed through the Pasteur-Chamberland filter F. and was obstructed by filter B., these observers found that, by diluting the serum, the virus was able to pass through the pores of the Pasteur-Chamberland B. filter, and they regard the failure of the French commission as being due to the fact that they used undiluted serum. They were able to produce yellow fever in three healthy individuals by the use of blood serum which had been passed through a Chamberland B. filter, two of the men receiving 5 c.c. of the filtrate and one 3.5 c.c. Their experiments were well controlled, and prove that the cause of yellow fever is able to pass through the pores of the best filters which are obtainable.

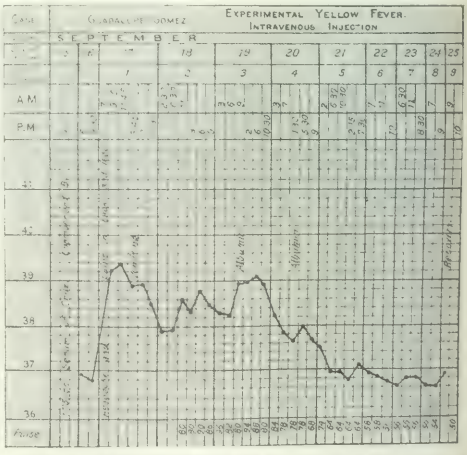


Chart of a case of yellow fever produced by the intravenous injection of filtered blood from a patient. (Reed, Carroll, Agramonte, and Lazear.)

The following tables give the results obtained by various observers from the injection into healthy individuals of unfiltered and filtered blood obtained from patients suffering from yellow fever.

Table I. Showing the results of the injection of unfiltered blood from yellow fever patients into healthy individuals:

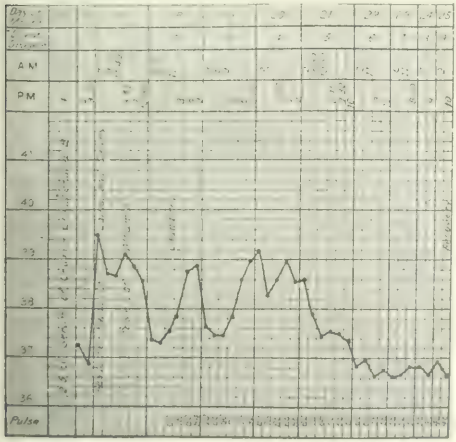
Observers.	Case No.	Character of blood.	Result.	Period of incubation.
Reed and Carroll.	1	[illegible]	negative	[illegible]
	2	[illegible]	positive	3 days, 22 hours.
	3	fresh blood	positive	[illegible]
	4	[illegible]	positive	[illegible]
	5	[illegible]	positive	[illegible]
	6	[illegible]	positive	[illegible]
Marchoux, Salimbeni and Simond.	1	fresh serum	positive	5 days, 5 hours.
	2	fresh serum after several injections of heated yellow fever serum	positive	[illegible]
	3	fresh serum	positive	8 days, 5 hours.
	4	fresh serum, [illegible]	positive	[illegible]
	5	blood five days [illegible]	positive	[illegible]

Table II. Showing the results of the injection of filtered blood from yellow fever patients into healthy individuals:

Observers.	Case No.	Character of blood.	Result.	Period of incubation.
Reed and Carroll.	1	filtered through Berkefeld	positive	[illegible]
	2	filtered through Berkefeld	positive	4 days, 1 hour.
Marchoux, Salimbeni and Simond.	1	filtered through Chamberland F.	positive	5 days, 18 hours.
	2	filtered through Chamberland F.	positive	[illegible]
Ross and Boyce.	1	filtered through Chamberland B.	positive	[illegible]
	2	filtered through Chamberland B.	[illegible]	[illegible]
	3	filtered through Chamberland B.	positive	1 day, 17 hours.

[1]All intravenous injections.

It will be observed that the incubation period varied in different cases, and that, as a rule, it was shorter in the cases in which the disease was produced by the filtered blood serum. It also varies more than when the disease is produced by the bites of infected mosquitoes.



[illegible] Temperature chart of a [illegible] of yellow [illegible] patient. (Rosenau, Parker, Francis, and Beyer.)

As the result of the work which has been reviewed we know that the virus of yellow fever can be transmitted by a mosquito; that it is present in the blood of the patient during the first three days of the disease; that it requires twelve days to develop in the mosquito before that insect becomes infective; that it can be attenuated or destroyed by heating it for a short time at 55° C.; that it is capable of producing the disease when injected directly into man; and that it is ultramicroscopic in size, as it passes through the pores of a Pasteur-Chamberland B. filter.

DENGUE.

While serving upon the U. S. Army Board for the Study of Tropical Diseases in the Philippines, Ashburn and myself had an opportunity to investigate the ætiology of dengue during a severe epidemic occurring at Fort William McKinley, near Manila. At the time we undertook this work very little was known regarding the ætiology of this disease. The early investigations regarding the subject were directed toward a bacterial cause but, in spite of a great amount of labor, nothing of importance appeared until the work of Graham, of Beirut, was published in 1903. This observer described a protozoan, occurring in the blood, which he considered the cause of the disease and detailed his experiments regarding the transmission of the disease by the mosquito, *Culex fatigans.*

Graham's experiments regarding mosquito transmission were briefly as follows: Four men in good health were selected, and slept night after night beneath mosquito bars containing mosquitoes that had bitten dengue patients. In one case the disease developed four days from the date of the first exposure, in one in five days, and in one in six days. In one case the result was negative. During the time the experiment lasted the men remained in their homes, where there had been no other cases of the disease, and none developed later. In order to obviate the possibility that these men might have contracted the disease in some other way, there being a very severe epidemic in the city at that time, Graham took mosquitoes that had bitten dengue patients to a village situated in the mountains, where no cases of the disease had occurred. At this village he liberated the mosquitoes under the nets of two young men, living in different localities, and orders were given that the men were not to leave the nets until permitted. In one of these men a very severe attack of dengue developed in four days after exposure, in the other in five days. The mosquitoes were destroyed and the men continued to sleep under the mosquito bars for some time after recovery. No other cases of the disease occurred in this village. The mosquitoes used in these experiments are stated by Graham to be *Culex fatigans* Wied,. and the insects were used within a short time after biting infected patients. Graham further states that in Beirut no anopheles are to be found, but that during the dengue epidemic the city was infested with great numbers of *Culex fatigans* Wied. It will be seen that of six healthy men bitten by infected mosquitoes, in five dengue developed; in two in four days, in two in five days, and in one in six days.

After a thorough examination of the blood of numerous patients with dengue we concluded that it did not contain any visible organism either bacterial

or protozoal in nature, which could be considered as the cause of the disease. Our attempts at securing blood cultures also resulted negatively and in order to determine whether the cause of this fever was present in the blood we were forced to attempt the production of the disease by the inoculation of the blood from dengue patients into healthy individuals. As the disease is one which in the young and robust is not dangerous to life, we felt justified in making such experiments, and had no difficulty in procuring volunteers for this purpose.

We first undertook to study the effect of the intravenous inoculation of unfiltered dengue blood. Eleven men were inoculated, and in seven a typical attack of the disease developed, while one case was

As our examinations had proved that it was impossible to demonstrate a parasite in the blood we concluded that it must belong to the class of so called ultramicroscopic organisms and in order to determine this point we inoculated two healthy individuals with filtered blood from dengue patients, with the result that severe attacks were produced in both men. In our filtration experiments we employed a Lilliput filter which was tested and controlled each time is was used. and the filtration was done under 730 millimetres pressure. After filtration a control test was made of the filter by using a bouillon suspension of *Micrococcus melitensis,* the filtrate then being incubated for two weeks, and examined every day. The filter we used retained this organ-

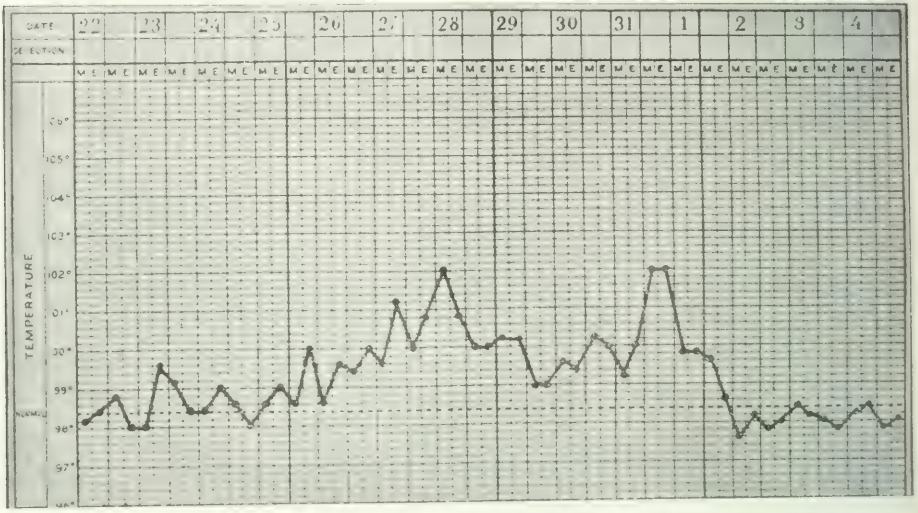


Chart 4.—Temperature chart of a case of dengue fever produced by the intravenous injection of unfiltered blood from a dengue case. (Ashburn and Craig.)

doubtful. The following table gives the amount of blood injected, the period of incubation, and the result in these cases:

Table III. Showing results of intravenous injection of unfiltered and filtered dengue blood into healthy individuals:

				Period of incubation
	fresh blood		positive	days, 18 hrs
			positive	days, 19 hrs
	fresh blood	4th day	positive	days, 18 hrs
	fresh blood	4th day	positive	days, 12 hr
	fresh blood			4 days, 4 hrs
	fresh blood		positive	days
	filtered blood		positive	days, 11 hrs
	filtered blood	4th day	positive	days, 12 hrs

In Case VIII the filtered blood was obtained from an experimental case of dengue produced by the intravenous injection of unfiltered dengue blood.

These experiments proved beyond question that the cause of dengue is present in the blood of infected individuals, as the intravenous inoculation of such blood in healthy men is capable of producing a typical attack of the disease.

ism, so that it may be stated that the virus of dengue passed through the pores of a filter which prevented the passage of an organism measuring 0.4 micra in diameter. The blood from the dengue patients was defibrinated and diluted with an equal amount of normal salt solution, and the filtrate was introduced intravenously.

In both of the men inoculated with the filtrate the attack was of severe character, and we regarded these two cases of dengue, produced by the intravenous injection of filtered dengue blood, as the most typical cases of the severe type of the disease which we observed. These experiments proved that the organism causing the disease is probably ultramicroscopic in size, and this conclusion explains the uniformly negative results obtained in the search for the parasite.

We concluded that an organism was present in the filtrate, rather than a toxine, because of the length of the period intervening between inoculation and the appearance of clinical symptoms, and also because one of the men was inoculated with

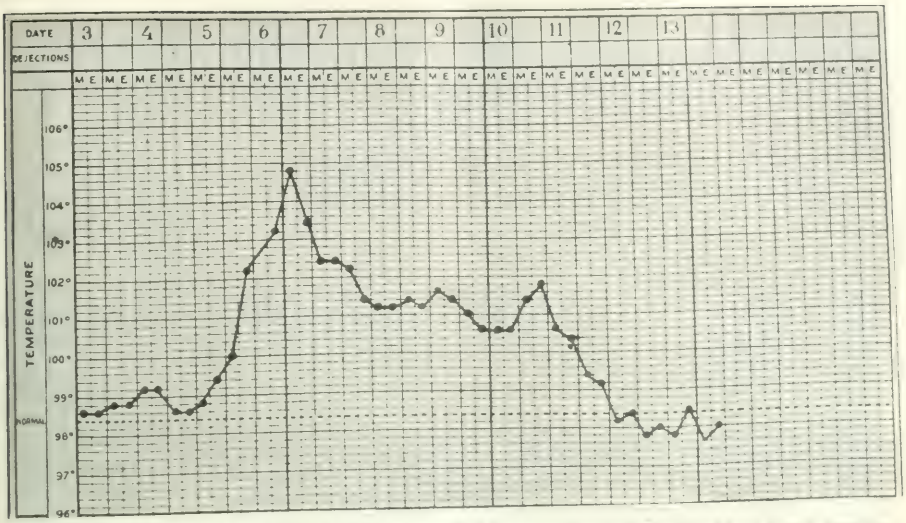


Chart 5.—Temperature chart of a case of yellow fever produced by the intravenous injection of unfiltered blood from a typical dengue patient. (Ashburn and Craig.)

the filtered blood of an experimental case of dengue produced by the intravenous injection of unfiltered blood from a naturally infected dengue patient.

We were able, in one instance, to produce a typical attack of dengue by the bite of a mosquito, *Culex fatigans*. The insects used in this experiment were reared by us from the egg, and were allowed to bite a typical case of dengue on the night of September 11, 1906. A healthy man, who had not been exposed to dengue, was placed beneath a mosquito net on September 12th, and the mosquitoes, which had bitten the patient on the 11th, liberated beneath it. Upon the night of the 13th, or two days after they had bitten, these mosquitoes first bit the volunteer and he was attacked with a typical attack of the disease, after an incubation period of from three and a half to four days. It is evident from this experiment that either the parasite causing dengue does not undergo a cycle of development within the mosquito, unless it is a very short one, or that in this case there was a purely mechanical transmission of the infection. This, of course, may have been possible, and in the light of the researches upon the mosquito transmission of yellow fever and pappataci fever, is quite probable. Experiments with *Stegomyia calopus* resulted negatively.

Owing to the subsidence of the epidemic we were unable to continue our mosquito experiments, which are therefore incomplete, but, taken in connection

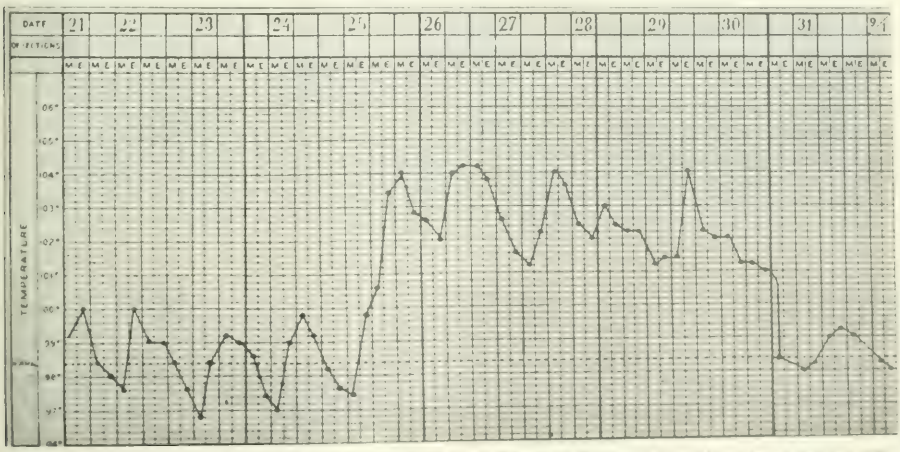


Chart 6.—Temperature chart of a case of dengue [illegible]

with those of Graham, prove that this disease may be transmitted by the mosquito. We felt justified in concluding that this method of transmission is the only natural one which has been proved by experiment, and which agrees with the epidemiology of the disease.

We were further able to show experimentally that natural immunity exists against this disease, and that it is not contagious. We exposed eight healthy men to fomites, the men experimented with living in mosquito proof tents with patients suffering from dengue, throughout the entire course of the disease. They slept in their beds, wore their underclothing and pajamas, and ate and drank from the same table furniture, but none of them developed the disease.

Our conclusions regarding the ætiology of dengue were partly as follows:

1. No organism, either bacterium or protozoan, can be demonstrated in either fresh or stained specimens of dengue blood with the microscope.

2. The intravenous inoculation of unfiltered dengue blood into healthy men is followed by a typical attack of the disease.

3. The intravenous inoculation of filtered dengue blood into healthy men is followed by a typical attack of the disease.

4. The cause of the disease is, therefore, probably ultramicroscopic.

5. Dengue can be transmitted by the mosquito, *Culex fatigans* Wied, and this is probably the most common method of transmission.

6. No organism of ætiological significance occurred in bouillon or citrated blood cultures.

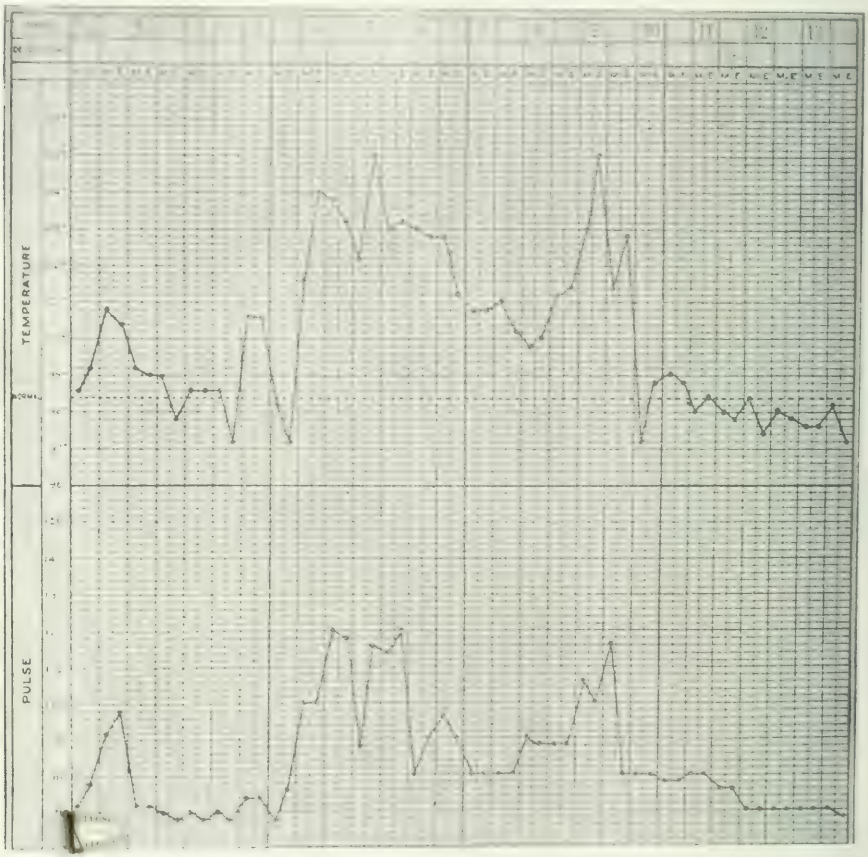


Chart of a case of dengue fever produced by the intravenous injection of filtered blood from a dengue patient (Ashburn and Craig).

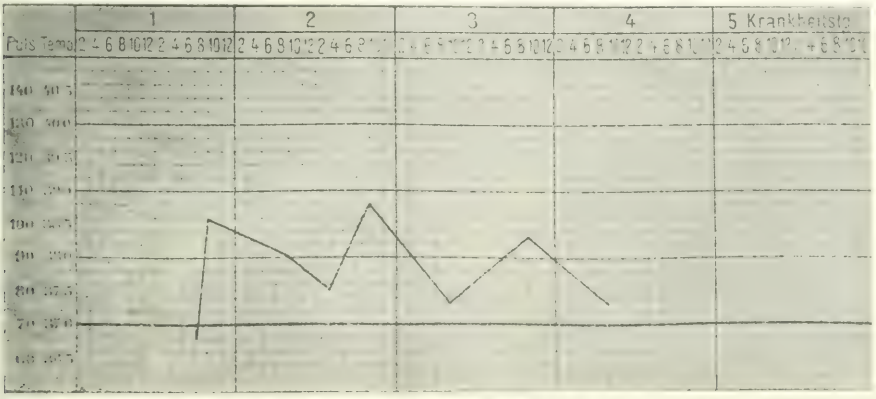
7. The period of incubation in experimental dengue averages three days and fourteen hours.

8. Certain individuals are absolutely immune to dengue, as proved by our experiments.

9. Dengue is not a contagious disease, but is infectious in the same manner as is yellow fever and malaria.

So far as I am aware there has been no experimental work done upon this disease since the publication of our results in 1907. Owing to circum-

stances we were forced to stop our experiments before we considered them complete in many directions. Thus we were unable to determine just how long the patients remained infective to mosquitoes; whether the parasite concerned undergoes a cycle of development in the mosquito; whether heating the blood serum renders the virus harmless; and for how long the mosquito remains infected. In our publications we called attention to the great importance of these questions in the ætiology of dengue, but though there appears to be no good reason why, in regions where the disease is common, they should not have been thoroughly investigated, the fact remains that they are still unsolved. As a result of our work we determined that the cause of dengue fever was present in the blood during the third and fourth days of the disease; that it belongs to the class of filterable viruses, and that it can be transmitted by the mosquito, *Culex fatigans*. We were also able to prove definitely that the disease is not contagious, although up to the



time of our experiments it had been generally regarded as one of the most contagious diseases known to medical science.

PAPPATACI FEVER.

Although this disease has been studied but a short time, we are better acquainted with its ætiology than we are with that of many infectious fevers which have been under investigation for years. The disease occurs in Bosnia, Herzegovina, Dalmatia, Malta, and probably in India. It resembles dengue in many of its symptoms, but the latter are less severe, and the fever is of shorter duration.

We are indebted to Doerr, Franz, and Taussig for the first scientific study of pappataci fever. These surgeons were appointed by the Austrian war office to investigate a fever causing a great deal of sickness and inefficiency among the troops stationed in Herzegovina and Dalmatia. The disease occurred only in the summer months, from May to October, and always attacked newcomers. The fever lasted three days, but convalescence was slow, lasting from eight to fourteen days, so that in the army it led to a great loss of time and military efficiency. Taussig conceived the idea that it might be transmitted by the sandfly, *Phlebotomus pappatasii*, and he and his colleagues definitely proved that the disease is transmitted in this way.

These investigators were able to prove that blood taken on the first day of the disease and injected in healthy men produced a typical attack of the fever after the usual period of incubation; that the blood contained no visible organism; that the virus passed through a fine grain filter and was capable of producing the disease after filtration; that it is transmitted to men by the bite of the sandfly (*Phlebotomus pappatasii*); and that the fly does not become infective for a period of eight days after biting the infected individual.

In a later publication Doerr and Russ detailed the results of further research work on this disease. They found that the blood was infective during the first twenty-four hours of the attack, and that the virus disappeared from the peripheral circulation within forty-eight hours, at the end of which time the patients were not longer infective. The serum of a man who had recovered from pappataci fever two years before when mixed with virulent serum destroyed the virus, while the serum of a seven day convalescent attenuated it so that the disease was delayed in onset and the attack was very mild. As regards filtration, they found that virulent serum diluted five times with salt solution passed with difficulty through a close grain Reichel filter and also through a Pukall filter. One tenth of one cubic centimetre of the filtrate from the Reichel filter was capable of producing a mild attack of the fever, but the same amount of the filtrate from the Pukall filter proved to be harmless. They believe that the virus may be transmitted to young flies, but the evidence is not conclusive. They found that one attack of the disease conferred immunity and were unable to reproduce the infection in animals.

The researches of Doerr, Franz, and Taussig, and Doerr and Russ have been confirmed by C. Birt, lieutenant colonel in the royal army medical

corps. This investigator has proved that the disease occurs in Malta, where it has been confused with other fevers prevalent in that locality. Birt was able to infect two men by the bites of infected flies, in one case the incubation period being seven days and in the other six days and eight hours. With unfiltered blood he was able to produce the disease by subcutaneous injection of from 1.5 to 2 c.c., the incubation period varying from two days and sixteen hours to nearly five days. His experiments with filtered blood were as follows: Five cubic centimetres of the blood was diluted with 45 c.c. of salt solution and filtered through a Chamberland F. filter, which had been tested with *Micrococcus melitensis*. Seven cubic centimetres of the filtrate, containing 0.7 c.c. of the original blood, was injected subcutaneously into a healthy individual and produced a typical attack of the fever four days and twenty-one hours after inoculation. In another case 6 c.c. of the same filtrate, containing 0.6 c.c. of the original blood, which had been kept at a temperature of from 75° to 80° F. for a week, was injected subcutaneously and resulted, four and a half days later, in a slight febrile attack. The blood used was collected during the first twenty-four hours of the disease. Birt's conclusions are as follows:

1. That the blood of a person suffering from phlebotomus fever is virulent during the first day.

2. That the virus can pass through a Pasteur-Chamberland F. filter.

3. That *Phlebotomus pappatasii* can convey the infection.

4. That the incubation period has varied from three days sixteen hours to seven days.

5. That *Phlebotomus pappatasii* are infective seven to ten days after sucking virulent blood.

6. That the virus retains its activity for a week *in vitro*.

SUMMARY.

In reviewing the work which has been done upon the nature of the virus of yellow fever, dengue, and pappataci fever one is impressed with the similarity existing between them, a similarity which points to the close relationship of the causative organisms.

Clinically there is considerable resemblance, all three diseases having a sudden onset, running a comparatively rapid course, and terminating by crisis rather than by lysis. In point of severity, pappataci fever is the mildest, yellow fever the most severe, while dengue occupies a position between the two. Pappataci fever so closely resembles dengue clinically that Doerr considered that the two diseases might be identical, while we are all familiar with the fact that not infrequently severe cases of dengue have been mistaken for yellow fever. A comparison of the temperature charts of yellow fever and severe dengue shows a striking resemblance, as is well illustrated in the charts reproduced of attacks of yellow fever and dengue caused by the injection of filtered blood. In pappataci fever the short duration of the febrile paroxysm, which lasts only three days, serves to distinguish it from yellow fever or dengue.

Striking as are the clinical resemblances between these fevers, the facts which have been discovered regarding their ætiology are still more so.

In all three the cause is present in the blood, but only during certain periods; in yellow fever during the first three days of the disease; in pappataci fever during the first day; and in dengue, so far as is known, during the third and fourth days of the attack.

In all, the injection of *unfiltered* blood produces the disease. In yellow fever the average period of incubation being three days, twelve hours; in dengue, three days, fourteen hours; and in pappataci fever, three days, eighteen hours.

In all, the injection of *filtered* blood produces the disease. In yellow fever the average period of incubation being two days, fifteen hours; in dengue, two days, fourteen hours; and in pappataci fever, four days, sixteen hours.

All three of the fevers are transmitted by an insect; in two, yellow fever and dengue, by a mosquito, and in pappataci fever by a biting fly. In yellow fever and pappataci fever the causative agent undergoes a cycle of development within the transmitting insect, while in dengue this point is still undetermined. In yellow fever the mosquito does not become infective until twelve days after it has bitten the infected individual, while in pappataci fever the fly does not become infective for from seven to ten days.

In yellow fever the average period of incubation after the bite of the infected insect is three days, eighteen hours; in dengue, four days, eighteen hours; and in pappataci fever, five days, twenty hours.

In all three diseases the causative agent is ultramicroscopic in size, as it passes through the best filters that can be obtained, and because the most careful examinations of the blood both microscopically and culturally have failed to show any parasite.

In addition, there is conclusive evidence that these diseases are not contagious.

The careful consideration of all these facts impresses one with the belief that yellow fever, dengue, and pappataci fever, as well as other diseases due to a filterable virus, are caused by parasites which differ markedly from any with which we are acquainted. The evidence goes to show that they differ from one another in virulence, thus producing the variations in the clinical pictures of the three diseases, just as in malarial infection we have different species of plasmodia which produce mild or severe attacks. In many respects these fevers resemble those due to the malarial plasmodia. Like the malarial fevers they are transmitted by insects, but may be produced by the injection of blood from an infected individual; while there is almost as much difference in the severity of the fever due to the benign tertian plasmodium and the oft times fatal infection produced by the æstivoautumnal plasmodia, as there is between yellow fever and severe cases of dengue.

The discovery of the actual organisms concerned in the production of these fevers is apparently impossible until we can perfect the microscope or discover some method of staining or cultivating them.

but I believe that in time it will be proved that these fevers are due to closely related species belonging to the same genus, and that in all probability they will be found to belong to that great class of organisms which are daily becoming of more vital interest to the physician, the protozoa.

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THE RELATION OF THE DOCTOR TO THE CHURCH.*

By Charles E. Nammack, M. D., LL. D.,
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It has been asserted that our professional studies have a tendency to make us materialistic and atheistic to the last degree. It has also been said that the medical and clerical professions have drifted into such antagonism that doctor and priest too often glare at each other over a dying man's bedside, the clergyman thinking the doctor to be godless, and the latter looking on the former as a simpleton. If so unhappy a conjunction ever occurs, it is to be regretted. The descendants of Paul the theologian, and of Luke the physician, the one with his spiritual power and his commanding personality, and the other with his training in the medical schools, should join hands for the alleviation of human suffering. Even though they may not accept the same theological dogmas, they should possess that brotherhood which is founded upon mutuality of respect; that brotherhood which means sympathy for the lame, the blind, the health of the community; for the men and women of weak body or of weak mind; for the men and women of uneducated conscience, of feeble will, and strong passions, who, of all life's invalids, are the most pitiable and the most in need of medical treatment.[1]

That brotherhood was established for us 1,900 years ago. As time has passed, the splendor of the personality of its founder has been dimmed. His ideals have been forgotten, and the points of view in which He sought to unite men—love and trust in God and affection for one another—have been dulled by useless and unnecessary strife.

For some years, the assumption has been held that conflict really exists between science and religion, notwithstanding that the object of each is the establishment of truth, and that truth cannot conflict with truth. This fallacy arose from a misconception of definitions. Science, in earlier days, was considered to be the equivalent of "knowledge" in an *all* embracing sense. To-day, its meaning is restricted to the knowledge of *natural* phenomena, and in this domain—but in this domain only—its authority is sovereign. Science consists in the study of phenomena and of their mutual relations of the laws that govern them, and of the theories that explain them. It shows us a self contained and self sufficient universe, not in touch with anything beyond or above itself.[2]

Religion, on the other hand, requires us constantly and consciously to be in touch with a power, a mind, a being or beings entirely out of our sphere, entirely beyond our scientific knowledge.[3] Science demands the proof of every assertion, in terms of physical, chemical, or mathematical demonstration. It ignores everything not capable of such demonstration, and when the results of physical study or of historical research have been negative, it goes back to infidelity. Yet no evidence has ever been discovered to prove that we live in an atheistic universe. Instead, when science has attacked the cosmic problem—or the question of the origin of changes in the material universe—it has only proved that there are natural laws in force. It confesses ignorance of the initial state upon which these laws have acted, or else denies the power of the Almighty to inaugurate this state. When science seeks to explain the biological problem—or the origin and development of life—it shows clearly but two things: That life has not always existed on the globe, and that it did not appear until the environment was ready for it. Science is absolutely silent regarding the process of life's beginning, although certain self sufficient writers have been busy with their imaginations. In taking up the anthropological problem—or the study of the origin, nature, history, and destiny of man—science is totally incompetent to tell us how the earliest man came to be, why man exists at all, whence he came, and whither he goes.[2]

Philosophy has been no more successful than science, for the essence and root of philosophy is materialism, and the basis of all materialistic philos-

*President's address to the American Medical Association, delivered before the Students' Club, Worcester, Mass., October 4, 1910.

[1] Worcester, McClure and Company, Limited, New York, 1908.

[2] [illegible] Laws in Relation to Higher Human Life and Immortality.

...ophy may be summed up in this absurdity: "Phenomena have no causes." The philosophy of Plato, Socrates, and Aristotle could not save the civilization of ancient Greece; Greece to-day is only a matter of history, "a ghost by the sands of the sea." Pagan Rome also went down to destruction despite the philosophy of Marcus Aurelius, and where the crumbling monuments of her grandeur are in ruins to-day, the cross of Christ rises triumphant and calls to all men to enlist as His soldiers under the banner of Christian faith.

Religion, on the other hand, contemplates a universe which is dependent for its origin and maintenance upon the power and good will of a being or beings of which science denies any knowledge. Religion rests its position upon the tripod of reason, revelation, and faith. Its theology does not seek to dominate the fields of chemistry, physics, and the other natural sciences. It neither denies the accuracy of their findings, nor accepts the fanciful theories which some would predicate on these findings. To the vehement demand of the agnostic that it prove its right to exist, its answer is that religion is the life of God in the soul of man, and that it cannot be proved any more than you can prove the beauty of a Beethoven symphony or the grandeur of Niagara. God is not proved. He is experienced within the soul.

During the past forty years, the best thinkers have come to admit the essential unity of men's dual nature, and to regard body and soul together as one and indivisible, and, while ignoring no fact of biology, chemistry, physics, or sociology, to look through and beyond these sciences to the eternal and spiritual in man.[1] The shallow writers of shallow books are no longer looked up to as authority, but thoughtful readers are beginning to see, with Francis Bacon, "that a little knowledge turneth away from God, but more extended study and research bringeth the soul back to God." Religion is no longer considered to be the vanquished one in the supposed warfare with science, except by those to whom a little learning has proved disastrous. Those whose minds can grasp the full meaning of the discoveries of biological science will see that the great gift of biology to the nineteenth century has been the conception that evolution is the one great law controlling all living things, "the one divine event to which the whole creation moves." He who reads the lessons of biology aright will see in evolution, not a fortuitous combination of atoms developing into the survival of the fittest, but the gradual unfolding of the great natural law of an allwise creator. Evolution does not befog—it illuminates the path of the earnest seeker after truth.

But we must follow Darwin's advice and distinguish between facts and the hypotheses which are put forward to account for facts. The one striking fact deducible from the scientific materialism and criticism of the last half century is the admission of the spiritual side of man's nature. The physician who does not accept this admission is like a bird with one wing. He who disregards the efficacy of faith as a therapeutic power will meet with scant success in treatment, because faith stimulates and harmonizes those actions of the sympathetic nervous system upon which the involuntary physical processes of life depend. But faith must have an object worthy of man's ethical dignity and one fitted to draw forth all his spiritual and moral energies. That object can be found alone in God; not in the mental contemplation of a dim, shadowy, abstract deity, but in the real and concrete aspect of Him revealed to us in the personality of his Divine Son.[1]

Wherever the physician finds faith, he will also find belief in the efficacy of prayer. This is one of the oldest therapeutic forces going back beyond historical man to the amulets and charms of prehistorical races. Prayer is man's language with God, and the presupposition of prayer is the reality of God. That natural laws are inflexible, and that their operation cannot therefore be averted by prayer, does not preclude the idea of a growth of our spiritual relations with God, and in this growth we gain strength, wisdom, guidance, and consolation.[1] While regenerating and uplifting character, prayer must also affect the nervous system and produce a material change in its cells. The absorption of spiritual energy, like that of any other form of energy, must restore the tone and rhythm of the nervous system. This unity of mind and body is the fundamental dogma of modern psychology, and its foremost exponent, Professor James, says: "If any medical fact can be considered to stand firm, it is, that in certain environments prayer may contribute to recovery and should be encouraged as a therapeutic measure." If the law of death operated like a law of dynamics, prayer would be useless, but in a vast majority of diseases, the divine will is not unalterably expressed. High minded men, in all ages, have testified that by prayer they have been enabled to rise above physical weakness, and even to meet with dignity impending death. No man has ever truly prayed in vain, or without feeling the effect of the prayer in character and in life, even though no sensible man expects God to violate His own gracious will at our bidding. The prayer of a man who does not get beyond *himself*, is not genuine prayer—is not a submission to the Father's will. This is the complaint of many neurasthenics, whose introspection makes them believe that they lack faith, or lack the power to believe that God can or will answer them. What is wrong with these souls is not so much want of *faith*, as want of *will*.[1]

The employment of faith and prayer as aids in the cure of the sick and suffering has been widely heralded recently as a new thing, although the church has taught their value since her foundation. But why should not the doctor, as well as the priest, employ faith and prayer? Is it because the doctor is said to have only a profession, while the priest has a vocation? The word vocation means a call, a summons, but by usage its definition is restricted to a divine call, a summons from heaven—which makes the vocation divine. As the author of that charming book, *Confessio Medici*, has said: "Doctors hesitate to give this name to work that is paid for by the job, and sometimes shamefully underpaid at that. They find it hard to believe that a diploma obtained by hard examinations, and paid for by hard cash, and signed and sealed by earthly examiners, can be a summons from heaven." Yet it may be. For if the lifting up of man from the

degradation of alcoholism and poverty, the raising of woman from the ruin brought on by starvation forcing her to vice, and the elevation of children from physical and spiritual darkness into the light —if these, with the other tasks of the physician, do not make a divine vocation, then no life is a vocation, and nothing is divine. "Sick people show to doctors things as they are; the mask is torn off, the facts remain. They show him their life records, ranging from purest white to the most nauseating black, and they expect from him something more than advice and physic." They expect from him sympathy with their sorrows, hope for their despair, charity for their faults, and gentleness with their sufferings. The doctor cannot dispense these unless they are already formed in his own character, and his own character must be founded upon the teachings of Him who came upon earth to cheer, to console, to uplift, and to suffer.

42 East Twenty-fifth Street.

TWO CASES OF RENOVESICAL TUBERCULOSIS TREATED WITH THE BACILLIS EMULSION.*

By James Pedersen, M. D.,
New York.

Case I. The first case is reported through the courtesy of Dr. A. C. England, of Pittsfield, Massachusetts, and of Dr. L. Bolton Bangs, who saw the patient in consultation with Dr. England in July, 1909.

The patient was a farmer, fifty-nine years of age. Except for diphtheria when twelve years old, his personal history was negative down to January, 1909, when slight scalding during micturition developed. It was relieved by medication, but recurred in a month and continued thereafter with exacerbations and remissions. There had been three attacks of "severe symptoms" characterized by great urinary frequency (from every five to ten minutes) with pain in the perinæum and in the glans during urination; cloudy urine, containing shreds and clots, and the escape of some bright blood at the close of urination. Jolting would increase the vesical pain. At his best he had to rise four times during night. No hesitancy. No tenesmus.

His family history was significant only in the death of his grandfather from pulmonary tuberculosis.

The urine was cloudy, acid, specific gravity from 1010 to 1020, and contained a minute trace of albumin and an occasional red cell.

During the two weeks he was under my observation at the hospital, some pain in the right kidney region developed. Occasional doses of codeine were required, either for this or the bladder pain. The highest recorded temperature was only 99.5° F. Two attempts to catheterize the ureters were made, four days apart. General anæsthesia was necessary because of his limited bladder capacity (not fully three ounces) and his supersensitiveness. Both attempts were abandoned after proper perseverance. The findings were: Mucous membrane thickened and velvety; congestion moderate; right ureteral opening patent and of angular shape; left, apparently normal. Though no tubercle bacilli were found in the urine, the diagnosis of renovesical tuberculosis was unavoidable.

The patient electing to exhaust all other measures before considering the radical, was returned to Dr. England who carried out the tuberculin inoculations twice weekly, using Alexander's preparation of Koch's tuberculin. Only once was there any reaction; its symptoms were a slight febrile movement, loss of appetite, and general malaise lasting two days. The general treatment comprised rest in the open air, forced feeding, tonics, and hexamethylenamine. No local treatment was advised nor attempted. I quote from Dr. England's letter dated, April 20, 1910:

"Improvement set in about two weeks after he returned here. When last I saw him, eight weeks ago, he had no pain anywhere; his urine was clear; his appetite and digestion were good, and he had gained about ten pounds."

Case II. The second case is still more convincing. For it I am indebted to Dr. Howard G. Myers, of New York, by whom I was called in February, 1902, to see the patient, then forty-nine years of age, who was complaining of a small lump in the left epididymis. The previous history was one of excellent health. By exclusion, a diagnosis of tuberculous epididymitis was made. This was concurred in by the late Dr. William T. Bull, and the testicle and cord up to the external ring were removed by him about two weeks later. The pathological examination confirmed the diagnosis.

The patient made an uneventful recovery and continued in perfect health until the early spring of 1906, when he noticed occasional discomfort in the right lumbar region, extending down into the bladder. Under various kinds of internal treatment by different physicians this condition varied between practical comfort and considerable discomfort until November, 1907. The discomfort was always increased by the administration of hexamethylenamine. From May, 1906, to May, 1907, frequent examinations of the urine showed traces of albumin, no pus, no casts. Specific gravity always normal or above. In may, 1907, pus was found for the first time. In September, 1907, hyaline casts appeared.

In November, 1907, Dr. Meyers brought him to my office for cystoscopy. This was readily accomplished, the bladder capacity being about seven ounces. The findings were as follows: Ureter mouths abnormally near together; right ureter mouth patent and surrounded by a large area having a swollen and œdematous appearance, with patches of intense congestion; immediately to the right and in contact with the ureter mouth, an irregular, excoriated area with a grayish yellow base, not very different, however, from the surrounding mucous membrane; just below the right ureter mouth, an oval, sessile, tumefaction with a granular surface; left ureter mouth apparently normal.

The distending fluid became turbid so quickly that it had to be replaced with clear fluid through the cystoscope before the examination could be completed.

Catheterization of the ureters showed normal urine from the left kidney and turbid urine from the right kidney. Dr. Sondern easily demonstrated tubercle bacilli in both the urine from the bladder and in the separated urine from the right kidney.

The patient was radiographed by Dr. L. G. Cole, who reported: "The left kidney is normal in size and position; the right kidney is normal in position, but is apparently contracted and is denser and more irregular in outline, particularly on the convex surface; it shows an area where there is a slight calcareous deposit—all characteristic of a tuberculous kidney. The bladder shows so distinctly, and the walls are so much more distinct than usual that it would suggest some infiltration, especially on the right side."

After discussing the situation with the patient, it was mutually agreed to try tuberculin inoculations. Quoting Dr. Meyers: "The patient undertook and persisted in the treatment with great interest and enthusiasm." The emulsion employed was supplied by Dr. T. W. Hastings, of the Cornell Laboratory, whose instructions were carefully followed. The initial dose (December 24, 1907) was 0.000,001 gramme; the final dose (June 8, 1908) was 0.00.025 gramme. An inoculation was given every third or fourth day.

Dr. Meyers writes: "Most careful observations were made to detect any reaction; but during the entire six months, neither constitutional nor local reaction was discovered. Constant local and general improvement took place. When the treatment was begun, the patient's weight was 164 pounds, pulse from 64 to 72, temperature normal. For each treatment he took a railroad trip of one hundred miles. His whole life had always been so hygienically planned that little change could be suggested; he was, however, kept on fat emulsion several months. His net gain was ten pounds. He remains well and vigorous and presents the appearance of an unusually hale and hearty man of fifty-six. The examination of urine April 30, 1909, reveals no tubercle bacilli, and the patient is symptom free.

20 East Fifty-sixth Street.

*Read before the American Association of Genito-urinary Surgeons at [illegible] May 3, 1910.

CHYLURIA CONTAINING THE CERCOMONAS HOMINIS.

Report of a Case.

By Charles Rosenheck, M. D.,
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and C. L. Rohdenburg, M. D.
New York.

While cases of chyluria occur in the tropics with frequency, their occurrence in temperate zones is of sufficient rarity to warrant the presentation of cases as they occur. The cases of chyluria may be divided into parasitic and nonparasitic. As to the ætiology of the nonparasitic cases practically nothing is known. The parasitic causes are several, the chief one being the filaria. Other parasites which have been reported have been found only in scattered cases. The case reported here is of a singular interest in that the parasite itself is not very common in the human family. A fairly thorough search of

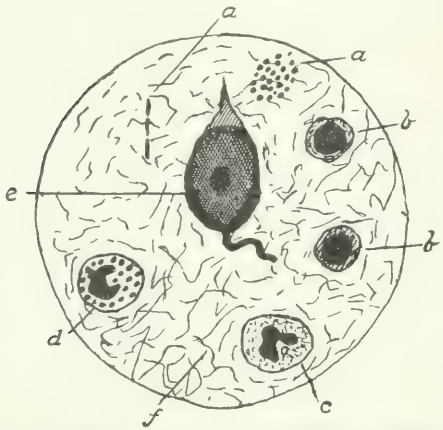


Fig. 1.—Drawing of smear of urine, oil immersion. *a*, Bacteria; *b*, lymphocytes; *c*, polynuclear; *d*, eosinophile; *e*, parasite; *f*, debris.

the literature has failed to reveal a case in which this parasite has been found in chyluria.

Case. Male, age nineteen, colored, elevator operator. Has been resident of New York city for the past two years; previous to this time lived in the West Indies on the island of St. Thomas. Past and family history negative. Habits good; denied all venereal disease. On November 18th, patient had coitus with a puella publica, with whom he had cohabited before without contracting disease. He stated that intercourse was not of any pervert type. Three days after this he noticed ardor urinæ, a tickling at the meatus, and a slight mucoid discharge. These symptoms gradually cleared up so that on November 28th, he was perfectly well. On December 1st, on arising in the morning, he noticed that his urine was milky and immediately sought professional advice. Physical examination failed to reveal any abnormality except chyluria. At first the urine was milky white but on subsequent occasions it varied from white to bright red. When standing in a glass for about half an hour the urine coagulated.

Labratory examinations. Fæces negative. Blood count, white blood cells 11,700; differential count, polynuclear, 57.5 per cent.; lymphocytes, 26 per cent.; large mononuclears, five per cent.; eosinophiles, eleven per cent.; mast cells, 0.5 per cent. This examination was made December 1st. Another examination made on December 15th showed white blood cells 10,400; polynuclears, sixty-seven per cent.; lymphocytes, eighteen per cent.; large mononuclears, twelve per cent.; eosinophiles, three per cent. Examinations of the urine showed as the averages of several examinations: Color, white to bright red; specific gravity, from 1.028 to 1.034; reaction, alkaline; no odor; albumin present in large amounts; no sugar. Microscopical examination showed no casts, a few bladder cells, no kidney cells, many very finely divided fat globules, and a moderate number of white cells. A differential count of the white blood cells showed polynuclears, thirty per cent.; lymphocytes, fifty-seven per cent.; large mononuclears, five per cent.; eosinophiles, eight per cent. In the fresh specimen during the first two days of the disease there could be seen a moderate number of the *Cercomonas hominis.* As the disease progressed these became less and less frequent, until at the end of two weeks they could no longer be found. The parasites were about 11 $\mu\mu$ wide and about 14 $\mu\mu$ long. They were ovoid in shape and from one pole projected a filament about half as long as the body of the cell, while from the other pole there projected a short spine like process.

While the parasite *Cercomonas hominis* is not infrequent in man and often in a region distant to the alimentary tract, still the probable mode of infection *via* the genitals in this case is, to say the least, unique. Again the fact that the parasites have at the present time disappeared from the urine raises the issue if this may not be the explanation of the cases of nonparasitic chyluria. It is certain that looking at the case at the present time it would be classed as nonparasitic, there being no parasites present, the eosinophilia having disappeared although the chyluria still persists. It was found impossible to examine the puella publica.

222 West One Hundred and Thirty-sixth Street.

247 West One Hundred and Thirty-fifth Street.

PHRENOLOGY AND ITS FOUNDER: THE CLAIMS OF FRANZ JOSEPH GALL ON THE HOMAGE OF SCIENTIFIC POSTERITY.

By John Knott, A. M., M. D., Ch. B., and D. P. H. (Univ. Dub.); M. R. C. P. I., M. R. I. A.; etc.,
Dublin, Ireland.

(*Continued from page 310.*)

The relation of *soul* to *body,* according to the teaching of "the master of those who knew," is that of *form* to *matter;* their coexistence constituting a concrete individual, a numerical unit. All readers are, of course, familiar with the illustration which still survives its enunciation of (at least) twenty-five centuries ago: a solid cube of *marble* presents the essential quality of *materia formata;* but it, nevertheless, represents the *materia,* pure and simple, from which the future *statue* is to be evolved by the added *forma.* The circumferential *cosmos* was the abode of the eternal and omnipotent divinity, whose *angels* (or ambassadors) occupied defined positions on the respective shells of the intermediate spheres; while the central, nuclear, *Earth* was continuously influenced, and governed, and vitalized at points, by those powers; of which the resultant dominance varied in its effects with their *conjunction,* and *opposition*—and the innumerable series of less definite spatial relationships. The vitalizing power, by virtue of which every living being became originally animated, was derived from the celestial (*i. e.,* the circumferential) region of the cosmos. Every germ of life included, in addition to the *four*

familiar *elements*, a *quintessentia*, more subtle by far in composition and texture, and more intimately related to the *divine* Nature, and of the material of which the stars were composed. This *ignis cælestis*, as it was sometimes called, differed generically from the terrestrial element of *fire*. It was the sole source of the principle of *life*, and of *animal heat*. All varieties and types of the ψυχη are derived therefrom. But the various specimens of *soul* possess different proportions of the *"divine" element;* and, accordingly, present widely different degrees of worth and dignity. The lowest in rank is the *nutritive* soul; which animates plants, and presides over their growth and reproduction. It exists *potentially* in the seed. In animals, the nutritive soul of the sexes is contained potentially in the generative system of the female; thus it is that the actual beginning, or foundation, of the life of the future animal is of a purely *vegetable* nature. The *sensitive* soul of the sexes, which characterizes *animal* nature, can be superadded only by copulation of the sexes, and introduction of the semen of the male. The female, being relatively impotent, and less liberally endowed with animal heat, contributes but the *matter* of the future offspring; the fecundating and *moving* cause is the *form*, which is supplied solely by the male. The union of these factors determines the production of the complete *animal*, the new individual. The nutritive and sensitive souls have, each, a specially assigned corporeal function and movement. But the *noetic* soul (νους) holds no corresponding partnership with any bodily agency. It is wholly derived from the emanation of that *quintessence*, or "divine celestial substance from which all psychical or vitalizing heat proceeds." It is introduced within the organism at a date subsequent to the admission of the others, and is thus *superinduced* upon the nutritive and sensitive souls, and always stands out in clear distinction from them by the fact that it is perfectly *separable from the body;* with which both the other souls are bound up, and whose combined function it is to "actualize." The νους essentially belongs to the divine celestial body, and the visible luminaries which represent specially localized portions thereof—of which the characteristic (sole) activity is the unclouded, unembarrassed, perfect, *theorizing contemplation:* "contemplation of the *formal* regularity of the cosmos," with its eternal and harmoniously perfect rotations; and its own perfection in participating in, and guiding, and regulating the same. Such views, not arranged on scientific lines precisely parallel to those of our "modern" theories of localization in cerebral space, and *neuronic* structure of the whole nervous system, are, I venture to suggest, worth retaining within mental reach till the latter (or substituted) notions have established a stronger claim to infallibility than they can well pretend to at present. The relative vagueness of what the modern physiologist is so characteristically disposed to look loftily down upon from the scientific scaffolding of the twentieth century is, of course, largely due to the fact that anatomy—macroscopic and microscopic—was not studied by the apostles and devotees of ancient wisdom with anything like the minuteness of ocular inspection of detail which has resulted in the deplorable "eye-strain" symptoms of the intellectual optics of the present generation—with its broadcast diffusion of (mental) asthenopia, and astigmatism, and amblyopia, and hopeless *internal* strabismus! And very little, indeed, did even exploration of the naked eye structure of the brain advance till the process of investigation was definitely undertaken by the "founder of phrenology"—as a glance at the respective works of the best known representative teachers will at once show. And here a single digressive reference will reveal much to the skilled and curious reader.

The enthusiastic modern Platonist, Dr. Henry More, the contemporary (and, at least for a time, devoted admirer) of Des Cartes, enumerates no less than *ten* special localities—mostly, as might have been anticipated by the judicious expert in physiological anatomy, organs of the *azygos* type of spatial disposition—in which various devotees of physical truth had severally indicated their beliefs (respectively) that the human soul found its permanent anchorage during life. Of these the best known, indeed almost the only one we ever find referred to nowadays in such connection, is the *locus* which was selected by the famous "founder of modern philosophy" himself, and which, I may as well add before proceeding further, came—after very prolonged and conscientiously critical examination—to be rejected with scorn by the previously unquestioning neo-Platonist. The decimal series of localities of the human organism to which the central station of *mind* and *spirit*—the *sensorium commune*—had at various times, and by as many apostolic doctrinaires of physiological psychology, been referred in turn, are thus catalogued by More: "1. That the whole Body is the seat of Common Sense. 2. That the Orifice of the Stomach. 3. The Heart. 4. The Brain. 5. The Membranes. 6. The *Septum lucidum*. 7. Some very small and perfectly solid particles in the Body. 8. The Conarion. 9. The Concourse of the Nerves about the fourth ventricle of the Brain. 10. The Spirits in that fourth ventricle." The facts and arguments and illustrative comments which were brought to bear on the discussion of the merits of the respective claims of those various *loci* of man's noblest faculty, enunciated by that most learned of the Anglican divines (and philosophers) of his generation, and always lucidly (as well as quaintly) arranged, make very interesting reading throughout—though not in every instance strictly edifying to the twentieth century scientist. And his discussion of the view that the *brain* is the organ of the *human understanding* is, I venture to affirm, worthy of the passing attention of every student of the progress of human thought and opinion (as every true physician invariably and necessarily is, and ever has been)—emanating as it did from the mind and pen of the most scholarly theologian and philosopher of the most scholarly of all the ages of English intellectual progress, the very junior (1614-1687) contemporary of William Shakespeare (1564-1616), and one of the most brilliant stars of the dazzling intellectual galaxy which included Jeremy Taylor (1613-1667), Thomas Fuller (1608-1661), Thomas Hobbes (1588-1679), John Milton (1608-1674), and John Locke (1632-1704). The earnest and inquiring reader will surely peruse with more than the average passing interest the following paragraphs, representative, as they are of the high water level of

the philosophic views of More's generation regarding the linking of mind and matter in the human economy—and which, I venture to assert, have displayed but little increase of either altitude or translucency from that period down to the development of the revolutionary cataclysms, political, philosophical, religious, and scientific, which marked the closing years of the eighteenth century. And I must in this connection also specially emphasize the fact that the position of the "organ of mind" was not more definitely fortified, or even mapped out, during the seismic moments of that period of unprecedented unrest; or during the era of diffused European bloodshed which supervened. Bearing these facts in mind, a thoughtful perusal of the following extract will surely help the discriminating reader to form a just estimate of the scientific and philosophic debt which posterity owes to the genius and labors of Franz Joseph Gall:

Let us now consider the nature of the *Brain*, and see how competitive these Operations and Powers are to such a Subject. Verily if we take a right view of this laxe pithe or marrow in man's head, neither our Sense nor Understanding can discover any thing more in this Substance that can pretend to such noble Operations as *free Imagination* and the sagacious collections of Reason, than we can discern in a Cake of Sweet or a Bowl of Curds. For this loose Pulp that is thus wrapt up within our *Cranium* is but a spongy and porous Body, and pervious not only to the Animal Spirits, but also to more grosse juice and Liquor; else it could not well be nourished, at least it could not be so soft and moistened by Drunkenness and excess, as to make the Understanding inept and sottish in its Operations.

Wherefore I now demand, in this soft substance which we call the *Brain*, whose *softness* implies that it is in some measure *liquid*, and *liquidity* implies a severall *Motion* of loosened parts, in what part or parcel thereof does *Phansy*, *Reason* and *Animadversion* lye? In this laxe consistence that lies like a Net all on heaps in the water, I demand in what knot, loop or interval thereof does this Faculty of *free Phansy* and *active Reason* reside? I believe you will be asham'd to assign me any one in particular.

And if you will say in *all together*, you must say that the whole Brain is figured into this or that representation, which would cancell Memory, and take away all capacity of there being any distinct Notes and plans for the several Species of things there represented.

But if you will say there is in *every Part* of the *Brain* this power of *Animadversion* and *Phansy*, you are to remember that the Brain is in some measure a *liquid Body*, and we must enquire how these loose parts understand one another's Animadversions and Notions: And if they could (which is yet very inconceivable) yet if they could from hence doe any thing toward the *Immission* and *Direction* of the *Animal Spirits* into this or that part of the body, we must consider that they must doe it (upon the knowing one another's minds,) as it were by a joynt contention of strength, as when many men at once, the word being given, lift or tug together for the moving of some so massic a body that the single strength of one could not deal with. But this is to make the *several particles* of the *Brain* so many *individual persons;* a fitter object for Laughter than the least measure of Belief.

Besides, how come these *Many Animadversions* to seem *but one* to us, our Mind being these, as is supposed? Or rather why, if the figuration of one part of the Brain be communicated to all the rest, does not the same Object seem situated both behinde us and before us, above and beneath, on the right hand and on the left, and every way as the Impress of the Object is reflected against all the parts of the Brain? But there appearing to us *but one Animadversion*, as but *one site of things*, it is a sufficient Argument that there is *but one;* or if there be *many*, that they are not mutually communicated from the parts one to another, and that therefore there can be no such joynt endeavor toward one designe: whence it is manifest that the *Brains* cannot *immit* nor *direct* the *Animal Spirits* into what part of the Body they please.

Moreover, that the *Brain has no Sense*, and therefore cannot impress spontaneously any motion on the *Animal Spirits*, it is no slight Argument, in that some being dissected have been found *without Brains;* and *Fontanus* tells us of a boy at *Amsterdam* that had nothing but limpid water in his head instead of *Brains;* and the *Brains* generally are easily dissolvable into a watery consistence; which agrees with what I intimated before. Now I appeal to any free Judge, how likely these free particles are to approve themselves of that nature and power as to be able by erecting and knitting themselves together for a moment of time to bear themselves so as with one joynt contention of strength to cause an arbitrarious ablegation of the Spirits into this or that determinate part of the Body. But the absurdity of this I have sufficiently insinuated already.

Lastly, the Nerves, I mean the marrow of them, which is of the selfsame substance with the Brain, have no Sense, as is demonstrable from a *Catalepsis* or *Catochus*. But I will not accumulate arguments in a matter so palpable.

As for that little sprunt piece of the Brain which they call the *Conarion*, that this should be the very substance whose natural faculty it is to move itself, and by its motions and nods to determinate the course of the Spirits into this or that part of the Body, seems to me no less foolish than the story of him that could change the wind as he pleased by setting his cap on this or that side of his head.

If you heard but the magnificent stories that are told of this little lurking Mushrome, how it does not only hear and see, but imagines, reasons, commands the whole fabrick of the body more dexterously than an Indian boy does an Elephant, what an acute Logician, subtle Geometrician, prudent Statesman, skilful Physician, and profound Philosopher he is, and then afterward by dissection you discover the worker of Miracles to be nothing but a poor silly contemptible Knote or Protuberancy, consisting of a thin Membrane, containing a little pulpous Matter, much of the same nature with the rest of the Brain:

Spectatam admissi risum teneatis amici?

would you not sooner laugh at it then go about to confute it? And truly I may the better laugh at it now, having already confuted it in what I have afore argued concerning the rest of the Brain.

I shall therefore make bold to conclude, that the impress of *Spontaneous Motion* is neither from the *Animal Spirits* nor from the Brain, and therefore that those Operations that are usually attributed unto the Soul are really incompetible to any part of the Body, and therefore that the Soul is not a mere Modification of the Body, but a Substance distinct therefrom.

I have now no hesitation in advancing the opinion that every reader of the above paragraphs who is possessed of a fair modicum of scientific attainment and of critical powers of perception will agree with me that the expert opinion which they represent, of one of the most learned and philosophic of the English Protestant divines, of England's most learned and philosophic seventeenth century, cannot truly be said to represent any conspicuous advance on the psychology and neural physiology of the immortal Stagirite, or even on that of his "divine" master. Even the earlier leaders of the Ionian schools of thought displayed a degree of intellectual and philosophical skill in their arrangement of the theoretic origin and sequent regulation of the cosmic order and microcosmic psychology which shows some facts of a brilliancy that will hardly suffer in a corresponding comparison, and would—I suggest with confidence—probably rank still more highly in the estimation of the skilled critic of the twentieth century if a complete presentment of the collective body of their doctrines were available. And, in this connection, it is surely worthy of more than a moment's passing attention to have the fact recalled—and more especially at present date, passing, as we are, through a scientifically auspicious period of centenary celebra-

tions—that the great central object of all the pre-Socratic schools of Greek philosophy was the discovery (in cosmic Nature) of a *single* primordial element, from the concrete *unity* of which the multiple, the varying, the ever changing, and never resting, *elementary* and *compound* constituents of the existing universe had been originally, and were still becoming gradually, evolved and multiplied. Thales, the first of Greece's *seven* inspired exponents of wisdom, made water (moisture, ὑδωρ) the primordial source of the evolutionary development of the varied contents of the spherical cosmos; Anaximenes advocated the superior claims of *air* to recognition in that capacity; Anaximender held a brief for those of *infinite matter* (ἄπειρον)—apparently the material which has been transmitted to the uneasy care of latter day posterity under the familiar name of *ether*.

Then the progressive idea of central *unity*, and correlated *order*, became distinctly and indelibly symbolized in the Pythagorean doctrine of the omnipotence of *number*, which constituted the principle of *reality* as well as of *order*, and from the odd and even combinations of which (duly determined, arranged, united, and distributed) resulted the existence of all forms of being; each and every specimen of which was an effect of their cohesion under the influence of *harmony*—the third of the *trinity* of *principles* of omnipotent and omnipresent *number*. And here I will remark, in passing, that I cannot help sometimes asking myself whether many—or any—of the "modernist" geometricians who have recently, and successfully, conspired to dethrone Euclid from his pride of place as apostolic inseminator of orthodox ideas of *space* in the minds of boyish humanity, have ever been made aware of the fact that his wonderful work was composed, not for the purpose of deftly unfolding the buds of the intellect in the fragile stage of prepubic growth, but for the psychological and metaphysical gymnasia of Alexandrian sophists which flourished under the intellectual patronage of Ptolemy Soter; at a period in which the razor edged subtlety of the (dovetailing) Græco-Judaic philosophy was in process of receiving its most dazzling polish from the gradual adaptation of Jewish to Gentile intellect and doctrine, under the happy material influence of the attractions of the arena (which proved powerful enough to produce the blasphemous *epispasm* that was made to mask the distinctive physical characteristics of many male members of the chosen race); that the diagram which illustrates its very first "Proposition" is really a hieroglyphic sketch of the external *pudenda* of the human female; and that the primordial idea of the author was to demonstrate the philosophic thesis that, with the aid of a few preliminary "axioms" and "postulates," all the facts that are associated with, and all the phenomena which are presented by, every specimen sample of figured *space*—from the dimensionless point to the cosmic shell which outreaches the further extremity of the flight of the *javelin* of Lucretius—could be deduced from a series of problems and theorems that derive their focal origin from the unique source of human life.

Although the statement of the gifted author of the *Breitmann Ballads*, that "mind is the result of food," may, in the last resort, be successfully defended as representative of modern scientific fact, there are, nevertheless, so many interesting and intricate stages of physical progress and transmutation which have to be traversed, from the original sowing of the *wheat* and the impregnation of the *bovine ovum*, to the final assimilation of the *bread* and *meat* that have proved instrumentally responsible for the genesis of the materials of a *Hamlet* and a *Faust*, and of the scientific revelations of a Newton and a Pasteur, that the self appreciating democrat of the twentieth century can find as much to admire in the hidden workings of the organ of human thought as ever did the most subtle of Socratic dialecticians, the most imaginative of Academic philosophers, the most syllogistic of Peripatetic metaphysicians, or the most dreamy of mediæval mystics. And absolutely true it is that the original exposure of the solid bed rock of physical science, on which now firmly rests the basis of our present knowledge and teaching regarding the brain and its functions, and the deposition thereon of the earliest reliable contributions of the anatomical and physiological facts which constitute the original foundation of the colossal superstructure of which medical science is now so justly proud, were the achievements of one enthusiastic pioneer of cerebral localization: the so much misunderstood, and misrepresented, and (now) so little known, Franz Joseph Gall.

The so called "founder of phrenology" was born at Tiefenbronn (near the bordering line of Baden and Würtemberg), March 9, 1758; and he died at Montrouge (near Paris), August 22, 1828. In the course of this scripturally timed life pilgrimage of three score years and ten, sloth or lethargy—physical or mental—were effectively maintained at a distance far beyond the "respectful." He studied medicine at Strasburg and at Vienna; and, in 1785, started on his professional career in the latter city. Eleven years later, he there commenced to give special lectures on the structure and functions of the brain; and the most conspicuous result was that his public discourses on matters cerebral were prohibited, as being subversive of orthodox theological dogma. But that irrepressible lecturer would not be permanently silenced; and, accordingly, after an interval of three years (in 1805), he started on a wide European lecturing tour—which embraced the principal centres of Germany, Holland, Sweden, and Switzerland. He was accompanied—pretty necessarily, indeed—by an associate assistant, Spurzheim; and, after a couple of years had been very actively occupied in this way, and when his name and fame had come to overspread Europe, he settled in Paris as a practising physician, and with brilliant success. But the memoir containing the results of the conjoint researches of master and assistant, which was presented to the French Institute in the following year, elicited an unfavorable report from the leading scientific specialists of that accomplished and critical oligarchy—of which Cuvier was then the most prominent biological member—as regarded results arrived at in connection with the labyrinthine problems of natural history. The infliction of that condemnatory sentence was followed by the production of a series of publications on the structure and functions of the brain and nervous system, which

culminated in the colossal *Anatomie et physiologie du système nerveux.* The accusations of *materialism* and *fatalism* which were vigorously, and with diligent repetition, levelled at Gall's system, called forth (in 1811) a volume entitled *Des Dispositions innées de l'ame et de l'esprit.* All his publications are characterized by the same unmistakable stamp of enthusiastic ardor, which throughout inspired his untiring industry and unceasing devotion to this special department of scientific and philosophic observation and research—down to the close of his career.

In 1813, the previously subordinate Spurzheim felt himself sufficiently fledged to leave the nest, and take wing on his own account, through the atmosphere of popular scientism towards the temple of fame—and that of mammon. Being by that time sufficiently accomplished—and, accordingly, self reliant—to take "French leave" of his master, he steered for England, the most fructifying source and nursery of quacks and charlatans, with the (well founded) hope of reaping a rich harvest for himself by an unprincipled, but highly lucrative, *mis*application of his master's researches and discoveries, and a diplomatic utilization of the name and fame thereunto adherent. The procedure and practice of his *quondam* pupil and associate were vigorously protested against, and unsparingly denounced by Gall; and it is to the renegade Spurzheim and the acquisitive Caledonian Combe, that humanity at large became indebted for the shilling phrenological bust and the vagrant phrenological practitioner. The progressive devolutionary development which Gall's laboriously cultivated science of cerebral localization underwent at the hands of those worthies, and of those of the members of the horde of blatant quacks and cheating charlatans who soon came greedily to adopt their methods, and with successive revisions illuminated by decorative illustrations and progressive improvements, rapidly came to confer upon phrenology an "odorous" reputation, which absolutely excluded the patronage—and even the passing recognition—of all "scientists" who felt seriously anxious for, or dubious regarding the respectability of their own.

But the observations and deductions of Franz Joseph Gall, as originally made and noted down by himself, are of a tone and quality very different, indeed, from those of his misrepresentatives of succeeding generations. The scientific devotion and enthusiastic curiosity which continuously stimulated him to progressive research in the darkly labyrinthine domain of cerebral localization—and which, perhaps, sometimes led him to overstep the limits of cool scientific calculation—had the undeniable effect of securing him the unwearying energy which is essential to the accumulation of an unexampled wealth of original material. One of his earliest *localizations* was that of *veneration*, which had a genetic history more biographically instructive than religiously edifying. For years this restlessly active observer went regularly to church every Sunday, and occupied a seat in the front row of the gallery; not, however (as the great majority, at least, of his fellow worshippers must have thought at the time), so much for the special purposes of devotion and prayer as to study the items of the panoramic display of uncovered heads which was, of course, always presented by the subjacent stratum of the congregation. The collective experience which was supplied by such careful and prolonged observation, conducted on so large a scale, demonstrated to his satisfaction that the worshippers who were most punctual, and most obviously ardent in their devotional duties, presented—every one—a well pronounced elevation of the cranial vault in the bregmatic region. Hence the diagnostic localization of the faculty of *veneration!* (And to the superficial scoffer at Gall's system of cerebral physiology I would take this opportunity of suggesting a passing inspection of the respective busts of a great author, Sir Walter Scott, and a great physician, Sir Thomas Watson; both of whom were, unquestionably, men of most exceptionally high ideals, and aims, and attainments.)

(To be continued.)

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CVII.—How do you treat acute otitis media? (Closed February 15, 1911.)

CVIII.—How do you treat hiccough? (Answers due not later than March 15, 1911.)

CIX.—What are the best means of reducing infant mortality. (Answers are not later than April 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to question CVI has been awarded to Dr. Joseph di Rocco, of New York, whose article appears below.

PRIZE QUESTION CVI.
THE TREATMENT OF OBESITY

By JOSEPH DI ROCCO, M. D.,
New York.

In the treatment and management of this condition several items are to be taken into consideration. The first question that usually presents itself is: When is a person pathologically too fat? The condition is an abnormal deposit of fat in various tissues of the body, accompanied by excessive increase of weight and generally associated with faulty elimination. Bear in mind always that fifty per cent. or over of the cases are hereditary. Moderate cases of obesity can usually be handled with satisfactory results. In this condition, I recognize two great causes. 1. Overeating, associated with a bad balance of the dietary sheet; may or may not be associated with alcohol, especially the malt preparations. In this class belong the plethoric individuals. 2. Some morbid condition of the system,

which leads to the defective oxidation of food products. The so called fatty anæmic belongs here. Women, as a rule, make up this class. In this, the morbid condition is often an unexplainable condition; these people do not assimilate fat; the fat is not oxidized.

In the great majority of cases, the cause is chiefly overeating. In outlying any treatment, I bear in mind certain facts: 1. I determine, if possible, the original cause; 2, I examine carefully the condition of the heart and other organs; whether there is any "yellow streak" in the muscles or not; 3, I examine the urine, as a rule a number of these cases are glycosuric in origin; and, 4, I weigh my patient once a week and note all changes in the general condition.

The object of the treatment is to oxidize and eliminate the fat already stored up and to prevent its accumulation. This is accomplished by a dietetic, medicinal, and physical exercise.

In the *dietetic* treatment, I recognize certain general facts: That no single article of diet is responsible for the condition, nor will the withdrawal of any single article of diet help to minimize the amount of fat; restrict the amount of fluids, and this includes coffee, soup, water, and milk; the carbohydrates are reduced. In serious cases, make no sudden change in the diet, and never persist in a treatment which is weakening the individual, although it is helping him.

For the plethoric person: Ordinarily three meals a day, moderate in amount and regular in time. Meats cut down to once a day; starchy foods reduced in amount; if possible cut out bread. Eggs, fish, and oysters are allowed. Soups should be absolutely avoided; likewise milk, except skimmed milk. Sugars, cakes, and pastries are also avoided. Fruits of all kinds and vegetables that grow above the ground are allowed. Alcohol should be avoided; but if, for any reason of the general condition it is allowed, diluted whiskey, dry claret, or Moselle wine are permissible. Water with meals should be stopped, but is allowed before meals.

The diet for those that come under the second class is the same, except that these persons should be fed between meals, with eggnog, cup of cacao, crackers, and soup.

Medicinally. The bowels are regulated by a cathartic. In case the heart needs toning up, a little digitalis and strychnine will answer the purpose. The anæmic persons take iron very well; the citrate of iron and quinine, four grains in a capsule, three times a day, or still better, two drachms of the citrate in half a pint of sherry, two teaspoonfuls, three times a day. Arsenic is also good, especially in the form of arsenious acid, 1/50 grain, three times a day. Especially good for the plethoric individuals is the administration of the thyreoid extract, in five grain tablets (Fairchild), three times a day. These will reduce, but after a while there is a standstill in the reduction. The tablets have to be gradually increased, but be on the lookout for thyreoidism.

In most cases, *exercise* will materially help to reduce obesity. I bear in mind certain principles which apply to all cases: 1. The exercise must be persistent and regular; 2, to produce effects and not exhaust the person; 3, it should be a general one and affect all muscles; and, 4, if possible, cause sweating.

What forms of exercise do I recommend? Walking and running stand foremost in the physical work which every person can partake. Walk about one mile at the start and gradually increase till one walks several miles a day. End the walk with a bath and a brisk rubbing. If weather permits, one can tramp out in the suburbs. Graduated hill climbing is very good. This is best illustrated in the walk that a person does in playing golf. Hunting also comes under this. Of course, there must be a decided effort on the person's part to keep agoing and not do any loafing. Horseback riding, if possible, is a very good recreation and at the same time reduces obesity. Body bending, flexion of the abdominal muscles, from a standing position, by means of pulley weights, or from a lying position, is a very useful exercise. If a person has use of the apparatus in a gymnasium, the various leg movements as performed on the parallel and low horizontal bar are excellent. These bring the various muscles into play. Rope skipping is a very useful and handy exercise if a person can be made to do it. This surely will produce the necessary sweating. Let him go in the back yard and saw wood.

A bath should invariably follow these various exercises, ending it with massage (kneading).

210 Mott Street.

Dr. J. W. Weinstein, of New York, writes:

Every move, each breath of ours is attended by a loss of energy or flesh. A person of moderate weight doing a moderate amount of work loses in the interval from breakfast up to his luncheon hour from one to one and a half pounds in weight. During sleep over night we lose again from one to two pounds in weight. This constant loss of energy is replenished by the intake of food. In normal people there is a self regulatory adjustment whereby the loss of energy is just counterbalanced by the food introduced into the system, and such people have a stationary weight, neither gaining nor losing. If either or both of these two factors are disturbed a deviation from the normal weight takes place. Thus a person with a stationary weight who changes his occupation from a more active one to one less active, the caloric food intake remaining the same, will gain flesh. On the other hand, a person with stationary weight who, through a change of habits or environment, will ingest more food than formerly will again gain in weight. This addition to the food may be a very slight or imperceptible one. Thus, through a change in the mode of cooking more fat may be ingested with the meals. An indulgence in an extra glass of beer or an extra amount of liquor above his regular intake of food will mean an extra addition of a certain number of calories to the regular maintenance diet and will result in a gradual gain of adipose tissue until a weight is reached for which the amount of calories ingested is just sufficient to maintain the body. The heavier the man the greater the amount of calories required to keep him in equilibrium of weight. Thus, a person who weighs sixty kilogrammes, doing a moderate amount of work, will require a maintenance diet of forty-five calories per kilo-

gramme, which means $45 \times 60 = 2,700$ calories each day. On the other hand, a person who weighs seventy kilogrammes, doing the same amount of work, will require as a maintenance diet, $45 \times 70 = 3,150$ calories. By a maintenance diet I mean a diet which is just sufficient to sustain the body, neither losing nor gaining. These preliminary remarks pave the way to the proper understanding of the treatment of obesity.

In the treatment of obesity we must study thoroughly the habits and the mode of life of the patient. In some that do not exercise enough, the addition of more bodily exercise will accomplish our aim. In others a slight regulation of the diet, the taking off of an extra sandwich, an extra glass of beer or wine will correct the evil. In the majority of cases the correction of both will be required. We must diminish the intake of calories as much as possible and at the same time raise the expenditure of energy.

The diet. One of our greatest helps in the treatment of obesity is the fact that each of the three classes of foodstuffs, the proteins, carbohydrates, and fats can be substituted for one another, provided they contain an equivalent number of calories. Thus ten grammes of butter (one cubic inch) is equivalent in the system to ninety grammes of potatoes, both representing about eighty calories. There is, however, certain limitations to this postulate, namely, that there must always be a certain amount of proteins and carbohydrates introduced, else, in the reduction, the body albumin, the muscles, blood, viscera, etc., will suffer; while normally in a reduction cure the fat only is being sacrificed and not the body albumin. Working on these principles we exclude from the diet for obesity all visible fat, for fats represent the highest caloric values, one gramme of fat representing 9.3 calories, while one gramme of carbohydrate or one gramme of protein contain only 4.1 calories each. We, therefore, exclude all visible fat, such as fatty meat, fatty fish, oil, butter, sweet cream, etc. We allow articles that represent the lowest caloric values in the largest bulk. Such articles are: Potatoes, lean meat, lean fish, lean cheese, eggs, bran bread, Graham bread in moderation, oysters, all kinds of vegetables (prepared without oil), all kinds of fruits, soups with fat strained off, skimmed milk, buttermilk, tea, coffee, vinegar, lemon, mineral waters. Of these articles a fairly liberal diet may be selected.

The following articles must be avoided or taken only sparingly, as they contain a high caloric value. All fatty and greasy foods, sugar, whité bread, crackers, biscuits, all kinds of sweets, syrups, dried peas and beans, dried fruits, cereals, grape nuts, liquors, beer, malt.

The patient when put on a reduction diet must adhere to it else the resulting loss of flesh will soon be regained.

Exercise. The second factor is the raising of the expenditure of the energy of the body. This is best accomplished by mountain climbing. Unfortunately it is not accessible to everyone. Manual work, various gymnastic exercises, running, rowing, swimming, golf and tennis playing, bicycle riding, work about the house, gardening, deep breathing, are all reliable means of increasing the output of energy. During exercise it is proper to watch the heart action lest damage be done.

Cold baths and douches are very good. By applying the cold water the surface of the body gets chilled, and to warm it up some body fat must be burned up.

Hot baths and sweating are not good. The loss of flesh that is secured by it is merely due to a loss of water and not fat, which is soon replenished by the intake of water. Fat cannot be sweated off. It must be worked off or starved off.

Massage reduces the masseur, but not the person massaged.

By following up these methods we will secure satisfactory results in most cases.

A patient may be of marked obesity that has persisted for years, with a family tendency, more exact means at reduction must be applied. We must prescribe a diet based on exact caloric calculations or, which is preferable, to do it in an institution where the patient can be under constant surveillance. The following is the method to pursue in caloric calculations. A patient weighing about 100 kilogrammes presents himself for reduction. We must determine first how much would be the proper weight for the size of that person. Let us assume that seventy-five kilogrammes would be the proper weight for that patient. We next determine how many calories would constitute the maintenance diet of such a person. Obese people, as a rule, are not very active, and forty calories for each kilogramme would be the proper amount. The maintenance diet, therefore, would be $40 \times 75 = 3,000$ calories. We take the actual amount of protoplasmic tissue and omit the fat from our calculations, for it is the protoplasmic tissue that is chiefly concerned in oxydation processes. By taking off the patient's diet about 800 calories each day, a loss of about one kilogramme a week will be achieved. We must therefore arrange diet lists equivalent to 2,200 calories a day. These diet lists are compiled by the help of tables giving the relative caloric values of different articles of food. An excellent table for that purpose is one in Robert's *Journal of the American Medical Association*, April 21, 1906). This table obviates the necessity of scales and measuring glass. Here is an example of a diet containing about 2,200 calories.

Breakfast.	
[illegible]	60 calories
2 eggs,	145 calories
1 cup of coffee (including milk and 2 heaping teaspoons of sugar),	120 calories
[illegible] grammes of white bread (2 slices each 4x4x½ in.),	145 calories
	470 calories
Luncheon.	
[illegible]	122 calories
100 grammes of fish,	91 calories
90 grammes potatoes,	80 calories
1 glass [illegible] milk	162 calories
[illegible]	40 calories
	495 calories
Dinner.	
[illegible]	50 calories
crackers, etc.,	50 calories
broiled steak (350 grammes),	560 calories
200 grammes of potatoes,	192 calories
[illegible] grammes of bread,	145 calories
1 plate of vegetable soup,	100 calories
[illegible] milk, and sugar,	120 calories
	1227 calories

On a diet of 2,200 calories this patient will lose about two pounds a week. There is no need to go any faster than this. In compounding diet lists it is always advisable to consult the taste and habits of the patient and drop off those articles that are most available and that contain the highest caloric values.

Thyreoid therapy. These calculations and methods serve well for most people with a normal metabolism. There are some exceptional conditions in which the normal oxydation is either increased or diminished. At present we know the thyreoid secretion to be capable of affecting the system in this wise. Increased thyreoid secretion (Graves's disease) is well known to hasten oxydation and to produce loss of flesh in spite of the normal intake of food. In the same way diminished thyreoid secretion causes obesity. Cretins, people suffering from myxœdema symptoms are invariably obese. In fact it is believed that the gain in flesh that is witnessed in people over forty years of age is due to a wasting of the thyreoid that sets in at that period of life. Based on this fact in cases of obesity that are likely to be attended by subthyreoid secretion, the administration of thyreoid extract is of immense value and can be safely prescribed in doses of about three grains of the powdered thyreoid gland, three or two times a day, with excellent results. The heart, however, should be looked after when a patient is getting thyreoid extract.

(To be continued.)

Correspondence.

LETTER FROM TORONTO.

The Resignation of a Hospital Superintendent.—The University of Toronto and the Ontario Medical Council.—Medical Inspection of Schools.—The Health Department of Toronto.—The Ontario Board of Health.—A Dress [illegible] The Dispensary [illegible]

Toronto, February [illegible]

Dr. J. N. Elliott Brown, for five years and a half superintendent of the Toronto General Hospital, has submitted his resignation and has asked that he be relieved from his duties by the 1st of April. Dr. Brown is a graduate of Toronto University, of the class of 1892, and after serving for a year as house surgeon in the Toronto General Hospital began practice in Toronto. In 1895 he was appointed Territorial Secretary and Medical Health Officer of the Yukon Territory, being located in Dawson City. He has made a good success of the administration of the general hospital. As soon as he is relieved from his duties Dr. Brown will proceed to Europe, where he will make a specialty of medical organization, hospital construction, and hospital administration, returning to Canada in the autumn for the meeting of the Canadian Hospital Association, of which organization he is general secretary. Dr. Brown was for several years secretary of the Ontario Medical Association, secretary of the old Toronto Medical Society, and recording secretary of the Toronto Clinical Society.

There is every likelihood that in the immediate future there will be a big fight on between the University of Toronto [illegible] Ontario Medical Council. Dean C. K. Clarke, M. D., advocates in the annual report of the board of governors of the university to the Ontario government a change in the Ontario Medical Act by which the powers of the Council will be exceedingly curtailed and the powers of the university materially enhanced. In other words, he proposes that hereafter standards of medical education in the province be in charge of the university and that all medical students upon passing their examinations at the university be at once admitted to practice and become licensed without further examination by the Ontario Medical Council. The reason for this very radical change Dr. Clarke assigns is that the university medical department is hampered by narrow and humiliating restrictions and therefore cannot develop the teaching of medicine to the highest degree possible. He does not deny that the Ontario Medical Council is a necessary body, but says that its chief function is not to direct medical education or to set the standard and conduct examinations, but rather to protect the public and the profession from quacks and dishonorable and criminal practitioners. The step would undoubtedly be one which would commend itself to the student body, but it is not at all likely the Council will sit quietly by and see itself shorn of these no inconsiderable powers.

Last year Toronto tried as an experiment the medical inspection of schools. Two medical inspectors were appointed, with a head nurse and two or three assistants, and the whole expenditure for the purpose was $2,500. A more comprehensive plan is arranged for the present year. The Board of Education has set apart $24,000 for this work, and has appointed a chief medical inspector at a salary of $2,500 per annum, the appointment going to Dr. W. E. Struthers. There will be eight assistant medical inspectors at a salary of $800 per annum, who will give part time to their duties. Miss Rogers, formerly of New York, has been reappointed chief nurse, and she will have seventeen assistant nurses to help in the work. The city will be divided into districts and the schools in each district will be in charge of a medical inspector. The Board of Education have decided to keep the medical inspection directly under their own supervision and not place the work under the charge of the medical health officer, as in other cities in Canada and the United States.

Dr. Charles J. Hastings, Toronto's new medical health officer, is proposing a comprehensive reorganization of the Health Department. Already he has had the laboratory bureau established on more modern lines and has had Dr. George Nasmith, formerly of the Ontario Board of Health, appointed its chief. Dr. Hastings seeks further to establish a bureau of communicable diseases; a secretary of health who will look after all correspondence, publicity, and popular legislation; a bureau of food inspection; a bureau of sanitation; a bureau of hospital and ambulance service; and a school for sanitary instruction. Each candidate for the latter will be expected to do all the practical work in connection with the division for a period of eight weeks, and, if found fit at the end of that time, granted a diploma [illegible] public health. In order

to carry out this enlarged reorganization, the medical health officer is asking from the City Council an appropriation of $159,000, which is $67,000 in advance of what was spent on public health in Toronto last year. Dr. Hazlewood has been reappointed superintendent of the Isolation Hospital at a salary of $1,800 per annum.

The Ontario government has appointed a new board of health for the province. Dr. Adam H. Wright, of Toronto, has been appointed chairman, to succeed Dr. Charles Sheard, whose term of office expired on the 31st of December. The others appointed are as follows: Dr. John W. S. McCullough, chief medical health officer for the province and secretary of the board; Dr. D. B. Bentley, of Sarnia; Dr. George Clinton, of Belleville; Dr. James Roberts, of Hamilton; and Dr. W. H. Howey, of Sudbury. Dr. McCullough is the only member of the old board, he having succeeded Dr. Charles A. Hodgetts as secretary.

To testify their regard for a highly honored member of the medical profession in Toronto, a large number of professional friends and others recently tendered to Dr. J. Algernon Temple a complimentary banquet at which addresses were presented and presentations made. The occasion was to mark the retirement of Dr. Temple from active teaching in the University Medical Department, where he was professor of gynæcology. For over forty years Dr. Temple has been a practitioner in Toronto and a teacher of obstetrics and gynæcology. Dr. John T. Fotheringham presided. Dr. Arthur Jukes Johnson made the presentation, which took the form of a very handsome illuminated address, bound in morocco and subscribed to by over seventy medical friends. Dr. R. B. Nevitt, one of the oldest of Dr. Temple's students, made the presentation of a beautiful tea and coffee service. Dr. Charles Sheard, Dr. J. F. W. Ross, Dr. G. Stirling Ryerson, Mr. E. B. Osler, M. P., and Mr. D. R. Wilkie made congratulatory addresses.

The nefarious practice of a surgeon remitting a fee to the practitioner who refers him a case for operation is said to have invaded Toronto to some extent, and the *Canadian Journal of Medicine and Surgery* is calling upon the Academy of Medicine to investigate the ethics of such practices.

LETTER FROM EDINBURGH.

An Aberdeen Doctor on American Methods.—Honoring Professor Chiene.—The Working of the Carnegie Trust.—King Edward Memorial.

EDINBURGH, [illegible] 11, 1911.

Dr. W. Reid, medical superintendent of the Aberdeen Royal Infirmary and Lunatic Asylum, in the annual report of that institution, just issued, makes some pointed remarks on American methods of dealing with the insane. Leaving out of account organic brain disease, he says, hereditary unstable mental weakness plays the chief part in the causation of mental disorder. Seeing that will power is such an important agent in the well being of an individual, it behooves everyone, especially if he has an unstable balance, to conserve to the utmost his restraining and directing strength. In quite a fair percentage of cases, adds Dr. Reid, there would be good justification for adopting the methods which are practised in certain States of America—namely, that of rendering sterile moral perverts, degenerates, epileptic, and feeble minded subjects. If this were accomplished, many would not require to come under any system of segregation such as is being contemplated at the present time. It would be to the interest of the individual afflicted, but more especially to the interests of the people among whom these persons are at large.

A large number of friends assembled a few days ago in the hall of the Royal College of Surgeons, Edinburgh, to do honor to Emeritus Professor John Chiene, C. B., by the presentation of his portrait. The gathering was presided over by Sir William Turner, K. C. B., and the portrait was presented by Lord Ardwall. The picture is a characteristic likeness of the professor and is the work of Mr. Fiddes Watt. The money received as subscriptions having been more than sufficient for the portrait, it has been decided to hand the balance to the university in order that a medal, known as the Chiene medal, may be provided to mark excellence in surgery. Lord Ardwall, in making the presentation, paid a warm tribute to Professor Chiene's ability as a teacher of surgery. At the date of his resignation, in 1909, Mr. Chiene had seen no fewer than forty-three years' experience as a teacher in the medical school, and in that time he was surgeon in the infirmary for twenty-one years and professor for twenty-seven. Allurements, financial and others, of general practice had no power over Mr. Chiene. He began as a surgeon and ended as a surgeon. As a surgeon, perhaps, his name would be best known in the future by being inseparably connected with the great reformation, or perhaps we should say revolution, in surgery introduced by Lord Lister and popularly known as the antiseptic treatment. When Lister came to Edinburgh, in 1869, and when his new doctrine required development, Mr. Chiene was his right hand man and constant and unwearied assistant. He was also the first in this country to institute in connection with a chair of surgery a bacteriological laboratory. Perhaps the most outstanding incident of his later life was when he served his country so well in South Africa, which services were properly, if not altogether adequately, rewarded by his being made a Companion of the Bath. Emeritus Professor Chiene made a suitable reply, and thanked those present for the honor they had done him. He gave some interesting reminiscences of his student days and of his connection with Lister.

The Carnegie Trust for the payment of class fees to Scottish university students held its ninth annual meeting in London on February 7th, Lord Elgin presiding. The annual report presented by the Executive Committee stated that the class fees amounted to £48,540 during the year, and that 3,823 individuals had benefited. The report deals *inter alia* with certain allegations that had been made to the effect that payment of fees was being accepted by students whose private means were sufficient to defray their expenses. In several cases where gross abuse had been alleged inquiry had shown an amount of misrepresentation and exaggeration which rendered any action inadvisable. It was also

pointed out that a considerable number of past students had responded to Mr. Carnegie's appeal to their honor to repay their class fees when their circumstances allowed them to do so. Lord Elgin, in moving the adoption of the report, referred to this with satisfaction. He made some remarks on the type of student helped, saying that the peculiar place and province assigned of old to the Scottish university student, who, in defiance of his circumstances, forced his way to the front, came largely from the fact that he could and did meet the difficulty by attending in the winter on the proceeds of work done in the summer. The student who now claimed payment of his fees from the Trust came to them better equipped than his predecessor, more advanced in years as well as knowledge, and more certain of his possibilities on the other hand. His expenses were certainly augmented, both in the cost of the higher education he sought and in the surroundings in which he ought to live. Still, just because they had now been afforded the opportunity of obtaining in their own neighborhood that which was given by the university in preparatory classes, it was at least probable that a large proportion of the students now entering the university through the portals of district schools must belong to the working classes, lineal descendants of the old Scottish students, lads who required and deserved encouragement and assistance; and they might well be expected to do greater things than their predecessors who, with like origin and equal determination, had far inferior opportunities. He held, therefore, that there were possibilities still before the Trust in connection with this fund which they must not neglect, but which they could realize only if they studied the altering circumstances of the times and used thorough means to secure the best results, not unmindful of the lessons and traditions of the past or of the requirements of the present. The question of hostels for students, Lord Elgin said, had been under consideration. The only method in which financial assistance could be given to such an undertaking would be by investing a portion of the reserve fund of the Trust toward the acquisition of a site and the erection of buildings for the purpose.

The idea of inaugurating a crusade against consumption as a Scottish National Memorial to King Edward VII has been abandoned in favor of certain improvements in connection with Holyrood Palace. Though some regret has naturally been expressed at the abandonment for the present of so noble a scheme, it is generally admitted that as a national memorial to a royal personage the Holyrood scheme has everything to commend it. It is to be hoped, however, that the idea of an antituberculosis crusade will not be entirely dropped.

Therapeutical Notes.

Treatment of Ringworm of the Nails.—In an article in the *Edinburgh Medical Journal* for February, 1911, R. Cranston Low discusses the fungus infections of the nails, which he classifies into three groups, viz.: (1) ringworm of the nails; (2) favus of the nails; (3) a fungus infection of the nails of unknown origin. The treatment of these cases presents some difficulty. The easiest method is to keep the nail covered with an india rubber finger stall after applying ointment of ammoniated mercury night and morning. The softened nail is scraped away every day. In the majority of cases this method is ineffectual. A better method is Harrison's, in which, in addition to the regular daily scraping, a solution of potassium iodide, ʒi in solution of potassa and distilled water, āā ʒss, is applied for half an hour on a piece of absorbent cotton. It is then removed, and for the rest of the twenty-four hours a solution of corrosive sublimate, gr. iv in alcohol, and distilled water, āā ʒss, is applied on lint and the finger covered with an india rubber finger stall. These applications are repeated daily till the nail becomes black and so soft that it can be removed.

The author refers to a new method devised by Dr. Norman Walker. He applies Fehling's test solution on lint to the nail, covers it with a finger stall, and leaves it on for a day or two. At the end of that time the whole nail is so soft and pulpy that it can easily be removed by forceps. After the nail is removed a solution of copper sulphate, gr. x, in water, ʒj, is used as a continuous dressing. With this method good results were obtained in some of the cases; but whatever method is used long and painstaking treatment is essential for a successful result. When the disease is cured the nail grows in again without any deformity.

Pruritus.—Writing in the *Polyclinic* of January, 1911, Bunch remarks that the internal treatment of pruritus should begin with preparations of salicylic acid in combination with antipyrine, acetanilide, or acetphenetidin. Carbolic acid in pill form is successful in some cases; arsenic and atropine may be tried, and pilocarpine (from 10 to 20 drops of a one per cent. solution) occasionally gives good results. But greater success is usually obtained with sedatives, especially sodium bromide, in combination with cannabis indica, or tincture of aconite with tincture of gelsemium. In more severe cases, where insomnia is a marked symptom, hypnotics are necessary.

External treatment must, however, always be employed in addition to internal remedies, and one of the simplest and most effectual applications is an evaporating lotion. Equal quantities of eau de Cologne and water applied on lint, which is kept moist with the liquid, or lavender water dabbed on every few minutes, often affords great relief, especially if preceded by hot applications.

Of cooling lotions, the simplest is one containing two drachms of solution of lead subacetate to one ounce of lavender water and seven ounces of distilled water. One containing hydrocyanic acid which is very successful is the following:

℞ Diluted hydrocyanic acid, ... ʒiss;

The best way to apply these lotions is to soak a single layer of lint or linen with the lotion, lay it lightly on the itching surface with no covering over it, and sprinkle or spray on fresh lotion every five minutes, so as to keep the lint thoroughly moist.

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HINTS TO CONTRIBUTORS.

It occasionally becomes rather imperative that we should remind those of our friends who are inclined to favor us with communications that it is absolutely necessary for us to examine the manuscript of an article before we can decide upon its availability for our columns. It is not uncommon for us to receive a letter asking if we will accept an article on a certain subject. Sometimes the writer informs us of the approximate length of the article, and occasionally he confides to us his conviction that it is of an epoch making character. It is not rare for such a communication to reach us over the telephone, and then our embarrassment is materially heightened, for it is not easy, on being hastily called to the instrument, to give offhand a reply sufficiently diplomatic to avoid giving offense. There is only one proper way for an intending contributor to adopt, that of sending the manuscript to the office of the journal, with a note containing such statements as the writer may think it proper to make.

Another mistake not infrequently made is for the author to visit the editorial office personally in order to demonstrate the great value of his production. We are always glad to receive a colleague, but it is rarely that we can stop whatever work we are engaged in to listen to the reading of an article, often with a running commentary by the writer. We always examine manuscripts carefully, but we must insist on adjusting the time of doing so to the requirements of the general work of the office. We do not postpone the reading unnecessarily, and we invariably give an author a prompt reply, though we cannot specify reasons for declining an article or enter upon any argument which the author may seek to raise. It is not alone for their lack of worth that we are obliged to decline certain articles; we may esteem them very highly, but at the particular time they may not seem to us appropriate for this journal. We think that our friends ought to be content with such a general statement.

Another thing that we must positively insist upon is the right of absolutely exclusive publication, though we do not usually object to an author's publishing his article in a journal printed in any other language than English or in an annual volume of transactions, provided we have reasonable assurance that the volume is not to be issued before a date subsequent to that on which we can conveniently insert the article. We are glad to be able to say that the clamor for simultaneous publication in this and some local journal seems to be subsiding. Much might be said of the injustice done to the subscribers to the other journal by such an arrangement, but it seems sufficient to point out that the difficulties of simultaneous publication are generally insuperable if we are not to derange our own necessary plans. There have been those who have deceived us with regard to publication elsewhere, but when the offending author is detected, as he is almost sure to be, he may bid farewell to the probability of his ever again being accorded the hospitality of these columns. Experienced writers do not commit any one of the errors that we have mentioned, for they know the proper mode of procedure.

THE PROVISION OF DRINKING WATER IN THE TROPICS.

It goes without saying, that the demand for drinking water in the tropics is much greater than in the temperate zone. Consequently it is obvious that an essential need is a supply of wholesome water. In the *United States Naval Medical Bulletin* for January this matter is discussed at considerable length. It is pointed out that, of all forms of nourishment, water is the most indispensable in the tropics. The human body is extremely sensitive to loss of water. One day's heavy work in the tropics with deprivation of water will have most disastrous effects on those undergoing such an experience.

So far as officers and men of the navy are concerned the question of the water supply in the tropics is of vital importance. When they are close to the coast and in direct communication with the ship, distilled water can be supplied in barrels in sufficient quantities. In longer expeditions this

source will not be available, and the waters of the district must be employed. In most instances these are surface waters and must always be regarded with great suspicion, and water given to the men must be so treated that it will be free from disease germs.

The happy go lucky methods of American and British soldiers in war time, as regards drinking water, have been attended with direful results. In the Spanish-American and Boer Wars, there is little doubt, the greater part of the typhoid fever epidemics which wrought so much havoc among the American and British troops were due to the fact that the soldiers drank contaminated water. On the other hand, the Japanese army during the Russo-Japanese War suffered but little from typhoid fever, simply because the water was carefully safeguarded and the Japanese soldiers themselves strictly obeyed orders as to the water they should drink.

Water, then, for drinking purposes, especially in the tropics, must be rendered safe by one means or another. Chemical agents employed with this object in view are said to be generally discredited by those who have had experience in the matter, for the reason that, aside from other objections, there is no positive assurance of entire destruction of disease germs by them. Ozonization of water, while fairly effective under fixed and uniform conditions, cannot be considered for use with troops in the tropics.

Filters, again, are not to be relied upon in certain circumstances. Only the Pasteur-Chamberland and the Berkefeld filters are dealt with in the *Naval Medical Bulletin*, and it is stated that reports by Ruckert on the use of filters in the field make particular complaint against them on the ground that they need specially instructed people to handle them; that with very turbid water they rapidly become occluded, and therefore lose enormously in output; and that they are difficult to clean and easily broken. Furthermore, Razzeto has shown recently that single celled animals, among them some of considerable size, such as amœbæ, pass completely through many filters. The utility of filters in the tropics therefore appears to be very slight, for if they will not protect against amœbic dysentery, one of the most prevalent and dangerous diseases of the tropics, they may be said to be practically valueless.

Finally, the old fashioned and only sure means of destroying disease germs in water is by boiling. This can be done over an open fire in any utensil, and the chief disadvantage of the method is that it renders the water less palatable and some time is required to cool it. Portable sterilizers are used; for instance, the apparatus of Forbes was employed by the American troops in the Philippines. These, however, need careful attention and are easily clogged by thick, dirty water. Alum is used with success for clarifying water before boiling. To improve the palatability of boiled water, fruit juices are recommended, provided they are pure, while vegetable acids are somewhat discriminated against.

The conclusions reached in the *Naval Medical Bulletin* seem to be that boiling the drinking water is the sole sure and safe means of preventing disease. Of course, these statements apply only to troops on the march; when they are in camp or in hospital filters and other means may be employed with a reasonable degree of safety, but even in these circumstances perhaps the greatest reliance should be placed on boiling the water as a protective measure against disease.

BISULPHITES IN FOOD PRODUCTS.

In the January number of the *Norsk Magazin for Laegevidenskaben* there appears a timely article by Schmidt-Nielsen on the use of bisulphites in the food industries. Though there is still much dissension as to their harmfulness in food products, they are generally condemned as a means of preserving cold storage meat. The danger here lies in abuse, for, while bisulphites may not exactly render the meat harmful, they are constantly being used to "freshen up" unfit meat. This is commonly practised by the butchers in small factory towns in Germany. In Norway their use is prohibited, but various sulphur salts, under misleading commercial names, are used during the warm season.

Laws have been enacted in different countries forbidding or regulating their use. Switzerland has forbidden the sale of dried fruits bleached with sulphur, but permits its use in the manufacturing of artificial honey and glucose, the amount of sulphur in the finished product not to exceed four milligrammes to a hundred grammes. In France and Germany a certain amount of sulphur is permitted in wine and dried fruit, though the standard is not rigidly maintained.

Sodium bisulphite is chiefly used in the sugar industry. Formerly sugar was "delimed" by passing a current of carbon dioxide through it. Nowadays sulphites are invariably employed in some stage of the process for the purpose of removing the yellow color and making the sugar clear and crystalline. The finished product does not contain free sulphur dioxide, but the sulphur is present in organic combination with carbohydrates, as aldehydes or ketones. The author points out that the proportion of sulphur in Norwegian glucose is 5.4 milligrammes to the hundred grammes, while the

American glucose contains 84.6 milligrammes. American sugar is largely used in the candy industry in Norway, so he thinks it advisable that the manufacturers be informed of the high sulphur contents of American glucose, though its use is not illegal.

In conclusion, he states that the use of sulphites is probably not detrimental, as they are almost completely evaporated and oxidized during the processes. Furthermore, E. Rost, of the Kaiserliche Gesundheitsamt, stated, in August, 1910, that the use of sodium sulphites in food products was harmless, the sulphur dioxide radicle being split off and acting like any neutral salt. That, however, does not lessen the danger of using them to remove the odor from tainted meat and to brighten its color.

CHRONIC APPENDICULAR DISEASE IN CHILDREN.

In the June, 1910, issue of the *Archives de médecine des enfants* Comby records 139 cases in children, and from this long and interesting study he comes to the following conclusions: Acute inflammation is nearly always preceded by a chronic one, which has an insidious commencement with indefinite symptoms that one should know how to recognize in time. The chronic form is very frequent in children, and in the patient's antecedents one will usually obtain a history of hypertrophy of the tonsils, adenoids, gastroenteritis, or mucomembranous enteritis. All the infectious diseases favor chronic inflammation, while a meat diet would also appear to be a predisposing cause. Infrequent during infancy, the chronic disease becomes frequent from the fourth to the fifth year and continues into adolescence and adult life. From the macroscopic standpoint the appendix will be found swollen, deformed, and adherent; sometimes its walls are thinned, at other times they are thickened, while there may be a partial or complete obliteration of its lumen.

The symptomatology is very variable. Usually the child loses flesh and there is impaired or irregular appetite. Constipation is nearly always present and there may occasionally be a catarrhal icterus. Paroxysmal vomiting is very often symptomatic, as has been pointed out by Cumston and others, while circulatory disturbances are frequent. There exists a neurasthenic type of the disease and some children suffer from headache or syncope. The abdomen is usually not distended, and pressure over the right iliac fossa gives rise to little if any pain. Occasionally a small mass or a hard cord may be felt which merely is an hypertrophied lymph node in the mesoappendix or the appendix itself.

The diagnosis, although not always easy, is possible in the majority of cases, and attentive examination of the abdomen and particularly the right iliac fossa will be sufficient for the elimination of other possible visceral lesions. The chronic form in children can rarely if ever be cured, although several years may elapse before serious accidents make their appearance. Therefore in the vast majority of cases in which a positive diagnosis has been made the appendix should be removed if an acute attack in the future is to be avoided.

CONTEMPORARY OPHTHALMIC LITERATURE.

Under the name of *Ophthalmic Literature* there has been established in Denver a monthly journal giving a classified list of contemporary ophthalmic publications, together with a few short articles on ophthalmological topics. We have received the first number, dated January, 1911, consisting of sixteen pages. The new journal is under the very competent management of Dr. Edward Jackson and Dr. William H. Crisp. The classification is based largely on the anatomical parts of the visual apparatus, but also takes cognizance of such subjects as methods of diagnosis, refraction and accommodation, ocular movements, sympathetic disease, disorders of tension (glaucoma), toxic amblyopias, injuries, general therapeutics, operations, pathology, general diseases, ocular lesions by extension, eye strain, general ophthalmology, hygiene, economics, and professional relations. The publication promises to constitute a most valuable ophthalmological *Index Medicus.*

We notice that our ophthalmic friends still stick to the comprehensive term "ptosis." That is not to be wondered at, for they have long had a monopoly of it in medical literature, but during the last thirty years, ever since Glénard's disease came to be generally recognized, there have come into current use such words as splanchnoptosis, gastroptosis, enteroptosis, nephroptosis, and several others of like formation. Any one of these affections is as much a ptosis as drooping of the eyelid is, and we would suggest that it is high time for the ophthalmologists to resume the employment of the old term blepharoptosis.

A "FOG" IN THE MOUTH.

A mother was recently ministering to the dental requirements of her six year old son. Finding that the tooth powder had been used up, she loaded the brush with soap and applied it to the boy's teeth, whereupon the youngster howled with indignation

and emitted some unethical expressions. Being rebuked by the mother, he retorted. "Well, mother, what would you say if you had such a fog in your mouth?"

SANTONIN AND CASTOR OIL.

Dr. A. Mayor, professor of therapeutics in the Faculty of Medicine of Geneva, comments in the *Semaine médicale* for January 25th on a previous communication by a Dr. Baxter published in the same journal. Dr. Baxter insisted on the dangers of santonin, founding his remarks on a case in which a child had been rendered blind by taking that drug dissolved in castor oil, which he thought would do away with the probability of a constitutional action by the vermifuge. M. Mayor points out, however, that it was precisely on account of the fact that the santonin was dissolved in castor oil that blindness was produced.

News Items.

The German Surgical Society will hold its fortieth congress in Berlin, on April 19 to 22, 1911, under the presidency of Dr. L. Rehn, of Frankfort.

Sydenham Hospital Anniversary.—The tenth anniversary of the founding of Sydenham Hospital, New York, was celebrated on February 19th with suitable ceremonies. Several hundred physicians were present.

The German Society for Urology will hold its third congress in Vienna on September 11, 12, and 13, 1911. The preliminary programme has been issued, but the complete programme will not be published until July.

The Harvey Lectures.—The sixth lecture in the course will be delivered by Professor W. E. Castle, of Harvard University, on Saturday evening, February 25th, at the New York Academy of Medicine. His subject will be Unit Characters in Heredity.

Silver Anniversary of the Bellevue Hospital Alumni Society.—A reception and banquet will be held at Delmonico's, on Tuesday evening, February 28th, to celebrate the twenty-fifth anniversary of the founding of the Society of Alumni of Bellevue Hospital.

Buffalo Academy of Medicine.—Dr. Erwin F. Smith, of Washington, D. C., director of the National Bureau of Pathology, delivered an address before the Buffalo Academy of Medicine, on the evening of February 21st. The subject of the address was cancer research and was illustrated by stereopticon slides.

Plague in India.—According to a report to the Public Health and Marine Hospital Service, dated January 12th, during the week ending December 24, 1910, there were reported at Calcutta sixteen deaths from cholera and 14 from plague; in all Bengal, 1,093 cases of plague with 923 deaths; in all India, 11,107 cases of plague, with 9,096 deaths.

The New York Society of Radiology and Physical Therapeutics met at the New York Academy of Medicine on Friday evening, February 24th. The programme consisted of a "symposium" on the treatment of malignant growths. Eight short papers were read as follows: Treatment by Radium, by Dr. Wolff Freudenthal; Treatment by Fulguration, by Dr. Edward C. Titus; Surgical Treatment, by Dr. Robert Morris; Treatment by X-ray, by Dr. Aspinwall Judd; Treatment of Skin Cancers by Local Applications, by Dr. W. S. Gottheil; Injection Treatment, by Dr. William Bradley Coley; Treatment by Serum Therapy, by Dr. S. P. Beebe.

Dr. Smith Resigns as Superintendent of Bellevue.—Dr. Winford H. Smith has resigned his position as general medical superintendent of Bellevue and Allied Hospitals, and has accepted a similar position at the Johns Hopkins Hospital. Dr. Smith's resignation was a surprise to the trustees of Bellevue, who have requested him to remain at the institution until June, which Dr. Smith has consented to do.

Personal.—Dr. S. Weir Mitchell, of Philadelphia, celebrated his eighty-first birthday on February 15th.

Mrs. Arthur Nevin, wife of the well known composer, has been appointed a bacteriologist at the Pasteur Institute, Paris.

Dr. Frederick T. Murphy, of Boston, has been elected professor of surgery in the Medical Department of Washington University, St. Louis.

The Homœopathic Medical Society of New York State held it fifty-ninth annual meeting in Albany on on Tuesday, February 14th, and elected the following officers for the ensuing year: President, Dr. Orlando S. Ritch, of Brooklyn; vice-presidents, Dr. George R. Critchlow, of Buffalo; Dr. Murcena S. Ricker, of Rochester; Dr. George H. Jenkins, of Binghamton; secretary, Dr. Bert B. Clark, of New York; treasurer, Dr. Reeve B. Howland, of Elmira, and necrologist, Dr. John L. Moffat, of Buffalo.

A Ward for Incurables at the New York Skin and Cancer Hospital.—A department for treating advanced cases of cancer has been opened at the New York Skin and Cancer Hospital. Patients who have been pronounced incurable and will not be received by other hospitals, will be admitted to this ward, which contains beds for twenty adults and ten children. The research laboratory, which will be conducted in connection with this new ward, is being equipped with special apparatus of the kind used in European hospitals.

The Annual Dinner of the Eastern Medical Society.—Arrangements have been completed for the annual dinner and dance of the Eastern Medical Society, of New York, which will be held in the Hotel Astor on the evening of Wednesday, March 22d. Addresses will be made by the Hon. John A. Dix, Governor of New York, the Hon. John Temple Graves, and others. On this occasion a suitable testimonial will be presented to Dr. Abraham Jacobi, who is an honorary member of the society. Dr. Lewis T. Griffith, 616 Madison Avenue, New York, is secretary of the dinner committee.

The Sloane Hospital for Women.—In order to provide for the enlarged scope of the work at the Sloane Hospital, a new building for gynæcological cases has been erected and will be open for the inspection of the medical profession and friends on Wednesday, March 1st, from two until six o'clock. The original name of the hospital, The Sloane Maternity, was changed in December, 1910, to The Sloane Hospital for Women, in order to correspond with the extended character of the work. The hospital is situated at the corner of Fifty-ninth Street and Tenth Avenue, the entrance being on Tenth Avenue.

New Pavilion at the Willard Parker Hospital.—Plans have been filed for the new pavilion for the treatment of measles which is to be added to the Willard Parker Hospital, at the foot of East Sixteenth Street, New York. The building will cost $275,000, and will have accommodations for three hundred and twenty patients. It will be seven stories in height and two hundred and six feet long. It will be well equipped with all modern appliances, with an operating room and an open air pavilion. Only diphtheria and scarlet fever patients are taken at the hospital now, all the measles patients having to go either to North Brother Island or to Brooklyn.

Corinna Borden Keen Research Fellowship of Jefferson Medical College.—The accumulated income of this fund now amounts to $1,000. The fellowship will be awarded by the trustees upon recommendation of the faculty to a graduate of the Jefferson Medical College of not less than one, nor more than ten years' standing, upon condition that he shall spend at least one year in Europe, America, or elsewhere, wherever he can obtain the best facilities for research in the line of work which he shall select, after consultation with the faculty; and that he shall publish at least one paper embodying the results of his [illegible] dean of the faculty.

A Hungarian Hospital in Philadelphia.—The new Hungarian Hospital, at 1223-25 Germantown Avenue, Philadelphia, was opened on Monday, February 6th. At a recent meeting of the founders of the institution the following officers were elected: Dr. William S. Kelly, president; Dr. Lessing Bolger, vice-president; Dr. John J. Murphy, treasurer; Dr. Bernard R. Cohn, secretary. Dr. Warmuth P. Mitchell has been appointed chief surgeon; Dr. William S. Kelly, chief physician; Dr. Cross, chief of the medical staff; Dr. D. McKinley, in charge of the dental department, and Dr. A. R. Rickstein, in charge of the children's department. A staff of six nurses will be maintained.

The Medical Society of the County of New York will hold a stated meeting in Hosack Hall, New York Academy of Medicine, on Monday evening, February 27th, at 8:15 o'clock. Professor F. E. Novy, of the University of Michigan, Ann Arbor, will read a paper on Leishmaniasis and Trypanosomiasis, which will be accompanied by a lantern slide demonstration. Dr. Benjamin T. Terry, of the Rockefeller Institute for Medical Research, will read a paper on the Treatment of Trypanosomiasis. Among those who will participate in the discussion are Dr. C. N. B. Camac, of New York, and Captain Joseph F. Siler, of the Medical Corps of the United States Army.

The Minnesota Academy of Ophthalmology and Otolaryngology was organized in Minneapolis on February 8th, with the following officers for the first year: President, Dr. Howard McI. Morton, of Minneapolis; first vice-president, Dr. J. W. Chamberlin, of St. Paul; second vice-president, Dr. John F. Fulton, of St. Paul; secretary-treasurer, Dr. E. H. Parker, of Minneapolis. A council of seven was elected, with Dr. F. E. Burch, of St. Paul, chairman; Minneapolis members being Dr. Frank C. Todd and Dr. William N. Porteous. The membership of the new organization is made up of physicians of St. Paul and Minneapolis who have specialized in these two branches of medicine.

Postgraduate Medical Education.—The International Committee for Postgraduate Medical Education, which held a meeting in October, 1910, is planning to organize an establishment for the collection of material to enable the already existing Information Bureau of the Kaiserin Friedrich-Haus, in Berlin, to furnish at all times gratis to physicians information regarding postgraduate medical education all over the world. The establishment is to be a permanent one. The committee is also engaged in arranging a collective investigation into the departments of medical instruction at the universities and into postgraduate medical education. The office of the International Committee is at 2-4 Luisenplatz, Berlin N. W. 6.

Resolutions on the Death of Dr. Sigmund Lustgarten.—At a recent meeting of the medical board of Montefiore Home, the following resolutions were adopted:

Resolved, That the [illegible] profound regret [illegible] the death of Dr. Sigmund Lustgarten, for many years attending dermatologist and member of the medical board of the Montefiore Home. Dr. Lustgarten was one of the leaders in his specialty, a man of broad interest, sound judgment, and strong and attractive personality. His untimely death is a great loss to the medical profession, as well as to this board on which he served for many years.

Resolved, That our heartfelt sympathy be extended to his bereaved family in their irreparable loss, and be it further

Resolved, That these resolutions be spread upon the records of this board and that a copy be presented to his family.

Resolved, furthermore, That copies of these resolutions be sent to the *Medical Record*, *New York Medical Journal*, and to the Board of Directors.

[illegible] Ries, M.D.,
Secretary of the Medical Board.

The German Hospital's Annual Report.—The trustees of the German Hospital and Dispensary, Park Avenue and Seventy-seventh Street, New York, held their annual meeting on February 20th. Their report showed gifts and bequests of $67,771 for the year, and announced progress in nearly every department of the institution. Clinical instruction, it was announced, will be given hereafter in the wards of the hospital to Columbia University medical students. Efforts toward the creation of a children's department have been aided by a gift of $100,000 from Mrs. Anna Woerishoffer. In the last year 45,703 patients were treated at the institution, of which 6,490 were treated in the hospital department, 32,845 in the dispensary, and 3,724 treated by visiting district physicians. In the accident department 2,643 persons were treated. The total current expenditures amounted to $215,066, the capital expendi-

Resolutions on the Death of Dr. Janeway.—The Medical Board of the Mount Sinai Hospital, at a meeting held at the hospital on Tuesday, February 14th, adopted the following resolutions:

Resolved, That is has learned with great sorrow of the death of one of its most honored members, Dr. E. G. Janeway.

By his death the Medical Board has lost a kindly friend and valued councilor, and the hospital has been deprived of the services of an eminent, faithful, and able physician.

His association with the hospital has shed lustre upon its reputation, and served as a stimulating example in the direction of progress.

Resolved, further, That we express to the widow and the members of the family of the deceased the sympathy of the Medical Board in their bereavement, and that a copy of these resolutions be transmitted to them, and be published in the medical press of the city.

A. G. Gerster, Chairman.
Alfred Meyer, N. E. Brill,

Dr. Smith Honored.—Two hundred of the leading physicians of New York gave a dinner at the Plaza Hotel, on the evening of February 15th, in honor of Dr. Stephen Smith, who celebrated his eighty-eighth birthday on that day. Dr. Joseph D. Bryant was toastmaster, and among those who spoke were Dr. J. W. S. Gouley, Dr. Abraham Jacobi, Professor Charles F. Chandler, Mr. William Rhinelander Stewart, the Rev. Dr. Robert S. McArthur, and Dr. Carlos F. McDonald. Among those present at the dinner were: Dr. W. M. Polk, president of the New York Academy of Medicine; Dr. Henry O. Marcy, of Boston, Dr. James Tyson, of Philadelphia, Dr. L. Duncan Bulkley, Dr. Herman M. Biggs, Dr. Walter C. Cramp, Dr. W. B. De Garmo, Health Officer A. H. Doty, Dr. John A. Wyeth, and Dr. Wisner R. Townsend.

Proposed Amendment to the Medical Law of New Jersey.—On February 20th Assemblyman Ramsay, of Middlesex County, introduced a bill for the State Board of Medical Examiners amending the present law relative to the practice of medicine in New Jersey. The bill proposes to so change the definition of "practising medicine and surgery" that it will include osteopathy. Under the present law osteopathy is not now included. The Ramsay bill also raises the standard required for licenses, being designed to overcome the refusal of certain States to accept certificates issued in New Jersey. Beginning with 1915 the bill would make a year's course in a college or university a required qualification of candidates for licenses, raising the course one year until 1918, when a candidate besides the usual medical course would have to hold a B. A. or B. S. degree. The bill also prohibits candidates from taking the academic course after they have completed their medical studies, as is permitted under the present law.

Gifts and Bequests to Hospitals.—The will of Melville W. De Wolf, who died on February 9th, contains a bequest of $5,000 to the Presbyterian Hospital, New York, to establish the Emma De Wolf bed for children, and $5,000 to the Roosevelt Hospital to establish the Carlton De Wolf free bed.

Mrs. Anna McMichael Hoyt, who died recently in Washington, bequeathed to the Children's Hospital, Philadelphia, real estate valued at $125,000, as a memorial to her father.

By the will of Mrs. Rosa Cobb Cole, who died in Plymouth, Mass., recently, the Jordan Hospital will receive $100,000, and has also been made the residuary legatee.

The will of Miss Bright contains a bequest of $4,000 to Danville, Pa., to be used in building a hospital.

The American Gastroenterological Association.—The fourteenth annual meeting of this association will be held in Philadelphia on April 19th and 20th, at the Bellevue-Stratford Hotel. According to the preliminary programme, which has just been issued, the meeting promises to be of unusual interest, and all physicians are cordially invited to attend. Among those who will contribute papers are: Dr. Walter B. Cannon, of Boston; Dr. Max Einhorn, of New York; Dr. Willy Meyer, of New York; Dr. John C. Hemmeter, of Baltimore; Dr. Arthur F. Chace, of New York; Dr. J. Fuhs, of Brooklyn; Dr. J. Kaufmann, of New York; Dr. C. D. Spivak, of Denver; Dr. J. C. Bloodgood, of Baltimore; Dr. P. M. Hickey, of Detroit; Dr. J. C. Johnson, of Atlanta; Dr. A. L. Benedict, of Buffalo; Dr. D. D. Roberts, of Brooklyn; Dr. L. Kast, of New York; Dr. William Gerry Morgan, of Washington; Dr. J. A. Lichty, of Pittsburgh; Dr. James T. Pilcher, of Brooklyn; Dr. Lewis Brinton, of Philadelphia; Dr. F. W. White, of Boston; Dr. John P. Sawyer, of Cleveland; Dr. S. J. Meltzer, of New York; Dr. L. B. Mendel, of New Haven; Dr. D. Riesman, of Philadelphia, and Dr. H. Adler, of Baltimore.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of cases and deaths reported for the two weeks ending February 18th.

	February 11th.		February 18th.	
	Cases	Deaths	Cases	Deaths
Typhoid fever	55	4	61	3
Diphtheria	189	20	192	16
Measles	81	3	104	2
Scarlet fever	66	6	100	4
Smallpox	1		1	
Varicella	178		147	
Typhoid fever	11	1	13	1
Whooping cough	8		8	
Cerebrospinal meningitis	1	1	1	1
Total	2,333	264	2,364	278

Vital Statistics of New York.—During the week ending January 28, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,461, corresponding to an annual death rate of 15.29 in a thousand of population, as compared with a rate of 16.24 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 16.29; the Bronx, 15.11; Brooklyn, 14.36; Queens, 12.94; Richmond, 15.73. There were 155 stillbirths. The deaths of children under five years of age numbered 367, of whom 247 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 38; over five years of age, 43. There were 190 deaths from pulmonary tuberculosis, 21 from bronchitis, 114 from pneumonia, 101 from bronchopneumonia, 113 from Bright's disease, 164 from organic heart diseases, and 63 from congenital debility and malformations. There were 16 deaths from suicide, 10 from homicide and 50 due to accidents. One thousand one hundred and seventy marriages and 2,970 births were reported during the week.

The Health of Chicago.—During the week ending February 11, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 9 cases, 1 death; measles, 158 cases, 2 deaths; whooping cough, 20 cases, 0 deaths; scarlet fever, 176 cases, 11 deaths; diphtheria, 198 cases, 11 deaths; chickenpox, 51 cases, 0 deaths; tuberculosis, 129 cases, 90 deaths; pneumonia, 24 cases, 155 deaths. There were 3 cases of German measles, 5 cases of smallpox, 1 case of infantile paralysis, and 48 cases of contagious diseases of minor importance reported, making the total 822 cases, as compared with 781 for the preceding week and 894 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 35, and there were 31 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 168, of whom 120 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 663, corresponding to an annual death rate of 15.5 in a thousand of population, as compared with a rate of 15.2 for the preceding week and a rate of 14.4 for the corresponding period in 1910.

The Mortality of Manila.—Vital statistics for the year ending June 30, 1910, show that there has been a marked decrease in the death rate of the city of Manila. The average annual rate in a thousand of population since 1901 has been 43.18, while for the year ending June 30, 1910, the rate was 34.93. In spite of the fact that the city has increased considerably in size there were 1,560 less deaths during the last fiscal year than during the preceding year. An analysis of the causes of death shows that approximately one half of the improvement was due to the decreased mortality from intestinal disease, which in turn may be due to the improved water service which has recently been installed in Manila. There were 351 less deaths from cholera; 157 from dysentery; 56 from acute diarrhœa, under two years of age; 69 from chronic diarrhœa, under two years of age; and 127 from diarrhœa, over two years of age. The remainder of the improvement is largely due to the decreased number of cases of convulsions in children. An increase of 41 deaths from beriberi, 125 from tuberculosis of the lungs, 119 from tetanus, 35 from bronchopneumonia, and 46 from pneumonia has been reported. The death rate by nationalities is as follows: Americans, 12.93; Filipinos, 36.88; Spaniards, 15.65; other Europeans, 11.73; Chinese, [illegible]

The Health of Philadelphia.—During the week ending January 28, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Typhoid fever, 28 cases, 5 deaths; scarlet fever, 53 cases, 6 deaths; cerebrospinal meningitis, 1 case, 0 deaths; chickenpox, 89 cases, 0 deaths; diphtheria, 103 cases, 12 deaths; measles, 461 cases, 11 deaths; whooping cough, 20 cases, 2 deaths; pulmonary tuberculosis, 106 cases, 69 deaths; pneumonia, 55 cases, 71 deaths; puerperal fever, 1 case, 3 deaths; erysipelas, 15 cases, 0 deaths; mumps, 18 cases, 0 deaths; hookworm disease, 1 case, 0 deaths; trichiniasis, 1 case, 0 deaths. There were 3 deaths from tuberculosis other than that of the lungs, 1 death from smallpox, and 17 from diarrhœal diseases under two years of age. There were 48 stillbirths: 26 males, and 28 females. The deaths from all causes numbered 510, in an estimated population of 1,573,509, corresponding to an annual death rate of 16.85 in a thousand of population.

Society Meetings for the Coming Week:

MONDAY, *February 27th.*—Medical Society of the County of Kings, N. Y.

TUESDAY, *February 28th.*—New York Dermatological Society; Metropolitan Medical Society of New York; Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); New York Medical Union; New York City Riverside Practitioners' Society; Valentine Mott Medical Society, New York; Washington Heights Medical Society of New York; Woman's Hospital Society, New York; Alumni Association of the Seney Hospital, Brooklyn; Rome, N. Y., Medical Society.

WEDNESDAY, *March 1st.*—Psychiatrical Society of New York; Society of Alumni of Bellevue Hospital; Harlem Medical Association, New York; Elmira, N. Y., Academy of Medicine; Society of Alumni of St. John's Hospital, Brooklyn; Schnectady, N. Y., Academy of Medicine.

THURSDAY, *March 2d.*—New York Academy of Medicine; Brooklyn Surgical Society; Practitioners' Club, Buffalo; Geneva, N. Y., Medical Society; Dansville, N. Y., Medical Association.

FRIDAY, *March 3d.*—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Gynæcological Society, Brooklyn; Manhattan Dermatological Society; Practitioners' Society of New York; Corning, N. Y., Medical Association; Saratoga Springs Medical Society.

Antimeningitis Serum.—The Rockefeller Institute for Medical Research, in accordance with an announcement made last summer, now gives notice that it has discontinued the general distribution of antimeningitis serum which it has undertaken without charge ever since the discovery of this remedy for cerebrospinal meningitis. The effectiveness of this remedy in that form of meningitis which is caused by the Diplococcus intracellularis (Weichselbaum) having been generally accepted by medical authorities throughout the world, it has seemed appropriate that the Rockefeller Institute should devote to other lines of investigation the funds hitherto needed for the gratuitous distribution of the serum, handing over to the public health authorities of municipalities and States, and to commercial establishments, the routine preparation of the serum for general use. The antimeningitis serum will thus take its place with vaccine and diphtheria antitoxine as an approved agency for the protection of public health. The Board of Health of the City of New York is the first of American boards of health to undertake the regular production of antimeningitis serum. It will provide for the free distribution of serum to all hospitals in the city, and, at the outset, to all physicians who apply for it. Later the gratuitous distribution other than to hospitals will be limited to those cases in which the physician certifies to the hardship that would be caused by a money charge. All others will be required to pay for the serum at a price covering its estimated cost. Pending the production of the serum in other localities, the New York Board of Health will, as a matter of humanity, supply such urgent requests as may come to it from outside the State, but this provision will probably be necessary for only a short time.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL

February 16, 1911.

1. The Aims and Possibilities of Neurological Hospitals, By Pearce Bailey.
2. The New Neurological Service at the Boston City Hospital: Its First Year's Work, By Philip Coombs Knapp.
3. The Youthful Psychopath, By J. W. Courtney.
4. Some Clinicopathological Data on Bladder Tumors, By Lincoln Davis.
5. The Transperitoneal and Suprapubic Approach to Tumors of the Bladder, By Charles L. Scudder.
6. Present Status of Intravesical Operations for Tumors of the Bladder, By Horace Binney.
7. The Examination of the Nose and Throat in Relation to General Diagnosis. Results in Asthma Following Nasal Operation, By H. Z. Giffin.

4. Some Clinicopathological Data on Bladder Tumors.—Davis remarks in this paper that there is a very marked tendency for papillomata to recur. These growths often reappear, not upon the original sites, but at other points on the bladder wall, springing up *de novo* as it seems, in response to a general predisposition to the disease which is unaffected by the removal of any one growth. As a rule, rapidly and repeatedly recurring tumors are malignant in the end, if not from the beginning. That every recurrent papillary growth is malignant is far from true, however. In this connection he cites two cases. In December, 1904, he operated on his first case, and a small benign papilloma was removed through a suprapubic incision and the base cauterized with the actual cautery. In February, 1906, the patient returned with hæmaturia. No recurrence in the bladder could be seen with the cystoscope; the prostate, however, was regarded with suspicion, and that mildly offending organ was removed by the suprapubic route. Four months later there was again hæmaturia, and the cystoscope showed the bladder studded everywhere with little papillomata. The case was at that time regarded as hopeless, but it took four terrible years for the patient to die. It was undoubtedly a mistake not to have operated upon him again. Another case was that of a lady fifty-five years old, who had profuse hæmaturia. She had been examined with a cystoscope and told that she had an inoperable growth and that there was no help for her. She finally came into the hands of Dr. S. J. Mixter in a desperate condition from loss of blood. He did a suprapubic cystotomy and removed eight papillomata from the bladder. Microscopical examination did not show any evidence of infiltration. Four months later hæmaturia recurred; the cystoscope showed four small growths grouped about the scar of the previous excision. Dr. Mixter again operated by suprapubic cystotomy and removed these growths, which were reported as benign. Three months later the patient, though greatly improved in general condition, again reported hæmaturia, the cystoscope showed two small growths in the some location, with a suspicious area on the other side of the bladder. In Dr. Mixter's absence, our author did the third suprapubic cystotomy, and removed the growths with the actual cautery, searing the suspected mucous membrane on the other side. Two years and six months have elapsed since then, and the patient has been cystoscoped several times, and appears to be in perfect health. In the light of such experiences as these with papillomata of the bladder, it seems, concludes Davis, that our course is clear before us. Until we learn the cause of these growths and can bring about their removal, we must continue to follow our cases relentlessly with the cystoscope, and operate and reoperate as the growths appear.

6. Present Status of Intravesical Operations for Tumors of the Bladder.—Binney remarks that in weighing the evidence for and against, one is certainly influenced in favor of the intravesical method, at least in case of smaller growths, by the fact that the most careful and thorough suprapubic excision of small single papillomata is sometimes followed by the development of multiple recurrences, more or less approaching the so called papillomatous degeneration. A number of these cases, following suprapubic operation, have been reported by Casper, Lichtenstern, Zuckerkandl, and others, whereas this condition seems to develop less frequently after the intravesical operation, one case only being reported by Asch. However, details are so scanty and after results are lacking in the reports of so many operators that no definite opinion can be formed on this point. The results of these reported intravesical operations, numbering something over 200 cases, may be summarized as follows: Mortality, 0.5 per cent., or less, there being but one fatal case in the whole number; hæmorrhage, severe enough to require control by suprapubic cystotomy in three cases; cure for at least three years has been established by cystoscopic examination in fifty per cent. of the cases reported by Weinrich. The exact proportion of cures cannot be figured at present, owing to the failure of the operators to confirm an apparent cure by cystoscope. For this same reason, the frequency of recurrence after the intravesical operation cannot be estimated from the reports. In the original statistics of Nitze, the recurrences are given as eighteen per cent., which is better than the figure stated by Rafin in his collected statistics of suprapubic operations, which was twenty-six per cent. Inasmuch as Nitze operated on tumors of all sizes, while the tendency at present seems to attack only the smaller benign growths, it is probable that there is a still greater difference in favor of the intravesical operation in the proportion of recurrences. Binney concludes that the published results of intravesical operations do not at present warrant the adoption of the method for the removal of primary growths except in cases of very small tumors or in patients in whom a suprapubic cystotomy under an anæsthetic is contraindicated. In cases of repeated recurrences after suprapubic operations, the method is to be recommended over the performance of frequent suprapubic operations.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

February 18, 1911

1. Plication of the Round and Anterior Fold of the Broad Ligament on the Anterior Surface of the Uterus for Retrodisplacement, By R. C. Coffey.
2. Relation of the Teeth to the Development of the Jaws and Face, By Frederick B. Noyes.
3. Electric Analgesia and Electric Resuscitation after Heart Failure, under Chloroform or Electrocution, By Louise G. Robinowitch.

4. Operation for Retrodisplacement of the Uterus, By J. M. Baldy.
5. Round Ligament Ventrosuspension of the Uterus, By D. Tod Gilliam.
6. Evolution of the Surgical Treatment of Retrodeviations of the Uterus, By E. C. Dudley.
7. The Discharge of Lunatics by Habeas Corpus Proceedings, By Frederick A. Fenning.
8. Salvarsan and Sodium Cacodylate, By Henry J. Nichols.
9. Transmission Experiments with the Virus of Poliomyelitis, By Robert B. Osgood.
10. Function of the Stomach in Diabetes Mellitus with Special Reference to the Determination of Pepsin, By John J. Gilbride.
11. Advantages of Nitrous Oxide Oxygen Anæsthesia especially in Connection with Ultimate Recovery, By Raymond C. [illegible]
12. Primary Sarcoma of the Stomach with Autopsy Findings, O. W. H. Mitchell.
13. Administration of Salvarsan, By Douglas W. Montgomery.
14. Treatment of Drug Addiction, By Alexander Lambert.
15. A Group of Syphilitic Patients Treated with Salvarsan, By Oliver S. Ormsby.
16. A Simple Support for Thigh Elastic Stockings, By C. C. Johnson.
17. A Case of Nephrolithiasis. By W. P. [illegible]

7. Discharge of Lunatics by Habeas Corpus Proceedings.—Fenning quotes Hurd's definition of habeas corpus, which has been generally accepted as a most complete one: "The writ of habeas corpus is that legal process which is employed for the summary vindication of the right of personal liberty when illegally restrained." Along this line of definition Fenning speaks of the writ respecting the insane. He cites Ludlow, of Philadelphia, who, reviewing the evidence in a habeas corpus case, and remanding the patient to the hospital, said: "To take a proper and just responsibility in such a case as this, requires not bravery but courage—not that quality which sometimes degenerates into temerity and is reckless of danger, but rather that other quality which is the result of reflection and is always cool and collected. Where our path of duty is plain we ought judicially to be courageous, not brave." Fenning concludes: "It was nearly forty years ago that Judge Ludlow uttered these words. He was the precursor of other jurists who have maintained in positive terms their determination to protect society from those who would do it violence, as well as to protect those who would do violence to society. The goal which we seek is the better protection of society, without the releasing of any of the proper privileges and safeguards extended by the law to the mentally deficient. The difficulties in our way are numerous. Although the path of progress at times seems clear, there are ever present obstacles. Some of these are founded on honest bases and must be overcome by a campaign of education; others have their support neither in the law nor in righteousness and must be dealt with vigorously. Until medical science can cure all mental ills, those who suffer from such affliction must be cared for and directed, in ways that are pleasant, if you please, but always in paths that do not permit these unfortunates to be of danger to themselves or to their fellows. The great agencies of the law must be wide open to them, but with the limitations that are essential for the proper administration of justice, and the safety of all the people."

8, 13, 15. Salvarsan.—Nichols presents the results obtained by applying to sodium cacodylate the experiments which demonstrated the wonderful destructive action of salvarsan on the spirochætæ of syphilis. Hata found that the ratio of cure to tolerated dose (C:T.) for rabbits was 1 to 10 for intravenous administration of a single dose. It is probable that for human medicine the ratio is somewhat greater, because in the rabbit the disease is confined to the testicles or scrotum and the spirochætal content of the body cannot be as great as it is in a generalized infection in man. We know that, other things being equal, the curative dose varies with the number of spirochætæ present; but as destruction is definite at 1 to 10 or in some cases even at 1 to 20, there is good reason to believe, both on experimental and clinical grounds, that a ratio of 1 to 5, or 1 to 2, will suffice to kill all spirochætæ in the human body. In some early cases of syphilis patients have surely been cured by doses of from 0.3 to 0.6 gramme and 1.2 gramme has been given without ill effects. At the present time it may be taken for granted that salvarsan is a specific against syphilis and the important question now is: What is the best dose and best method of administration for a given stage of the disease? There is considerable evidence to show that the size of the dose should vary inversely with the duration of the disease. The original Alt method of injecting the alkaline solution intramuscularly seems to hold its own for certainty in results. The Wechselmann method, or the subcutaneous injection of the neutral suspension, has lost much of its vogue on account of slow absorption and liability to necrosis of the tissues. One or more intravenous injections, in some cases, seems to be too brief in action; but observations extending over months are needed on all these points. In Ehrlich's words: "The indications at the present time are not to scatter our strength in trying out new substances, but to concentrate all our efforts on improving the method of administration, on strictest asepsis, on carefully increasing the dose, on repeating the treatment and finding suitable adjuvants, in order constantly to approach more nearly to the ideal of therapia magna sterilisans. Nichols concludes that sodium cacodylate has no spirillicidal action in rabbits infected with *Spirochæta pallida* when tested by Ehrlich and Hata's technique. Treatment with sodium cacodylate does not interfere with a subsequent treatment with salvarsan. The most important question in the treatment of syphilis to-day is: What is the most suitable dose and what is the most efficient method of administration of salvarsan in a given stage of the disease?——Montgomery describes the administration of salvarsan, intramuscular and intravenous injection; describes the preparation of the solution for injection; advocates a glass Lüer syringe; and describes the introduction of the needle [illegible] crudescences commonly happen after a single injection of salvarsan, which indicates repeated injections or resort to older methods to complete the eradication of the disease. A marked and profound effect is immediately produced, which makes one indication clear for its use, viz., a rapidly spreading or malignant case in which ulceration

threatens vital or useful structures, and an immediate result is imperative. The effect in promoting increased nutrition is marked, especially in cachectic patients, thus placing the patient in a better physical condition normally to combat the invading organisms. A study of these with other cases demonstrates the facts that salvarsan is a therapeutic agent of great potency; and that it is a valuable addition to our weapons of defence against certain forms of syphilis. The range of these is as yet undetermined. No one can admit that it can, in the present state of our knowledge, replace to any large degree our other well known and very efficient agents in the treatment of syphilis. The consensus of opinion now seems to be that it has its greatest usefulness in malignant cases, viz., those in which rapid destruction of tissue is in progress; in mucous membrane lesions about the mouth, tongue, throat, etc.; in the deeper lesions affecting subcutaneous and bony structures, in these the healing of the lesions, the relief of pain, and the promotion of nutrition being remarkable; and finally, in cases (which are fortunately few) which have resisted other well known measures. Cases in which opinions differ and in which only time will demonstrate the value of salvarsan are the very early cases in which a profound effect on the spirochætæ may entirely destroy them before the human organism has become thoroughly saturated, and also the ordinary cases which have in the past been well managed to a successful termination by the usual treatment.

10. **Pepsin in Diabetes Mellitus.**—Gilbride gives the results of tests of the gastric contents in seven diabetics. It has been known for some time that the gastric motility has usually been increased in diabetes while the gastric secretion is frequently diminished. The object of the study was to test the secretion of pepsin, and eighteen tests were made. The total acidity and amount of free hydrochloric acid were determined and tests were made for lactic acid when hydrochloric acid was absent. No lactic acid was found. The total acidity was high in three cases and free hydrochloric acid was high in four. Hydrochloric acid was absent in three. The tests show that this absence in diabetes mellitus, as in other diseases, does not mean an absence of pepsin, and a high percentage of the acid does not indicate a good pepsin digestion. He concludes that, in diabetes mellitus, secretion of pepsin is frequently reduced and sometimes absent, the gastric motility is usually increased, and the gastric secretion is frequently diminished.

11. **Nitrous Oxide Oxygen Anæsthesia.**—Coburn favors nitrous oxide oxygen anæsthesia. He observes that it is almost imperative to use a preliminary hypodermic injection of morphine and atropine about one half hour before the time of the operation, as this medication aids very materially in securing muscular relaxation. Besides, the patient recovers from the nitrous oxide oxygen anæsthesia so quickly that it is usually indicated for the postoperative pain alone. When it is used the patient's nerves are quieter and he approaches the operation with more confidence and less fear—an important element in every case. In that class of patients or operations, in which it is difficult to overcome muscular rigidity, the addition of a very small amount of ether—not sufficient to give the ether after effects—in conjunction with the nitrous oxide and oxygen will secure the necessary relaxation. Used in this way, nitrous oxide oxygen is a pleasant anæsthetic for even the most fastidious patient, fulfils the requirements of both minor and major surgery, and produces the lightest and least toxic general anæsthesia yet discovered.

MEDICAL RECORD

February 18, 1911.

1. The Proper Management of Foundlings and Neglected Infants, By Henry Dwight Chapin.
2. Syphilis and the Nervous System, with Remarks on the Wassermann Test and "Salvarsan," By William M. Leszynsky.
3. Primary Sterility in Women. A Study Based upon 120 Cases, By A. J. Rongy.
4. Epidemic Poliomyelitis, By Edward E. Mayer.
5. A Theory of the Ætiology of Trachoma, By D. S. Kanstoroom
6. An Improvement in Audiometers, By Francis A. Faught.

1. **The Proper Management of Foundlings and Neglected Infants.**—Chapin believes in proper amplification and systematizing of boarding out of atrophic infants with careful observation during treatment. Relief must be aimed at along the lines of family life with individual supervision instead of the collective life with institutional methods. The unit of civilization is the family which offers the healthiest physical environment. The most susceptible member of the family to all external conditions is the infant. When transplanted from natural and normal surroundings the little ones suffer most. They need a certain amount of individual solicitude and care which indulges in handling, petting, and perhaps occasional foolishness—all embraced in the comprehensive term "mothering." They need the affection that even an ignorant but well meaning woman with motherly instinct can often give better than a nurse with the highest theoretical training even under a doctor in whom abstract science may be higher developed than common sense. The immediate surroundings may be poor, the ventilation not of the best, and the movements of the family not regulated by the highest social usages, but the infant will do better here in the long run than in the most immaculate ward. It is not proposed, however, to simply board out babies and then abandon them. They must be kept under constant oversight by some competent authority. There is nothing in common between a well organized system of boarding out and the old fashioned baby farming which was justly abandoned owing to the many abuses that sprang up in connection with it. Boarding out with a proper and systematic "follow up" plan is a very different proposition; the failure of boarding out is due to a failure to utilize the latter plan. Chapin, therefore, proposes to abolish the large asylums and institutions for the care of these babies and substitute many small collecting stations. These stations will merely act as clearing houses to study the infant's physical condition for a day or so, find the substitute food that best agrees with it, and then board it out in the vicinity where it can be under constant oversight and regulation by a doctor and a nurse furnished by the station. This lessens the dangers of infection, avoids the evils of institutionalism,

and at small expense puts the infants under the most natural conditions that are possible under the circumstances. Instead of paying for a large plant, the money will go toward the board of the infant and the salary of doctor and nurse. This will require much less outlay and at the same time give better results. The city stations can be in touch with similar stations in the country and an infant not doing well in town can be transferred to the country, where it will be under similar careful oversight. These babies must never be allowed to get away from constant and careful supervision if most of them are to be saved. Systematic, careful study of the field of operation is required if such a work is to succeed. Desultory, haphazard methods will not avail. The same care, routine, and system that are usually brought to bear in institutional work must be applied here. If thus operated it will have potent results, as it works principally through direct human instrumentality without depending too much upon a plant or a machine. Chapin has tried this plan during eight years and has had good results.

2. Syphilis and the Nervous System.—Leszynsky says that for many years we have succeeded in practically curing certain syphilitic affections of the nervous system. We have all learned that the most effective specific drugs have been first and foremost mercury, and iodine as an adjuvant. When improperly used, they have often been inefficient, and when abused have been obviously injurious. But, when properly administered, they have proved our most valuable therapeutic resource. It would seem that, as an immediate outcome of the present agitation and enthusiasm regarding the alleged panacea salvarsan, our venerable, respected, and faithful friend, mercury, is to be deposed, laid on the table, and abandoned as already obsolete and useless. In other words, to be replaced at once by salvarsan, a rival whose potentiality is not yet thoroughly understood, and which will, in all probability, require ten or fifteen years to fully establish its superiority or supremacy. *Festina lente.* If salvarsan succeeds in permanently destroying all spirochætæ and their toxines in the early stage of syphilis, the disease will be robbed of its terrors as to the possible later advent of cerebrospinal syphilis and the ultimate progressive degeneration in the central nervous system. Thus far it has been shown that the so called parasyphilitic processes are not only not benefited by the use of salvarsan, but that in some cases deleterious results have supervened. In those forms of syphilis of the nervous system that have usually proved amenable to mercury, salvarsan has been reported as acting more rapidly and efficiently, but in many instances recurrence has taken place, necessitating a repetition of the treatment. Hence, it is to be used only in selected cases.

3. Primary Sterility in Women.—Rongy remarks from his observations, that sterility was due to inflammatory processes of gonorrhœal origin in fully seventy per cent. of his cases. Dysmenorrhœa was present in eighty-four per cent. of his patients. Sterility was cured in twenty-two patients, or 18.3 per cent. If those women whose husbands were sterile are excluded a cure was accomplished in nearly twenty-eight per cent. of the cases. Dysmenorrhœa was cured in fifty-six per cent. and relieved in ten per cent. of the patients. Displacements of the uterus are not great factors in the production of sterility, and seldom does pure mechanical obstruction cause sterility. It is the stenosis of the cervical canal produced by endocervicitis that prevents conception. Sedentary occupation in early adult life is the most important cause for the various flexions of the body and cervix of the uterus. Leucorrhœa was present in ninety-five per cent. of the patients and in twenty per cent. the reaction was highly acid. The small or infantile uterus, unless associated with other conditions pointing to congenital maldevelopment, seldom, if ever, causes sterility. In nearly twelve per cent. of cases of primary sterility one is unable to account for it either in the husband or wife. Seventy per cent. of the husbands of women who suffer from sterility have had gonorrhœa, and in forty per cent. the infection extends to the posterior urethra and neighboring structures and is incurable. Thirty per cent. of men who were infected with gonorrhœa suffer from azoospermia. The best operative results were obtained by the dilatation and stem pessary method in cases that had not suffered from severe dysmenorrhœa. The Dudley operation did not cure the severe forms of dysmenorrhœa. Plastic operations on the tubes and ovaries do not give much hope for the cure of primary sterility. The prognosis for the cure of sterility is unfavorable; one must not hold out too much hope for the patient; eighty per cent. of the patients remain uncured. Dysmenorrhœa can be cured in the largest number of cases, but one must be careful in choosing the method of operation. One that will accomplish a cure in one class of patients will not do so in another. The greatest single factor in the production of sterility is gonorrhœa and its complications. A goodly number of cases require medical treatment only and as soon as the cervical discharge is cleared up conception is likely to take place. Pathological lesions in the genital tracts of both husband and wife may in time disappear and therefore one must never give an absolutely unfavorable prognosis unless the husband is suffering from aspermia.

BRITISH MEDICAL JOURNAL

February 6, 1915

1. Remarks on Organization in the Profession, By William Osler.
2. Clinical Lectures on Anatomy and Morbid Anatomy in Clinical Surgery, By C. B. Lockwood.
3. The Treatment of Gout and Rheumatism by Radium, By Wilmot [illegible]
4. [illegible] Right Sided Pleural Effusion, By A. C. Geddes.
5. The Treatment of Three Hundred Nævi by Freezing, [illegible]
6. Carcinoma of the Stomach in a Youth of Nineteen, By J. R. C. Canney.
7. The History of Yellow Fever in West Africa, By Sir Rubert Boyce.
8. High Temperature after Labor and Its Treatment with Aspirin, By Major G. H. Fink.

3. Radium in Gout and Rheumatism.—His [illegible] its primary product of dissociation—gaseous em[illegible]

which are especially remarkable in the case of gout and of the various rheumatic affections. He reports his observations on 128 patients, 100 cases of chronic rheumatism and twenty-eight of uric acid gout. Of the 100 cases of chronic rheumatism, forty-seven patients were improved, twenty-nine were considerably improved, five nearly cured, thirteen were uninfluenced by the treatment, and the result was not apparent in six. The most interesting of these cases are naturally those in which the use of the limbs was almost completely restored by the treatment. The best result obtained, however, was in a long standing case of myalgia. Excellent results of this kind can only rarely be achieved. It is self evident that no medicament in the world can clear up the numerous and severe anatomical changes which are met with in chronic rheumatism, and which include degeneration and loss of the cartilage, exostoses, indurated thickening of the capsule of the joint, proliferation of the synovial membrane, cartilaginous forcign bodies, contractures and indurated degeneration or advanced atrophy of muscles, and fibrous or cartilaginous ankylosis of the articular surfaces. The best results may be expected in diseases which have not existed for too long a time, and in which the chief changes are swelling and infiltration of the capsule of the joint. This form, which most frequently affects women either at an early age or about the time of the menopause, constitutes the larger contingent of the "considerably improved." In the next place, the dry state in which the capsule remains unaltered for a long time, while the cartilage is markedly degenerated and the muscles almost always affected, yields very favorable results in so far as the pain is diminished, the muscular contractures lessened, and the motility increased. The results in gout were much more striking. He was able to observe and treat twenty-eight patients for a considerable period. Of these, four remained unaffected, while in twenty-four a marked improvement in the condition was achieved. The most remarkable effect was noted in the behavior of the uric acid in the blood. We have learned from Garrod's investigations that gout is characterized by a permanent presence of uric acid in the blood, and numerous recent studies have demonstrated that the uric acid in the blood may be diminished by a rigid diet, but can never be made to disappear entirely. Under the influence of radium emanation the blood loses its uric acid within a few weeks. He was in a position to examine the blood, both before and after the treatment, for uric acid in eighteen cases. In fifteen the desired result was effected promptly; in a severe case of gout the blood was found to be free from uric acid after fourteen days' treatment by drinking water containing radium. On the other hand, uric acid persisted in the blood of three patients even after a severe course of treatment. Now, it might be expected that since no salts can be deposited from blood which does not contain uric acid, no attack of gout could occur, and that any deposits which were present would be speedily dissolved. He actually did observe tophi in the ear disappear on two occasions during the treatment. But the clinical improvement did not always run parallel to the uric acid content of the blood. He noted very marked improvement in a patient who was energetically treated, in spite of the fact that the blood retained its uric acid. In another patient, who had gouty nodules all over his body, no uric acid was present in the blood either at the beginning or toward the end of the treatment, and yet the patient had one attack after another during the whole time. Experience, however, has long since taught us that it is not only the deposit of uratic salts which can cause an inflammation; a rapid solution of these salts may do the same. In selecting cases for radium treatment it is of paramount importance to know if the attack is due to rheumatism or to gout, because the auxiliary treatment, and above all the diet, must be absolutely different for each of these two groups of disease. He has never been able to satisfy himself that any special diet or the limitation of meat exercises a beneficial influence on the course of rheumatic affections. On the other hand, a dietetic treatment of gout is essential, even in conjunction with the employment of the radium treatment. There are two sources of uric acid—the material which has to be got rid of. In the first place there is the body itself, and in the second there is the food. The dissociation of uric acid will be effected more easily and more rapidly if the second source is blocked by the selection of a suitable diet. But the differentiation of gout and rheumatism is by no means as easy as is usually believed. A typical case of gout, no doubt, is readily recognized, but the diagnosis of so called masked gout is very difficult. A single examination of the urine does not clear the matter up. The best test is the examination of the blood. Uric acid can only be detected in the blood with certainty by abstracting a larger quantity of blood (from 80 to 100 c.c.) by venesection and by analyzing it by Krüger and Schmidt's method. Since he has employed this method in doubtful cases, he states that he has experienced a variety of surprises. He has learned that some of the very common myalgias of the neck, shoulder, and lumbar muscles are undoubtedly of a gouty nature, while other are rheumatic. Patients who reveal symmetrical and creeping inflammations of the smaller joints, which give the clinical impression of being rheumatic, have sometimes been shown to be gouty. Neuralgia, and especially sciatica, depends on this cause much more frequently than is usually accepted. It is therefore urgently necessary, in order to secure a prompt and certain result from the treatment, to examine doubtful[1] cases in this way. It must be pointed out, however, that the detection of uric acid in the blood requires some practice and experience, and ought not to be entrusted to the pharmaceutical chemist. It is to be hoped that we shall soon discover a more handy and at the same time more reliable method of examination.

5. **The Treatment of Three Hundred Nævi by Freezing.**—Bunch says that although some final results of treating nævi by means of radium are excellent, the method is, nevertheless, far from rapid and is beyond the means of many patients. For nævi in certain positions, such as those of the eyelids which involve the conjunctiva, radium has per-

haps some advantages over other methods of treatment, and will still be used; but in the vast majority of cases equally good results can be obtained far more quickly, certainly, and cheaply by the application of solid carbon dioxide. Where the nævus is superficial a single application for a few seconds will effect a cure, and the resulting scar is so inconspicuous that it is difficult even to detect. The great majority of the cases which he has treated have been children, many of them only a few weeks old, and in such patients the painlessness and rapidity of any method of treatment is of great importance. The application is, of course, cold, and a tiny baby will probably cry, but he doubts if it feels any pain, and older children will talk and laugh while they are having several nævi, warts, or lupus nodules treated by this method. They say there is some feeling of burning or smarting while the tissues are thawing, but this very soon passes off. When a well marked, definitely raised and circumscribed angioma has to be treated, a single application is seldom sufficient, and he prefers to do too little at the first application rather than too much, especially if the buccal mucous membrane or an eyelid is involved. But even if several applications are necessary, it must be remembered that the inconvenience to the patient is very slight, no anæsthetic is necessary, and no dressings beyond some boric powder or boric ointment are required. For nævi on the face there is no question that this method is far preferable to any surgical operation; for nævi on the trunk it might be said that excision was equally good and that the scar does not matter; but he has seen a considerable number of such scars in which nævoid tissue has been left or has recurred, and where either a further excision on treatment by solid carbon dioxide was necessary. He has successfully treated with carbon dioxide 300 nævi of various extent and size. They included capillary, stellate, cavernous, and pigmented nævi, some small and some several inches in diameter, flat, or markedly raised above the adjacent healthy skin forming prominent red or purple swellings. For all such cases treatment by solid carbon dioxide cannot be improved upon, but for large port wine stains, involving part or the whole of one side of the face, where a considerable area has to be treated at a single application, he prefers to employ liquid air.

LANCET

February 4, 1911

1. Color Vision and Color Blindness, By F. W. Edridge-Green.
2. The Position of Sir Charles Bell among Anatomists, By Arthur Keith.
3. The Treatment of Extensive Caries in Children by Extraction, By J. F. Colyer.
4. X Bodies in Human Blood, By Andrew Balfour.
5. Some Cases Illustrating the Effects of the Hyperæmia Treatment by Elastic Bandage on Ununited Fractures, By Arthur E. Barker.
6. The Treatment of Skin Diseases by Hyperæmia (Bier's System), By W. Knowsley Sibley.
7. On the External Application of Magnesium Sulphate in the Treatment of Erysipelas, By Khan Bahadur [illegible].

1. **Color Vision and Color Blindness.**—Edridge-Green gives his theory of color vision and color blindness in his Hunterian lecture. As a ray of light impinging on the retina liberates the visual purple from the rods and a photograph is formed. The rods are concerned only with the formation and distribution of the visual purple, not with the conveyance of light impulses to the brain. The ends of the cones are stimulated through the photochemical decomposition of the visual purple by light (very probably through the electricity which is produced), and a visual impulse is set up which is conveyed through the optic nerve fibres to the brain. The character of the stimulus differs according to the wave length of the light causing it. In the impulse itself we have the physiological basis of the sensation of light, and in the quality of the impulse the physiological basis of the sensation of color. The impulse being conveyed along the optic nerve to the brain stimulates the visual centre, causing a sensation of light, and then passing on to the color perceiving centre causes a sensation of color. But though the impulses vary in character according to the wave length of the light causing them, the retinocerebral apparatus is not able to discriminate between the character of adjacent stimuli, not being sufficiently developed for the purpose. At most seven distinct colors are seen, while others see in proportion to the development of their color perceiving centres only six, five, four, three, or two. This causes color blindness, the person seeing only two or three colors instead of the normal six, putting colors together as alike which are seen by the normal sighted to be different. In the degree of color blindness just preceding total only the colors at the extremes of the spectrum are recognized as different, the remainder of the spectrum appearing gray. Though his own opinion is that the ordinary form of congenital color blindness is caused by a defective development of the portion of the brain whose function is the perception of color, we must not exclude any portion of the retinocerebral apparatus, defect of which would have exactly the same result. It will be noticed that the theory really consists of two parts, one concerned with the retina and the other with the whole retinocerebral apparatus.

5. **Hyperæmia Treatment of Fractures.**—Barker thinks that it may be accepted as fairly certain that, excepting the interposition of fragments of detached bone, of muscles or tendons, or of stripping of periosteum, the chief cause of delayed or completely arrested union of fractured bones is lack of proper circulation in the area injured. This may be due to rupture of the arteries supplying the bones, to overtight bandages when the splints are applied, or, above all, to disuse. If the vascular supply is damaged it is plain that we cannot repair the condition. But we can further impair the proper blood supply by improper bandaging. This is avoidable. As to disuse, as long as the fracture is insecure it is difficult to make any use of the muscles of the limb. If we could it is probable that such fractures would rarely fail to unite. We know that broken ribs, which are always in a state of movement, hardly ever remain ununited. When then for any of the last causes mentioned repair has not taken place, it is natural to turn to mechani-

cal measures to increase the hyperæmia of the parts involved. In the past we know that this has been done, either by forcibly rubbing the fractured ends together to excite a fresh traumatic hyperæmia, or by pegging the bones with ivory nails or by massage. These measures have succeeded in many cases and failed in others, in the last case often on account of suppuration. It is only claimed for the elastic bandage that it produces a greater vascularity of all the parts involved easily and without risk if properly done. The question how long it should be kept up is variously answered. In his experience all the effects desired have been obtained by the use of the bandage for about two hours morning and evening.

6. **Hyperæmia Treatment of Skin Diseases.**—Sibley finds that practically all chronic forms of skin diseases are benefited by the hyperæmic treatment before applying local remedies. The action of ointments and lotions is considerably facilitated if a local congestion of the part is produced before they are applied. This local hyperæmia probably acts in two ways. In the first place, by producing a passive congestion, it increases the blood supply, and so improves the nutrition of the part, and at the same time encourages the removal of deleterious products by the venous blood. In the second place, this local hyperæmia assists in the local action of the drugs when they are afterward applied. Of the cases so far treated, it would appear that the most satisfactory results have been obtained in psoriasis, especially in some very old standing cases in which the lesions were very chronic and localized. We so often meet with cases of this complaint of many years' standing where some very persistent lesions are limited to a small area, such as the knees or elbows, and which resist all treatment. This is the class of cases specially benefited by this method. Some cases of lupus vulgaris have shown rapid improvement—in fact, from some recent observations the hyperæmic method showed earlier and much more satisfactory results than the x rays had done. Acne, both diffuse and local, reacted well, but these cases required a considerably greater amount of congestion and more frequently repeated treatments, both general to a large affected area, and afterward local to the individual and more persistent comedones and pustules. The immediate result of the local treatment is to produce a venous congestion of the skin, which increases the action of the sudoriferous glands, and gives rise to a varying degree of perspiration. This varies with the nature of the lesion and the degree of hyperæmia produced. In some conditions only an almost imperceptible amount of sweating results—perhaps just sufficient to produce a slight haziness on the sides of the cupping glass without a visible sweat on the skin. In others, such as many eczemata and seborrhœas, a profuse perspiration is quickly produced, and after a few minutes the whole part is bathed in sweat. In other cases the ordinary sweat is replaced by a serous exudation. In some instances of nonulcerated lupus, which as a class perspire very freely under the treatment, a blood stained serum exuded after a short time, and for this reason the patients require to be very carefully treated and only for very short periods at a time, one minute or so being usually sufficient.

Proceedings of Societies

SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

Twenty-third Annual Meeting Held in Nashville, Tenn., December 13, 14, and 15, 1910.

The President, Dr. W. O. Roberts, of Louisville, in the Chair.

The Importance of Preserving the Gallbladder.—Dr. J. W. Long, of Greensboro, N. C., stated that a critical analysis of eighty-six of his own operative cases had convinced him of the value of retaining the gallbladder. Cholecystectomy should be done in the presence of new growths, especially primary carcinoma, also in gangrene when the whole thickness of the bladder wall was involved, but not otherwise, since he had had several recoveries following drainage for gangrenous mucosa of the bladder. Infection and empyema were only relative indications for doing cholecystectomy, most cases doing well under cholecystotomy. The cystic duct obstruction always present in empyema was gradually overcome under the beneficent influence of drainage and after a varying interval of from one to seven days, in one instance fifteen days. Stone impacted in the cystic duct was only a rare indication for cholecystectomy, the writer never having failed to remove the stone. Even perforation could not be considered an absolute indication for cholecystectomy, the speaker reporting two cases which did perfectly well under drainage. Drainage was second in importance only to removal of stones. Removal of stones could not cure a pancreatitis, but drainage did. No organ in the body, once badly damaged, responded so effectually to drainage as the gallbladder. Drainage was the *sine qua non* for curing the patient of the widespread sequelæ of gallbladder infection. It was prudent in doing a cholecystectomy to leave a forceps rather than a ligature on the cystic duct in order to provide for a free flow of bile should untoward symptoms arise. Embryologically, the bud for the gallbladder and that for the larger portion of the pancreas developed together; as they grew and receded from each other their ducts remained joined. The relation of the two organs was very close anatomically and physiologically. The gallbladder was not a storage pouch for bile, but rather an expansion tank for the bile duct system. Its removal was always followed by dilatation of the ducts, even the nub of the cystic duct compensating for the loss of their expansion tank. Pure bile injected into Wirsung's duct caused pancreatitis, bile mixed with the bladder mucosa did not, a cogent reason for preserving this function. The only avenue through which to treat chronic pancreatitis was the bile duct system, preferably through the gallbladder.

Dr. Thomas S. Cullen, of Baltimore, had for several years made it a practice to drain all gallbladders, except in those cases in which there was a suspicion of malignant disease or where there was empyema of such a character that it was impossible to drain satisfactorily, where the danger of removing the gallbladder was not so great as that of infection from drainage.

Dr. Howard A. Kelly, of Baltimore, stated that

under no circumstances would he remove a gallbladder that was apparently sound or even moderately diseased which evidently might easily recover with drainage. Again, he would not remove a gallbladder where there was any suspicion of trouble in the common duct or any pancreatic disease. It was best to remove a gangrenous gallbladder or one that was suspected to be malignant.

Dr. J. Garland Sherrill, of Louisville, said there had been a tendency to do too radical operations in this region. He had saved a number of gallbladders that were full of pus by drainage. The reparative power of the tissues was very great and the opening became patent in a short time and drainage of bile free.

Dr. Randolph Winslow, of Baltimore, had operated in a case some time ago in which the duct was evidently obstructed; although bile reappeared, it did not flow. However, in the course of time nothing but mucus came from the external opening; the gallbladder was distended, and bile did not pass. There occurred stricture of the cystic duct, which necessitated a second operation for the removal of the gallbladder.

Dr. R. E. Fort, of Nashville, said that where there was a small, contracted, rigid, friable gallbladder, not larger than the finger, in which drainage could not be instituted, he thought it not only proper but essential to do a cholecystectomy. There were cases occasionally in which there was common duct obstruction and it became necessary to do cholecystectomy, but in other cases it was not necessary to do this radical operation.

Dr. Bacon Saunders, of Fort Worth, Tex., said that in chronic gallbladder trouble it was necessary to continue drainage sometimes for six weeks in order to get satisfactory results.

Dr. William B. Coley, of New York, said that when he removed a gallbladder he instituted drainage in the cystic duct and this did as much good to the pancreas as if it was drained through the gallbladder itself.

Dr. Long said that in gallbladder surgery, as in all other surgery, it was largely a matter of the personal equation in deciding what was the best thing to do in the individual case.

The Best Method of Exposing the Bladder for Aggressive Operations by the Suprapubic Route.—Dr. Howard A. Kelly, of Baltimore, pointed out the disadvantages of the method in common use, namely, of making a vertical midline incision between the recti muscles, when the muscles with their underlying fascia resisted retraction and so offered only a slit through which the bladder could with difficulty be exposed. Dr. Kelly used a transverse crescentic incision above the pubes, through skin and fascia out to and even beyond the semilunar line on each side. He then separated the fascia from the muscles after the manner proposed by Pfannenstiel for operations upon abdominal and pelvic tumors. In bladder cases, however, the abdominal cavity was not opened. The recti muscles, freed from their overlying fascia, were flaccid and easily drawn apart, thus affording a very broad exposure of Retzius's space. The bladder was clearly brought into view by inflation with air pumped in through the urethra and was widely incised in its transverse axis, thus affording a maximum exposure of the viscus. With the bladder thus conveniently opened, all parts of the organ were perfectly exposed to view and made easily accessible to operation. The whole question of dealing with extensive ulcers, papillomata, malignant disease, and cystitis requiring resection was by this means greatly simplified. Further help in bringing the base of the bladder up within reach might be secured by introducing two fingers into the vagina in women and pushing the anterior wall upward.

At the conclusion of the operation the bladder was closed with fine silk or catgut sutures, the investing fascia was also carefully united with catgut or silk, and the rest of the abdominal wound closed, in suitable cases leaving a small drain extending down to or into the bladder. By this operation a maximum exposure and accessibility of the bladder without injury to the important underlying structures were gained without a risk of subsequent hernia.

Dr. J. Shelton Horsley, of Richmond, said that for more than a year he had been using the Pfannenstiel incision as a routine measure in all suprapubic cystotomies, and he found it took very little more time than the ordinary incision and left the abdominal wall in a much better condition.

Dr. Ernst Jonas, of St. Louis, said the Pfannenstiel incision gave a very good view of the bladder. This incision had been advocated by Dr. Pfannenstiel for clean gynæcological cases where there was no pus in the pelvis and for cases in which the pelvis was badly infected.

Dr. Reuben Peterson, of Ann Arbor, Mich., said that the Pfannenstiel incision was suitable only for clean cases. He had had a large experience with the transverse incision for shortening the round ligaments and for operations on the bladder, and if the wound should suppurate the objection raised by Dr. Jonas held good. While the technique demonstrated by Dr. Kelly was fine for clean cases, he could see an objection to this incision in suppurative cases.

Dr. George H. Noble, of Atlanta, had made use of the transverse or Pfannenstiel incision quite frequently in cases in which he did not expect to encounter a septic process, both in placing the uterus in its normal position and in opening the bladder. A point he wished to bring out especially was that in this dissection one could increase the opening very materially and satisfactorily by making a section of the lower ends of the recti muscles, where necessary, and get a good view. This was particularly the case where he wished to open into the peritonæum, using this incision.

Dr. Alexander Hugh Ferguson, of Chicago, could see how this method of exposing the inside of the bladder would be of great utility to those surgeons who practised suprapubic prostatectomy; also in removing papillomata, in avoiding the ureter. We must remember that there was no fascia behind the rectus muscle in this region, and that it retracted easily and acted as a bar to infection in the operative area.

Stone in the Ureter.—Dr. R. C. Bryan, of Richmond, reported eight cases of stone in the ureter, and then discussed the ætiology, pathology, symptoms, diagnosis, and surgical treatment. As to treatment he said that the size, number, and location of the stone having been accurately determined, the

treatment resolved itself into one of two methods: 1. Ureteral catheterism and lavage. 2. Operation. It would seem advisable in small stones and those located in the lower segment of the ureter to attempt by ureteral catheterism and injection to dislodge them. This would probably occur in a fair percentage of instances. It had occurred in four of his cases. If this method failed an operation was indicated. He had done only the extraperitoneal operation. It did not appear that the intraperitoneal or combined method offered any peculiar advantage which would justify the possibility of peritoneal infection by urine leaking from a suppurating tract. An incision starting midway between the highest point of the crest of the ileum and the eleventh rib and running to the anterior superior spine of the ileum, thence parallel with and internal to Poupart's ligament for its outer three fourths, had in his series given sufficient opening to explore the ureter from the kidney above to the bladder below. In those instances in which the stone was incarcerated in the intravesical segment, the incision might be carried down to the spine of the pubes, thus giving all the room desired. The ureter was cut through its long axis and the stone removed. Catgut sutures approximated the wound, and a tube was inserted to the site. In his series there was leakage in but one case for five days, the remainder giving none at the end of two days.

The Early Diagnosis and Treatment of Renal Tuberculosis.—Dr. J. M. Mason, of Birmingham, Ala., reported a case in which there was extensive tuberculous disease of the left kidney, with symptoms referable only to the bladder. He said that renal tuberculosis was in the beginning a unilateral infection and might remain so for a long time. For successful treatment the patient should reach the surgeon while the disease was still confined to one kidney. The early symptoms were rarely referred to the kidney, but in a large percentage of cases were vesical and might remain so for many months. For the diagnosis, repeated examinations should be made for the detection of tubercle bacilli in the urine, and often the inoculation of guineapigs should be resorted to. The cystoscope and ureteral catheter must be made use of to ascertain the condition of the bladder and to determine which kidney was the seat of disease, also for the purpose of ascertaining the organic and functional condition of the second kidney. The treatment consisted in prompt nephrectomy followed by the best hygienic, climatic, and dietetic management.

Cæsarean Section, with Special Reference to the Time of Operation and Its Technique.—Dr. Lewis S. McMurtry, of Louisville, said that this operation should be performed with the same deliberate care and expedition as were observed in other abdominal operations. There seemed to be a general impression on the part of surgeons that exceptional rapidity bordering on haste should characterize the steps of the operation. There was no valid reason for this. Davis made the abdominal incision above the umbilicus and the uterine incision just below the fundus. The speaker did not believe the site of the incision was of essential importance. The abdominal wall at the full term of pregnancy was thin and relaxed easily. As soon as the abdominal incision was made and the uterus exposed, long gauze pads wrung out of warm salt solution were placed within the abdomen to hold back the omentum and intestines and protect peritoneal surfaces while the uterus was being emptied and closed. With the demonstrated results of Cæsarean section as now obtained the scope of the operation must necessarily be widened and its application greatly extended. What was most needed at the present time was an active interest on the part of all abdominal surgeons, with such a campaign of education as was successfully applied some years since in behalf of early operation in other conditions requiring prompt surgical intervention. It was established that the primary Cæsarean operation in skilled hands had a mortality quite as low as uncomplicated ovariotomy and clean hysteromyomectomy. With repeated examinations, cervical dilatation, and the application of forceps carried out with crude and desultory observance of aseptic precautions, the mortality of abdominal hysterectomy was necessarily increased. The cooperation of the surgeon and the general practitioner was necessary to correct this fatal error.

Dr. E. Gustav Zinke, of Cincinnati, said that if the mortality of Cæsarean section to-day was too high, it was because of carelessness or indifference on the part of those who took obstetric cases and did not give them the attention they deserved. When a woman engaged our services with a view to our attending her in her approaching confinement we should study the case carefully. It was here where a mistake was made. Because a woman had a good shape, was otherwise in good health, and there was no indication of any difficulty, she was permitted to go until the time of labor had arrived, and the obstetrician in very many instances had not the remotest idea of the capacity of her pelvis or of the attitude of the fœtus within the uterine cavity, and it was because of lack of this knowledge that the woman went into labor, and then labor was protracted from some cause or other, the difficulty of which was detected by the consultant, who saw the necessity of performing hebosteotomy, Cæsarean section, version, or craniotomy, as the case might be. His sole object in speaking on this paper was to caution the profession anew, and he would do it on every possible occasion, that every case of pregnancy should be thoroughly studied before the woman went into labor. The physician should know all about her pelvis, about the attitude of the fœtus, as well as the condition of her kidneys, heart, liver, etc.

Dr. Ernest S. Lewis, of New Orleans, thought the obstetrician should thoroughly examine every woman whom he expected to attend, not only to determine the presentation, but to correct any malpresentation if it was possible; also to determine the condition of the pelvis by proper mensuration. Statistics showed that Cæsarean section, the primary operation, was not attended with any more gravity than the removal of an ovarian tumor. He fully agreed with the author of the paper in regard to that, and that the danger was proportionate to the length of time the woman had been in labor, whether examined or not. There was greater danger of infection if frequent examinations had been made or if instruments had been used.

Dr. Reuben Peterson said that if there was one subject in the whole range of medicine that had

been neglected in the last twenty years it was obstetrics. This could be explained in a way by the greater pecuniary rewards which had accrued from abdominal and other kinds of surgery, so that it had made the obstetric situation more or less anomalous in this country. Many men were graduated from the medical schools without an accurate idea of what to do for a woman during pregnancy or how to estimate a difficult case before labor. The specialist was usually called in after the practitioner had failed to deliver the woman by the natural way. The time was coming when the high forceps operation would not be taught in the medical schools as an obstetric procedure. The instrument was put on when the head had not entered the pelvic inlet. There was some disproportion between the head and the superior strait, and in his opinion Cæsarean section gave far better results to the woman and to the child.

Dr. McMURTRY said that the attitude of the profession toward Cæsarean section was a very serious one, and it should be corrected. It was the highest function of an association like this, whose expressions went out to the profession and were looked upon as authoritative, to correct erroneous impressions, and the erroneous impression he alluded to was the general attitude of the great body of medical practitioners, namely, that Cæsarean section should not be done until the patient had been examined by two or three men, that these examinations were made with the most perfect observance of asepsis, and all ordinary means of delivery had been tried on the patient for hours. The important point was to get the great body of the profession to recognize early, if not before labor early after labor had begun, a case suitable for Cæsarean section.

Dr. STEPHEN H. WATTS, of Charlottesville, Va., reported two cases of intussusception in the adult, one of which was due to multiple adenomata of the intestine and the other to a sarcoma of the cæcum. In the first case it was found necessary at several operations to perform two resections of the intestine with lateral anastomosis, two other lateral anastomoses, and seven enterotomies for removal of the growths. The patient was perfectly well when seen about a year after the last operation. In the second case, after reducing the intussusception, the sarcoma was removed with an elliptical portion of the wall of the cæcum, and the patient made a good recovery. After reporting these cases, Dr. Watts discussed in some detail the symptoms, diagnosis, and treatment of adenomata and sarcomata of the intestine.

(*To be continued.*)

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Masters of Men. A Study in Human Initiative. By Charles F. Wheeler, M.D., Counsellor-at-Law. Author of *The Logic of Human Character, The Wisdom of Plotinus*, etc. With Forty-seven Half Tone and Other Plates. New York: Rebman Company. [illegible] Price $2.

This is a rather peculiar book. The author, an English physician, passes before our eyes the lives, characteristics, and achievements of leading men, thus demonstrating how great human initiative can become. He has selected forty world famous individuals. These the author divides into four groups: 1. Those who, from the first and without afterthought, devote themselves to one single vocation; in this group we find one of the two American representatives spoken of in the book—Lincoln. 2. Those in whom the predominant capacity, though decisive from the first, is associated with one or another collateral activity—Emerson. 3. Those whose vocation, at first dubious, ultimately becomes decisive and single. 4. Those whose vocation, at first dubious, becomes at last predominant, but not to the point of excluding collateral activities of greater or less importance.

Ten of the men selected are English. To the second group belongs Walter Scott, of whom the author himself says that he was in doubt whether to include him or not. In the third group is also included William the Silent. In the first group, besides Lincoln, we find Drake, Nelson, Napoleon, Titian, Mozart, Beethoven, Flaubert, Harvey, Descartes, and Jesus. Shakespeare and Columbus the author has omitted because not enough, he states, is known of their lives to come to the proper conclusions. But not one of all these men used by the author, with the exception of Jesus, has had such influence upon the shaping of the world's history, upon the uplifting of the human race, upon the idealism of man, as George Washington. But we are transgressing. The author has certainly the right of selection—and the reader the right of criticism.

The book makes very interesting reading. It gives much food for thought and is instructive and pleasant. Its perusal will be a recreation to the busy practitioner, to whom it is hereby recommended.

The Jews. A Study of Race and Environment. By Alfred Fishberg, Fellow of the New York Academy of Sciences, Member of the American Ethnological Society, etc. London: The Walter Scott Publishing Company, Ltd.; New York: Charles Scribner's Sons. 1911. Pp. xix-578. (Price, $1.50.)

This seems to be a very timely book. The census of 1910 gives over 1,000,000 Jews to Greater New York and nearly one sixth of all the Jews in the world to our country, which has kept its doors open to the Jews without restriction. It is the proud contention of the United States that here the Jews will receive such freedom as to enable them to develop their faculties fully, a circumstance which was for over 2,000 years denied to them. The author is a Jew himself, who, born in Russia, has availed himself of the liberal education in our country and has, in a comparatively short time, through hard work and study, acquired such knowledge as to enable him to speak authoritatively on anthropological, sociological, and pathological questions referring to the Jews. The fruit of his studies the author has deposited in this book, which is a testimony of his industry. There is hardly a statement made for which he does not give a source. Space does not permit us to go into detail, but we wish to refer the reader to the book itself, which, we hope, will interest him as much as it has interested us.

... By Gustav Baar, M. D. (Vienna), Member of the German Congress for Internal Medicine, Member of the American Medical Association, etc. New York and London: D. Appleton & Co., 1910. Pp. xii-285.

If it is stated at the outset that Baar's book does not contain any reference to Ehrlich's "606," the reader at once is able to place the work in its proper niche in the chronology of syphilis. All works on syphilis now extant will eventually be classified into three groups: 1. Those issued before the spirochæta was discovered and the Wassermann reaction was worked out. 2. Those issued after these events, but before the introduction of salvarsan. 3. Those published after Ehrlich's remedy was introduced.

The present volume opens with a brief account of the experimental transmission of syphilis to apes, the discovery of the spirochæta, and that of the serum reaction. Regarding the clinical significance of the latter, Baar takes the now fairly established view that in every case treatment should attempt to turn a positive reaction into a negative one, but that the "chronic intermittent treatment" is in any case the best and should be continued after the negative phase has been attained. Excision of the primary lesion in which spirochætæ have been found may prevent the reaction from ever becoming positive, if treatment at once follows the operation. This is the ideal condition. In cases in which the reaction remains positive after the ordinary period of treatment, the therapy should be prolonged, though not beyond a reasonable time.

The second part of the book deals with "special pathology, symptomatology and differential diagnosis," and consists chiefly of reports of type cases. To this portion nearly two hundred pages are devoted, but it is the most tedious and least interesting part of the book. When will authors cease burdening their works with bulky case reports? The third part of the book is a very brief summary of the modern methods of treatment of syphilis as they were prior to Ehrlich's discovery, and as they will continue to be probably for some time to come.

Le Tronc cœliaque. Par Pierre Descomps, prosecteur des hôpitaux. Recherches d'anatomie chirurgicale sur les artères de l'abdomen. Paris: G. Steinheil, 1910. Pp. 205.

This is a very thorough study of the cœliac axis with its many branches and is the most complete work we have seen on these arteries of the abdomen. It is not only of great value for the student of anatomy, but also for the surgeon and the physician. The author gives the results of his researches on fifty adult corpses and a review of the descriptions made by the leading anatomists of Europe.

Diseases of the Stomach and Upper Alimentary Tract. By Anthony Bassler, M. D., Visiting Gastroenterologist to the People's Hospital, etc. Copiously Illustrated with Numerous Half Tone and Fine Text Engravings and 56 Full Page Half Tone Plates (with nearly 100 Figures), Plain and in Colors, from Original Photographs and Drawings. Philadelphia: F. A. Davis Company, 1910. Pp. xviii-3 to 836.

In this book, as was natural, Dr. Bassler deals chiefly with the diseases of the stomach, though affections of the œsophagus, the duodenum, etc., are considered with great care. Much has been added to our knowledge of gastric pathology and therapeutics in recent years. This work is not a mere résumé of those advances; it shows forth the wisdom which comes from experience and will prove an exceedingly helpful guide to the practitioner. From the mechanical point of view it is a handsome volume, very creditable to the publishers.

MEDICOLITERARY NOTES

The paradox of Oscar Wilde's that Nature copies art is exemplified in the career of the Russian physician who was recently convicted of poisoning his victims by means of disease germs. This method of murder was long considered to be the sole property of writers of fiction, who have been exploiting it for many years. The crime is of such diabolical ingenuity that one never expected to confront it in real life; it is also rare to find a criminal physician.

* * *

Unless an exception in favor of professional publications is made in the proposed amendment to the postal law whereby the advertising pages of magazines are to be charged four cents a pound for mailing, the amendment will fall heavily on the manufacturers of proprietary medicines and other articles. Their only alternative to greatly increased space charges will be the enormously expensive advertising by circulars, admittedly a wasteful method and valuable only as an aid to journal advertising. We may be sure that our rigid code of ethics will not be bent to allow these advertisers to use the lay publications wherein to appeal to physicians. Without our advertisers we could not issue an independent journal; it is therefore an important question not only to advertisers, but to our readers, who should hasten to express their views to their representatives in Congress. We are not doing any idle trumpeting in stating our conviction that this journal is indispensable to the profession in North America, and we cannot see how, if the amendment is passed, it can be replaced by anything of equal educational value at a moderate price.

* * *

Even those of our readers who believe that the popular magazines are well able to pay the increased postal rate—which we doubt—should urge their representatives to insist on an exception being made in favor of the independent medical journals. The advertising pages represent certain features inseparable from modern practice, which could not be properly presented in any other way.

* * *

The charges of cruelty and neglect brought against the staff of St. Luke's Hospital have fallen to the ground, as every one who is familiar with the working of that institution knew they would. As a matter of fact, if it were possible, patients of a certain character should be excluded from a hospital of that kind and restricted to institutions where they would be subject to the discipline without which they are at a loss how to conduct themselves decently. To a certain class of mind, bucolic generally, courtesy and civility are signs of cowardice to be instantly taken advantage of, or cloaks for evil designs to be at once torn aside. Very proba-

bly the uniforms now worn by internes and nurses lead to some confusion on the part of stupid patients, who connect them with servile employment.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox have been reported to the Surgeon-General of the United States Public Health and Marine Hospital Service for the week ending February 17, 1911:

Philippine Islands—Manila	Dec.		
Philippine Islands—Albay province	Dec.		
India—Bombay	Jan.		23
India—Calcutta	Jan.	18-24	
India—Madras	Jan.	8-14	1
India—Rangoon	Jan.	1-7	
India—Bassein province	Jan.	15-28	
Java—Batavia	Dec.	26-31	
Java—Soerabaya	Nov.	27-Dec. 3	
Russia—St. Petersburg government—St. Petersburg	Dec.	25-31	
Russia—Vladivostok government	Dec.	25-31	
Siberia—Vladivostok	Oct.	29-Nov. 4	4
Japan—Yokohama	Dec.	11-17	
Turkey in Europe—Constantinople	Dec.	10-Jan. 6	24
Turkey in Europe—Salonika	Dec.	25-31	23
Turkey in Asia—Bagdad district	Dec.	10-Jan. 6	
Turkey in Asia—Damascus	Feb.	3	Present
Turkey in Asia—Mekka	Dec.	20-Jan. 3	117
Turkey in Asia—Smyrna	Jan.	22-Feb. 4	170
Turkey in Asia—Trebizond	Dec.	12-18	5
Turkey in Asia—Tripoli province	Jan.	7-14	
Plague—Foreign.			
Peru—Callao	Jan.	1-15	1
Plague—Foreign.			
Chile—Iquique	Jan.	12	Present
Chile—Iquique	Jan.	1-7	2
China—Manchuria—Dalny	Jan.	19-Feb. 8	57
Formosa—Bishohoye	Jan.	1-15	4
Ecuador—Duran	Jan.	1-15	1
Ecuador—Guayaquil	Jan.	1-15	
Ecuador—Milagro	Jan.	1-15	3
Egypt—Alexandria	Jan.	1-15	
Egypt—Assiut province	Jan.	1-15	11
Egypt—Behera province	Jan.	1-15	
Egypt—Kena province	Jan.	1-15	4
Egypt—Menouf province	Jan.	1-15	2
India—Bombay	Jan.	11-24	20
India—Calcutta	Dec.	18-24	
India—Kurrachee	Jan.	1-14	46
India—Rangoon	Dec.	25-Jan. 7	
Mauritius	Nov.	1-Dec. 15	
Peru—Cadaz	Jan.	1-14	1
Peru—Lima	Jan.	1-14	2
Peru—Mollendo	Jan.	1-13	4
Peru—Salaverry	Jan.	1-14	2
Russia—Odessa	Dec.		
Russia—Kirghiz Steppe	Dec.	13-26	15
Trinidad	Feb.	8	1
Turkey in Asia—Jiddah	Jan.	15	1
Smallpox—United States.			
Colorado—Total for State	Jan.	1-31	5
Florida—Total for State	Jan.	29-Feb. 4	72
Iowa—Total for State	Jan.	1-31	25
Kentucky—Paducah	Jan.	29-Feb. 4	8
Louisiana—New Orleans	Jan.	29-Feb. 4	19
Maryland—Garrett County	Jan.	1-31	8
Missouri—Total for State	Jan.	1-31	1
Montana—Lewis and Clarke county	Jan.	29-Feb. 4	1
North Dakota—Total for State	Jan.	1-31	17
Oklahoma—Total for State	Dec.	1-31	5
Tennessee—Total for State	Jan.	29-Feb. 4	1
Wyoming—Total for State	Jan.	1-31	1
Smallpox—Foreign.			
Belgium—Antwerp	Jan.	29-Feb. 4	1
Belgium—Brussels	Jan.	15-21	1
Canada—Province of Alberta	Jan.	1-14	1
Canada—Province of Manitoba	Jan.	29-Feb. 4	12
Canada—New Brunswick, Moncton	Jan.	29-Feb. 4	1
Canada—Province of Ontario	Jan.	15-21	2
Canada—Province of Quebec	Jan.	29-Feb. 4	12
Chile—Valparaiso	Jan.	8-14	80
China—Hongkong	Dec.	25-31	2
China—Shanghai	Jan.	1-7	
China—Tientsin	Jan.	1-7	
Egypt—Cairo	Jan.	1-15	
France—Paris	Jan.	15-21	1
Gibraltar	Jan.	16-22	2
Great Britain—London	Jan.	29-Feb. 4	
Great Britain—Liverpool	Jan.	29-Feb. 4	
Great Britain—Manchester	Jan.	29-Feb. 4	
Great Britain—Newcastle	Jan.	29-Feb. 4	
Great Britain—Sheffield	Jan.	29-Feb. 4	
Greece—Athens	Jan.	1-15	
Greece—Piraeus	Jan.	1-15	
Italy—Naples	Jan.	1-15	
Italy—Palermo	Jan.	1-15	
Italy—Rome	Jan.	1-15	
Mexico—Mexico	Jan.	1-14	1
Mexico—San Luis Potosi	Jan.	1-14	
Tampico	Jan.	21-31	
Russia—Moscow	Dec.	24-31	
Russia—Odessa	Dec.		
Russia—Riga	Jan.	8-21	
Russia—St. Petersburg	Dec.	25-31	
Spain—Barcelona	Jan.	6-19	
Spain—Valencia	Jan.	22-Feb. 4	
Straits Settlements—Penang	Dec.	1	
Switzerland—Bern Canton	Jan.	8	

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ended February 18, 1911:

ASHFORD, F. A., Passed Assistant Surgeon. Granted one day's leave of absence, February 2, 1911, on account of sickness.

CUMMING, H. S., Passed Assistant Surgeon. Granted one day's leave of absence, February 13, 1911.

GUITERAS, G. M., Surgeon. Granted nine days' leave of absence from February 1, 1911, on account of sickness.

HUNT, REID, Professor of Pharmacology. Detailed to attend the meeting of the Council on Pharmacy and Chemistry of the American Medical Association to be held in Chicago, Ill., February 17, 1911.

LYON, R. H., Assistant Surgeon. Directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

MCGINNIS, R. H., Acting Assistant Surgeon. Granted four days' leave of absence from February 22, 1911.

MCLAUGHLIN, A. J., Passed Assistant Surgeon. Directed to proceed to Erie, via Harrisburg, Pa., on special temporary duty.

MANNING, H. M., Passed Assistant Surgeon. Directed to proceed to the New Orleans Quarantine Station, Quarantine, La., and report to the medical officer in command for duty and assignment to quarters; granted two days' leave of absence en route to station.

MOORE, DUNLOP, Passed Assistant Surgeon. Granted three days' leave of absence from February 7, 1911, under paragraph 191, Service Regulations.

MOORE, G. P., Acting Assistant Surgeon. Granted five days' leave of absence from December 17, 1910.

MOTTER, M. G., Technical Assistant. Detailed to represent the Service at the meeting of the National Confederation of State Medical Examining and Licensing Boards, to be held in Chicago, Ill., Tuesday, February 28, 1911.

MULLAN, E. H., Passed Assistant Surgeon. Granted one day's leave of absence, February 8, 1911, on account of sickness.

PETTYJOHN, JOSEPH, Passed Assistant Surgeon. Directed to proceed to Boston, Mass., and report to the medical officer in command for duty and assignment to quarters.

RUCKER, W. C., Passed Assistant Surgeon. Granted six days' leave of absence from February 13, 1911, on account of sickness.

STILES, C. W., Professor of Zoology. Detailed to attend a conference on the hookworm disease, to be held at Atlanta, Ga., February 14 and 15, 1911.

THOMPSON, W. R. P., Acting Assistant Surgeon. Directed to proceed to Salina Cruz, Mex., on special temporary duty.

WALKLEY, W. S., Acting Assistant Surgeon. Granted seven days' leave of absence from February 10, 1911.

WARREN, B. S., Passed Assistant Surgeon. Granted seven days' leave of absence from January 4, 1911.

WILBERT, M. I., Technical Assistant. Detailed to attend the meeting of the Council on Pharmacy and Chemistry of the American Medical Association, to be held

Wood, J. E., Acting Assistant Surgeon. Granted fifteen [illegible] from February 6, 1911.

Wright, F. T., Acting Assistant Surgeon. Granted thirty days' leave of absence from February 6, 1911.

Young, G. B., Surgeon. Detailed to represent the Service at the Annual Conference on Medical Education and Legislation of the American Medical Association at [illegible], March [illegible], 1911.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States [illegible] week ending February 18, 1911.

Bierdower, H. C., Lieutenant, Medical Reserve Corps. Reports arrival at Columbus, N. M., with Troop C, 4th Cavalry.

Blair, Faris M., Lieutenant, Medical Reserve Corps. Granted twenty-three days' leave of absence.

Bourke, James, Captain, Medical Corps. Directed to proceed to Fort Crockett, Texas, for duty, about April [illegible] instead of March 16, 1911.

Campbell, George F., Lieutenant, Medical Reserve Corps. Relieved from treatment at the Army and Navy General Hospital, Hot Springs, Ark., and will return to station, Fort Wingate, N. M.

Carr, William B., Lieutenant, Medical Corps. Ordered to proceed from Fort Monroe, Va., to Fort Sam Houston, Texas, for temporary duty.

Coffin, Jacob M., Captain, Medical Corps. Granted three months' leave of absence to take effect upon his relief from duty in the Philippines Division; permission to return to the United States via Europe.

Delacroix, A. C., Lieutenant, Medical Reserve Corps. Relieved from duty at Boise Barracks, Idaho, and assigned to duty at Fort Columbia, Wash.; reported for temporary duty at Fort Columbia, Wash.; left Boise Barracks, Idaho, February 8th.

McLaughlin, William F., Lieutenant, Medical Reserve Corps. Granted leave of absence for one month and four days.

Maloney, James E., Lieutenant, Medical Reserve Corps. Ordered to proceed to Fort Lawton, Wash., for temporary duty.

Moncrief, William H., Captain, Medical Corps. Assignment to duty at Fort Riley, Kansas, revoked, and instead ordered to Fort Leavenworth, Kansas; granted thirty days' leave of absence.

Page, Henry, Major, Medical Corps. Granted four months' leave of absence to take effect upon his relief from duty in the Philippines Division, with permission to go beyond the seas.

Pinkston, O. W., Captain, Medical Corps. Reports in field with 4th Cavalry, Camp at Washington Park, El Paso, Texas.

Roberts, William M., Major, Medical Corps. Ordered to Fort Oglethorpe, Ga., for temporary duty.

Underwood, Gordon B., Lieutenant, Medical Reserve Corps. Granted twenty-three days' leave of absence.

Williamson, L. P., Lieutenant, Medical Corps. Assigned to duty with Co. 1, Signal Corps, for field service in Arizona.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending February 18, 1911:

Du Bose, W. R., Medical Director. Detached from command of the naval hospital, Norfolk, Va., and ordered to duty as a member of the naval examining and naval medical examining boards, Washington, D. C.

Farwell, W. G., Passed Assistant Surgeon. Detached [illegible] the naval station, Guantanamo, Cuba, and ordered to the *South Carolina*.

Hippett, C. T., Medical Director. Detached from the navy yard, Norfolk, Va., and ordered to command the naval hospital, Norfolk, Va.

Riddick, W. J., Assistant Surgeon. Detached from the *South Carolina* and ordered to the naval station, Guantanamo, Cuba.

Births, Marriages, and Deaths.

Born.

Valz.—In Portsmouth, New Hampshire, on Thursday, February 9th, to Passed Assistant Surgeon Edward V. Valz, United States Navy, and Mrs. Valz, a daughter.

Married.

Bullitt—Dever.—In Hingham, Massachusetts, on Tuesday, February 14th, Dr. John Christian Bullitt and Miss Edna Dever.

Epstein—Schaffer.—In New York, on Sunday, February 12th, Dr. Hyman J. Epstein and Dr. Stella Schaffer.

Geiger—Ashbridge.—In Philadelphia, on Wednesday, February 15th, Passed Assistant Surgeon A. J. Geiger, United States Navy, and Miss Margaretta Benners Ashbridge.

Keith—Turner.—In Melrose, Massachusetts, on Wednesday, February 15th, Dr. Laurence Frank Keith and Miss Elsie May Turner.

Longenecker—Beachey.—In Allentown, Pennsylvania, on Saturday, February 18th, Dr. Parke L. Longenecker and Miss Edna V. Beachey.

Monagan—Mulry.—In New York, on Tuesday, February 14th, Dr. Charles A. Monagan and Miss Margaret M. Mulry.

Ries—Gardner.—In New Rochelle, New York, on Thursday, February 9th, Dr. August Ferdinand Ries, and Miss Fannie Morris Gardner.

Died.

Abbott.—In Ocean City, New Jersey, on Friday, February 17th, Dr. Benjamin T. Abbott, aged sixty-six years.

Appley.—In Binghamton, New York, on Saturday, February 11th, Dr. James D. Appley, aged sixty-five years.

Ashmead.—In Philadelphia, on Monday, February 20th, Dr. Albert S. Ashmead, aged sixty-one years.

Bogert.—In New York, on Thursday, February 16th, Medical Director Edward S. Bogert, U. S. Navy, retired, aged seventy-four years.

Borden.—In Caledonia, New York, on Tuesday, February 14th, Dr. George T. Borden, aged fifty-seven years.

Botsford.—In Potsdam, New York, on Wednesday, February 8th, Dr. Llewellyn T. Botsford, aged fifty-eight years.

Coble.—In Spencer, Indiana, on Saturday, February 4th, Dr. Jacob Coble, aged sixty-seven years.

Cockburn.—In Minneapolis, Minnesota, on Sunday, February 5th, Dr. John C. Cockburn, aged sixty-nine years.

Densmore.—In Cassadaga, Florida, on Sunday, February 19th, Dr. Emmet Densmore, of New York, aged seventy-four years.

DeVilbiss.—In Woodville, Maryland, on Tuesday, February 14th, Dr. David M. DeVilbiss, aged sixty-six years.

Hitchcock.—In Amherst, Massachusetts, on Wednesday, February 15th, Dr. Edward Hitchcock, aged eighty-three years.

Knill.—In Detroit, Michigan, on Friday, February 10th, Dr. Edwin G. Knill, aged fifty-six years.

Leidy.—In Flemington, New Jersey, on Friday, February 17th, Dr. Edwin D. Leidy, aged fifty-three years.

Mangold.—In Brooklyn, on Wednesday, February 15th, Dr. William G. Mangold, aged fifty-four years.

Phelps.—In Norwich, New York, on Monday February 6th, Dr. Robert H. Phelps, aged forty-two years.

Reed.—In Atlantic City, New Jersey, on Sunday, February 12th, Dr. Thomas G. Reed, aged seventy-two years.

Rynard.—In Harrisburg, Pennsylvania, on Friday, February 10th, Dr. John A. Rynard, aged seventy-two years.

Seymour.—In Westfield, New York, on Monday, February 13th, Dr. George W. Seymour, aged seventy years.

Sheldon.—In New York, on Saturday, February 18th, Dr. Floyd Preston Sheldon, aged fifty-three years.

Smith.—In Philadelphia, on Saturday, February 11th, Brigadier General Joseph R. Smith, Medical Corps, United States Army, retired, aged seventy-nine years.

Tuthill.—In Brooklyn, on Wednesday, February 15th, Dr. James Y. Tuthill, aged sixty-nine years.

Wemmell.—In Brooklyn, on Wednesday, February 15th, Dr. Alexander A. Wemmell, aged sixty-six years.

Wingate.—In Milwaukee, Wisconsin, on Saturday, February 18th, Dr. U. O. B. Wingate, aged sixty-two years.

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Original Communications.

REPORT ON THE TREATMENT OF SYPHILIS BY INTRAVENOUS INJECTIONS OF SALVARSAN.

Bevan, chief, and Experimental Medicine of the College of Physicians and Surgeons, Dr. C. E. Simon, chief.)

BY A. G. RYTINA, M.D.,

Baltimore,

Some recent reports appearing in the American literature regarding the therapeutic value of salvarsan lead one to the belief that it possesses only a doubtful value in the successful combating of syphilis, and at most, should be regarded only as an adjunct to the usual routine treatment of this affection.

If one analyzes these reports carefully, he will learn that the authors have had either very little or no personal experience with the drug, or that they are still desisting from the employment of the intravenous mode of application which Ehrlich for some time has been recommending as the proper way of administering the compound.

In our early experiences with salvarsan, we tried both the subcutaneous and intramuscular injections, and our results corresponded with the adverse reports alluded to in the literature. Since using the intravenous injections, however, our results have been so different, and in most instances so brilliant, that we consider this the only method of applying the drug, and that poor results based on any but this method should be totally disregarded. Up to the present time we have treated, by the intravenous method, about sixty cases, and while sufficient time has not elapsed to speak of the final outcome to be obtained in this series, it might be of interest to show the wonderful symptomatic efficiency of this drug by the intravenous method of application.

We are still carefully observing all our cases where possible, and in due time will report on results concerning recurrences, failures, complications, etc. Up to the present time we have not had any recurrence, and in not a few of our cases good results have been obtained where the usual mercury and iodide cure had entirely failed. In only one patient did the injection fail to produce marked improvement within one week, on which account he was reinjected. Following the second injection the patient immediately began to improve and at the present writing is very much better.

In our present report we propose to detail only the history of the patients who had active lesions, who have been under Wassermann test control. The following is the routine we follow: Heart, lungs, nervous system, and urine are carefully examined; eye examinations in suspicious cases; Wassermann reactions made just before and at varying intervals after the injection. If the reaction is present after the expiration of forty days, or becomes positive after a negative phase, we give another intravenous injection. In the open lesions, spirochætæ examinations are made daily before and after the injection until their disappearance (usually in from twenty-four to forty-eight hours). If they show motility after seventy-two hours, we advise reinjection notwithstanding marked improvement of the lesions, for, according to Ehrlich, salvarsan is specific, and if the spirochætæ do not disappear within from twenty-four to forty-eight hours, one of three conditions obtain: Either the dose has been too small, or there has been defective absorption, or we are dealing with a strain of spirochætæ which are arsenic fast. Before giving the second injection we wait at least one week. This has been found necessary in only two of our cases. Both of these patients had numerous anal condylomata and severe mouth lesions. Four days after the injection the mouth lesions healed, the condylomata became more flat and very dry, but active spirochætæ were still demonstrable, on which account the patients received, three days later, another intravenous injection (0.6 gramme). As is usual, the reaction following the second injection was less intensive than the first. At the present writing (thirteen days after injection), all of the condylomata have practically disappeared in the first case. This patient's lesions resisted the most active mercurial treatment in the last two months. The other patient is progressing finely, the condylomata are very dry and flat, and examination for spirochætæ was negative, although the lesions are still quite visible.

In most of our early cases, the intravenous injections were given by the cannula method, which is exactly similar to the operation done for venous transfusion of normal salt solution. Recently we have been employing the original Schreiber method, reserving the cannula method for those rare cases where the Schreiber method is impracticable. The operation is absolutely painless and free from local reactive phenomena or complications, unless leakage in the cellular tissues occur. This occurred only in one of our early cases.

The reaction phenomena following the intravenous injection are more prompt and more intensive than in the other two methods. They consist of chills, fever (never over 102.5° F.),

throat, thirst, leucocytosis, rapid pulse, etc. We have not observed Herxheimer's reaction in any of our cases, but in several instances have noted eruptive phenomena following shortly after the injection, which promptly disappeared. In only one of our cases did disturbing symptoms develop. This was in a patient in whom severe shock developed, following rapid injection, and retention of urine lasting forty-eight hours. In patient No. 2 we got leakage, which caused much pain and similar local phenomena as follow the intramuscular injection of the alkaline solution. We have noticed that in active cases more marked reactions develop than in the latent types of the disease, owing, no doubt, to the large spirochætæ destruction with consequent liberation of large amounts of endotoxines. Those patients in whom severe reactions develop do better, as a rule, than those whose reactive phenomena are slight. We have not noted any supersensitiveness develop following the second injection; on the contrary, it is less intensive. On this account, if the patient's reaction was not very severe after the first injection, at the time of the second injection he was given as large or a larger dose, often with gratifying results. In one sickly looking patient (weight 110 pounds), with gummata of the testicles and severe headaches, 0.4 gramme caused very little reaction and failed to improve his condition. Reinjection (0.6 gramme) caused very prompt improvement.

WASSERMANN TEST RESULTS.

The Wassermann reaction was investigated before treatment in thirty of the cases. The results are seen in the first column of the accompanying table:

I.

II.

Following the treatment we now have the Wassermann reaction results in seven cases of the series in which a time limit of forty days has been reached or exceeded. The results will be seen in the second column of the accompanying table. From this it is apparent that the reaction has disappeared in 71.5 per cent. of the cases falling under this heading, while in 28.5 per cent. it still persists, or has become positive.

In a disease so protean as syphilis, it would be folly to attempt to predict the ultimate results to be attained by this new drug. It seems certain that Ehrlich's ambition of magna therapia sterilisans has not been realized. It is noteworthy, however, that practically all of the poor results reported have been by the subcutaneous or intramuscular method, and that Schreiber has reported over 800 cases by the intravenous method with only four recurrences and no deaths, complications, etc. In our own series we have not as yet had any recurrences and only one patient had to be reinjected on account of failure of the first injection to produce the desired result. In another patient (No. 4), after marked improvement, the disease became stationary, and he has been advised to have a reinjection. Two patients, as already noted, received a second injection because spirochætæ pallidæ were present after four days, and one received the second injection because after forty days he had a slightly positive Wassermann reaction.

CONCLUSIONS.

From our studies and experience, we feel justified in drawing the following conclusions: 1. Salvarsan possesses wonderful symptomatic efficiency. 2. Intravenous injection is practically harmless, gives rise to neither pain nor complications, and is productive of better results than are obtained by either the subcutaneous or intramuscular methods; furthermore, it produces results more quickly than can be attained by either mercury or potassium iodide, and very often cures lesions where heroic doses of mercury and potassium iodide have failed. 3. On account of its wonderful spirillocidæ action syphilis will be less prevalent and there will be less liability to tertiary manifestations and the development of parasyphilis, after the proper method of treatment has been fully ascertained. Whether this be the "chronic" injection treatment of Kromayer, the combination method of Iversen, injections every forty days as long as the Wassermann reaction persists, or the reinforcement of injections by courses of mercury and potassium iodide, for from six months to two years, only the future can tell.

CASE I. Age, eighteen; single. Initial lesion, August 17, 1910. Indurated chancre surrounding meatus and extending into urethra. Papular syphilide all over body. Phimosis owing to balanoposthitis. General glandular enlargement. *Spirochætæ pallidæ* in large numbers. Wassermann reaction —+—.

November 21, 1910. 0.5 gramme salvarsan injected intravenously.

November 22d. Examination for *Spirochæta pallida* negative. Little reaction. Temperature, 101.2° F. Eruption same.

November 24th. Eruption on arms had almost entirely disappeared and eruption over body disappearing. Inguinal enlargement same.

November 26th. Eruption on arms disappearing. Over body only pigmentation at site of former eruptions seen. Patient could retract foreskin and only scar seen at site of former chancre.

November 28th. Patient felt fine. No recurrence. Wassermann reaction — — .

January 21, 1911. Patient felt fine. No recurrence. Wassermann reaction 0.

CASE II. Age, twenty-one; single.

Initial lesion and secondaries, four years ago. Treatment irregular.

January, 1910. Ozæna, necrosis nasal side of the superior maxilla, progressive ulceration of the inner surface extending to the right margin of the ala exteriorly. Large serpiginous ulcer on right chest. Notwithstanding heroic doses of mercury internally and intramuscularly, and potassium iodide, etc., and local treatment to nose, lesions kept on progressing.

Wassermann reaction — — .

November 21, 1910. 0.45 gramme of salvarsan intravenously.

November 22d. Owing to leakage, for six hours patient had much pain and severe local symptoms. No more pain in nose.

November 22nd. [illegible] decided improvement. Scab on chest had fallen off entirely.

November 28th. Lesions in exterior part of nose were dry and clean, about one fourth former size, and covered by a healthy scab.

December 2d. Report by Dr. Cohen: "The entire ulceration on inside of ala has healed, that on the outside almost healed, being still covered by a small crust which dropped off about December 6th, leaving only a small scar. The interior of nose is now entirely clean, there being no signs of ulceration or crusts at this time. Although nose is not douched regularly, it is perfectly clean and free from odor."

Remarks. Dr. Cohen informs me lesions followed operations on nose, patient at time of operation did not give luetic history.

Case III. Age, twenty-two; single.

Infection September 25, 1910. Indurated sore at meatus, extending into urethra one half inch. Slight œdema of prepuce. General glandular enlargement. Macular eruption on chest, front and back. Examination for *Spirochæta pallida* positive. Wassermann reaction +++.

On November 25, 1910, 0.45 gramme salvarsan injected intravenously.

November 26th. Severe reaction. Temperature, 101.3° F., followed two hours after injection. Chancre smaller, softer, and cleaner. No change in glands. Eruption over body already showed a tendency toward recession.

November 28th. Chancre still improving, about one fourth former size, eruption disappeared, showing now only pigmentation at site of former eruptions. Glands smaller.

December 4th. No signs of any eruption. Chancre entirely healed.

December 24th. No signs of recurrence. Wassermann reaction [illegible]

January 21, 1911. No signs of recurrence. Wassermann reaction 0.

Case IV. Age, twenty-four; married.

Initial lesion one and a half years ago. Previous treatment had been indefinite. Syphilitic gumma of right and left testicle; right, size of pear, associated with hydrocele of cord; left a little larger than normal; both felt very hard. Wassermann reaction — —.

December 5, 1910, 0.5 gramme of salvarsan injected intravenously.

December 6th. Rather severe reaction followed injection. No change in testicles noted.

December 7th. Right testicle seemed smaller. No change in consistency. Left same.

December 10th. Very marked improvement in both testicles, being decidedly softer and smaller. Improvement on left side was so marked that it felt normal in size and consistency.

December 17th. The right testicle was just a trifle larger than normal but consistency very firm. Left normal.

January 11, 1911. Right testicle had remained stationary since last examination, testicles being about the same size [illegible] Wassermann reaction [illegible]

Patient felt fine and considered himself well, on which account he refused reinjection.

Case V. Age, twenty-four; married; female.

Patient denied any knowledge of infection. Had at present syphilitic ulcer on left thigh about three inches in diameter by one and a half inches in depth, of eight months standing. Had been taking mercury and potassium iodide all this time. Wassermann reaction +++.

November 13, 1910, 0.7 gramme salvarsan injected intravenously. (Dr. White.)

November 14th. Marked prostration, vomiting, and urticarial eruption over face and neck followed injection. Temperature, 102.4° F. Blood pressure after injection 95. Leucocyte count 22,000.

November 24th. Ulcer healing rapidly.

December 5th. Ulcer completely healed.

December 10th. Wassermann reaction 0.

Case VI. Age, twenty-one; single.

Initial lesion of three weeks' duration consisting of two typical indurated sores at under surface of prepuce. General glandular enlargement. Examination for *Spirochæta pallida* positive.

December 5, 1910, 0.5 gramme salvarsan injected intravenously.

December 6th. Chancres showed marked improvement, being smaller, cleaner, dryer, and less indurated. Exam[illegible]

December 10th. Smaller chancre healed, larger about one third former size. Glands in inguinal region smaller. Examination for *Spirochæta pallida* negative.

December 15th. Chancre had entirely healed. Glands in groin still a little enlarged.

January 16, 1911. Patient felt fine. Had few herpetic eruptions behind corona. Had had herpes before chancre appeared.

January 21st. Wassermann reaction +.

January 26th. Intravenous injection, 0.6 gramme salvarsan.

Remarks. While patient felt fine, had gained in weight, and no secondaries had developed, he was given second injection because after forty days there was still a slight Wassermann reaction.

Case VII. Age, thirty-one; married.

Initial lesion, July, 1910, followed by secondaries. Following treatment eruptions over body disappeared but lesions in mouth persisted consisting of mucous patches over the tongue and inner lip. Both tonsils and posterior pharyngeal walls showed one mass of ulceration, covered by a thick, whitish, exudation. Deglutition very painful. For the last four weeks large doses of protiodide hypodermic injections of salicylate, and potassium iodide. Lesions progressing. Examination for *Spirochæta pallida* positive on numerous examinations. Wassermann reaction —.+.

December 8, 1910, 0.5 gramme of salvarsan injected intravenously.

December 10th. Lesions in throat not improved. Numerous patches on tongue and inner lip improved. Deglutition painless.

December 11th. On right side lesion about half healed. Left side showed decided improvement, but not so marked as on right side. Numerous patches on tongue and inner side of lip entirely healed. Examination for *Spirochæta pallida* negative.

December 12th. Right side practically healed and left side granulating nicely.

December 16th. Throat entirely healed.

December 24th. No recurrence. Wassermann reaction

January 21, 1911. No recurrence. Wassermann reaction 0.

As can be seen at a glance, improvement was marked and prompt in every case. The Wassermann reaction became negative in Cases I, II, III, V, and VII. In Case IV it had persisted. This patient's gumma at the beginning showed decided and progressive improvement, but in the last two or three weeks it remained stationary. He refused reinjection.

Patient No. 6 had two chancres, which promptly healed following the injection, and while secondaries did not develop, a beginning positive Wassermann reaction caused us to advise reinjection, which he received on January 26, 1911 (0.6 gramme of salvarsan intravenously).

[illegible]

OILY SUSPENSIONS OF SALVARSAN

[illegible]

New York.

The reference to injections of an oily suspension of salvarsan in my paper on Salvarsan in Syphilis[1] has evoked so many inquiries from all parts of the [illegible] suspension and the technique of the injections that it seems desirable to publish them in full.

tage of the method consists in the saving of time by having the suspension ready at hand, just as we are in the habit of keeping a supply of the suspensions of calomel or of salicylate of mercury, it is advisable to prepare a larger quantity of the suspension at once. I place the contents of ten ampoules of salvarsan into a sterile mortar and thoroughly triturate the powder with a small portion of 15 c.c. of iodipin (10 per cent.), which has been measured out, reserving some of the iodipin to enable me to work the thick oily mass into a sterile dark glass, glass stoppered bottle. Mortar, pestle, and oil should be warm.

Ten ampoules of salvarsan contain a little more than six grammes of the drug. This quantity in 15 c.c. of iodipin makes approximately a forty per cent. suspension, and 1 c.c. contains therefore about 0.4 grammes of salvarsan. It is desirable to have this high percentage, as thereby we are enabled to inject a sufficient dose of the drug in a relatively small volume of oil, an important matter from the point of view of pain to the patient. In general, it may be stated, that the larger the volume of the injected mass the greater the damage to the tissues and the greater the pain. The suspension so prepared is sterile, the iodine of the iodipin keeps it sterile, and there is no reaction between the salvarsan and the iodine, which might deleteriously affect the salvarsan. It might be kept indefinitely.

The syringe. The syringe used for the injection should be entirely of glass. I use a Luer syringe and a seventeen gauge needle about one inch in length. The syringe and needle should be sterilized by dry heat, as the least trace of moisture is apt to lead to clogging of the piston. I enclose the syringe, with a couple of needles, in a large test tube, plugged with cotton, and sterilize for twenty minutes at from 150° to 180° C. An ordinary kitchen oven, hot enough to slightly brown a piece of white paper, may take the place of a special sterilizer. Before sterilizing, after having used the syringe, every trace of the oily suspension must be removed from it with the greatest care by means of benzine, chloroform, or ether, else the heat will carbonize the remnant and spoil the syringe.

Site of the injection. Meltzer has called attention to the fact that in the gluteal region we have several layers of rather flat muscles, and fluids injected in this region may readily come to lie between two such layers rather than within the body of a muscle. For this reason he has recommended that the intramuscular injections of salvarsan be made into the large muscle masses in the lumbar region. I have made my injections, as a rule, in the erector spinæ muscle at the level of the third or fourth lumbar vertebra. With a pencil I mark the line of the twelfth rib, the crest of the ilium, and the middle line of the back. The injection is made about one inch to one side of the middle line, about midway between the crest of the ilium and the twelfth rib, this region having first been sterilized by painting it with tincture of iodine.

The injection. The patient lies face down on a table, with a cushion under the abdomen, as for a nephrotomy. The syringe and the bottle containing the suspension are heated and the bottle well shaken. To insure a thorough mixture of the suspension I draw it up into the syringe and eject it with force into the bottle several times. The syringe being filled the needle is now inserted with a swift motion into the site selected for the injection, at an oblique angle from above downward, so that the tip of the needle is about one half to three quarters of an inch vertically below the surface of the skin. A moment's pause will show whether or not the tip of the needle happens to be in the lumen of a bloodvessel; if it is, blood will flow and the needle should be reinserted. Neglect of this precaution might lead to a fatal issue. The springe is then connected with the needle and the injection made slowly. If the fluid clogs the needle the latter may be freed by running the stylet of the needle through it. The stylet should therefore be laid on a sterile towel when it is withdrawn from the needle so that it may be clean should occasion arise for its use.

One cubic centimetre of the suspension having been injected the needle is withdrawn, the skin at the side of the puncture being steadied by the finger, and firm pressure is applied by means of a sterile compress the instant the needle is withdrawn. Steady pressure should be maintained for several minutes to prevent possible bleeding from the puncture or regurgitation of the injected fluid. The puncture is then sealed with collodium.

The effects. The immediate pain attending the little operation is insignificant; it is not greater than that of an injection of salicylate of mercury. If, however, the injected fluid has been badly placed—not in the body of the muscle—or if some of it has escaped into the connective tissue, there is considerable pain and induration. I have made most of these injections in my office or in the dispensary, the patient going home after the injection. My instructions are that he should keep quiet—not necessarily in bed—for a couple of days. If he does any work requiring stooping, climbing, or lifting within a day or two after the injection there is often severe pain which may last four or five days. With hospital patients who remain quiet after the injection, there is practically no pain at all, only a slight feeling of soreness or tenderness on pressure. A physician to whom I gave an injection told me he had a sensation like that of a mild lumbago for a week. If there is much pain it may be taken for granted that the injected mass, through carelessness or accident, has been badly placed, or that the patient has hurt himself by putting too great a strain on the muscles of the back.

Results. The therapeutic effects of these injections are fully equal to those of the subcutaneous or intramuscular injections of the drug. Whether they equal those following the intravenous injections I do not know; one can make these comparisons only after hundreds of cases have been observed. No doubt the intravenous is the most comfortable method for the patient, and it is also probably the most efficient. The theoretical assumption that the absorption and therefore the action of the drug is slow in the oil method is not justified by experience. I have seen macules and papules disappear in three or four days, pemphigus in an infant vanish in an equal period (0.015 gramme of salvarsan), tubercular serpiginous lesions heal with

the usual promptness, a patient who could swallow only fluids eat solid food within four hours after an injection. I have had a number of Wassermann reactions become negative after the oil suspension injections. The injections may be repeated a number of times, care being taken in the successive injections to avoid the exact site of the previous one. One patient with syphilitic epilepsy has had four injections.

I make no "claims" for this method; I am trying it. Its effects are certainly good, and it has the merit of great convenience and simplicity compared to the other methods of using this valuable drug.

51 East Sixtieth Street.

DIET IN HEART DISEASE AND ARTERIOSCLEROSIS.

By Louis Faugeres Bishop, A. M., M. D.,
New York,
[illegible]

It has seemed to me that of late years the relations between the heart, bloodvessels, and kidneys have become much clearer, and the fundamental importance of food in all its stages has been very positively established by the laboratory.

The problem that confronts us in the care of patients with tendencies toward cardiovascular disease reduces itself in a great measure to regulation of the amount of protein food while, at the same time, supplying the needs of the body. It is easy enough for a few days when a person is acutely ill to feed him on a single article of diet which excludes some particular element, but for a person who considers himself well and is warding off illness by a particular regimen, or for a long illness, that will not do.

For regulation of food, we must fall back upon the information that is given us by chemists. In doing this we are only following the lead of what has been done in many other departments of life: agriculture is now conducted on a chemical basis with the result of doubling the efficiency of farms; animals are fed according to scientific principles with the result of great profit; in the arts and manufactures chemistry has absolutely revolutionized the procedures of former years. The achievements of chemistry read like a fairy story. How foolish it is, therefore, to disregard the teachings of chemistry in our own bodies, which are nothing in the world but complicated laboratories!

The management of heart disease and hardening of the arteries pertains, in a great measure, to regulation of food. I have a patient now in my private hospital—as a result of the abuse of protein food—a young man in whom heart, bloodvessel, and kidney diseases have developed as the direct result of eating enormous quantities of meat. His wife told me that it was not uncommon for him to eat six chops at a meal or four or five pounds of beef. A very intense intestinal putrefaction developed, the products of which were absorbed into his blood, poisoning his heart so that it did not beat more than forty times to the minute, damaging his kidneys and poisoning his nervous system so that he was in a terrible state of nervousness and depression. This is an extreme example of proteid poisoning; in lesser degrees we meet it every day in the week.

Now, while protein food is harmful in excess, it is also necessary in moderation. It is found, however, that a healthy person does not need more than ninety grammes of protein food in a day, and that he can get along fairly well if he does not go below fifty. Protein food is very important in building up the tissues, strengthening the muscles, and stimulating the activity of the brain and the emotions. It is the food that produces great leaders and brain workers, but it is also a food that, in the present day, is terminating prematurely some of the best lives in the nation.

For all these reasons, when, on account of threatened danger to various organs, protein is reduced, the power of the food to produce heat, energy, and so forth by other means must be considered. Chemists have measured the property of food with respect to its production of heat and energy and have measured it in terms of calories, and it is found that the average person needs 2,000 calories or more. So we have sort of a puzzle to supply the necessary calories without exceeding the protein allowance.

When we come to examine food, we find that it is easily divided into two classes: the class in which proteid is most abundant, and the class in which cereal is most abundant.

In devising a diet for heart disease and its related conditions, arteriosclerosis and kidney degeneration, we may, in many cases, accomplish a good deal by the simple method of reducing the quantity of food as a whole, without paying much attention to its quality.

When the kidneys are healthy and competent and there is no chemical reason in the intestinal tract for diminishing proteids, an ordinary mixed diet in proper quantities is all that is required. Indeed, there are certain cases when proteids may be increased.

The carbohydrates are necessary in all cases in the long run because they principally supply the carbon which is constantly being given off by the lungs in the form of carbon dioxide. If the carbohydrates are not supplied, exhaustion soon ensues.

The question of fluids in heart disease is an important one. Indeed, I have often seen the circulation markedly improved by the simple withdrawal of an excess of fluid. A perfectly healthy person soon eliminates an excess of fluid taken into the body, but that is not true in disease. The overloading of the system with water puts an extra burden upon the heart, and in disease leads to very serious results; this is particularly true in cases of broken compensation.

In acute heart disease, the simplest and best diet to begin with is a milk diet, but that must very soon be supplemented by other simple and nutritious foods.

In chronic heart disease the quantity of food should be reduced to what is necessary for the maintenance of the body, the weight, and strength. The food should be divided into five small meals, the largest meal being taken in the middle of the [illegible]

In considering a specific choice of diet in heart disease, we must divide the cases sharply into two classes. There are those cases in which, on account of a lesion of the heart of a mechanical nature, the welfare of the patient depends upon the maintenance of a healthy heart muscle, able to do an extra amount of work. In these cases the problem is the same as that presented by patients suffering with tuberculosis or any other condition where the maintenance of health depends upon the maintenance of resistance. In these cases diet must be reasonable, but there is no necessity for careful chemical observation.

The second class of cases, and the one which we wish to consider, is that in which the heart trouble is part of a general cardiovascular disease, and it is of chemical, or, at least, toxic origin.

Food is the great object of the chemistry of the body, and when we once recognize a disease as chemical in origin, we are of necessity driven to a close consideration of food.

There seem to me other reasons for a close consideration of protein food. In the first place, protein substances have a great deal to do with intestinal putrefaction, which itself is the chief cause of arteriosclerosis, and of itself secondary to cardiac damage. In the second place, the organs of circulation, particularly the kidneys, when diseased, have difficulty in dealing with protein substances.

On the other hand, protein food is that which gives strength of will and energy of mind, and also gives tone to the organs of the body.

The other foods supply fuel to keep the body warm, and the machinery running, but do not improve the resistance of the body in its constant warfare against disease and degeneration. Illustrations of this fact are found throughout medicine, from the youngest, where the condensed milk fed baby, though fat and handsome to look upon, easily succumbs to disease, to the old person with Bright's disease existing on a milk diet, but losing energy from day to day.

It was a happy expression that I saw in a newspaper the other day, in connection with a prominent man who had dropped dead. It was said that the man had died because he had "subsisted on a wrong ration."

Just as surely as an automobile engine will stop or run badly if the mixture in the carburetor is wrong, so surely will a human being drift into disease and perhaps perish if his food supply is not properly balanced, with regard to his condition and the demands upon him.

Put a ten cent piece in a letter addressed to the superintendent of documents, Government Printing Office, Washington, D. C., and ask him to send you *Bulletin* 28 on The Chemical Composition of American Food Materials. With this before you, and in addition the following principles, it is easy to work out a rational dietary.

The principles to be remembered are that an adult requires from fourteen to twenty calories to each pound, according to the amount of work he does. The weight is to be estimated by the normal weight of the height of the individual; for instance, a person five feet seven inches tall ought to weigh 150 pounds. At light work, he would require an average number of heat units per pound—seventeen, or 2,550 calories. If a healthy man has more than this, he will accumulate fat; if he has less, he will run down.

The average man must have, at least, fifty grammes of protein food, at moderate work, or else he will degenerate in will, and the integrity of his organs will be undermined. If we could neglect the protein element, all that a person would have to do, in order to get enough heat units, would be to eat a large quantity of food. However, to keep the protein content of the food right and yet supply enough heat units requires a modification of diet analogous to feeding a child with modified milk.

Carrying firmly in mind the protein question and the heat unit question in the presence of symptoms of heart disease or arteriosclerosis, we limit the protein content to fifty grammes using tables of analyses of foods.

Roughly speaking, but with sufficient accuracy for practical purposes, an average helping of meat contains twenty-five grammes of protein, or, to be more accurate, a cubic inch of beefsteak, beef or fish, contains eight grammes; an egg contains eight grammes, as does also a glass of milk. An ordinary helping of rice, potatoes, bread, or hominy contains about four grammes of protein. Thick cream, butter, or oil contain no protein practically and are very rich in heat units. Green vegetables do not count one way or the other.

The number of heat elements in the average helping of food is not so easy to remember because it varies more or less, but, aside from the tables, you can count on getting about 500 heat units with the purely protein elements of food, such as meat, eggs, oysters, and so on, and you can count on getting about 150 heat units in each average helping of purely cereal food.

A very clever older physician said to me not long ago that advances in medicine consisted, in a great measure, in finding new reasons for doing old things, though he acknowledged that the old things were done much better with the new reasons. So it will be found that one helping of meat a day and one egg for breakfast, and a single helping of the other forms of food that are offered, with plenty of butter and cream, will not figure out far wrong from theoretical requirements.

In cardiovascular disease milk sugar is a very valuable addition to diet for many reasons.

A sufficiency of calories can be judged by watching the weight of the individual. If the weight is maintained, the heat supply is certainly sufficient.

It is not so easy to judge of the sufficiency of protein supply. It is so hard to tell whether a deterioration of condition is due to protein starvation or to the disease. However, if your patient is suffering from serious hardening of the arteries and kidneys, with heart trouble, and is getting fifty grammes or more of protein a day, the chances are that the deterioration is due to the disease and not to protein starvation.

A great trouble of chemical regulation of diet is the confusion of ordinary and technical measures. However, much the metric system may be valued by chemists, it has never become an integral part

of Anglo-Saxon knowledge, so common measures must be used.

A simple diet, handed to me by one of my patients for mathematical analysis, and which figured out about right, was as follows:

[illegible]

1 cup of [illegible]		
2 slices of mush[illegible] on toast		
2 tablespoons of tomatoes		
Plate of endive and lettuce [illegible]		
1 saucer of rhubarb.		
[illegible]		
Dinner:		
Plate of vegetable soup.		
3 tablespoons of stewed tomatoes.		
Large tablespoon of potatoes		
Large tablespoons of beans.		
2 tablespoons of Indian pudding		
Lactose with each meal	300	
[illegible]		
Total for [illegible]		
JANUARY 21ST.		
[illegible]		
[illegible]		
small [illegible]		
2 slices of toast		
1 cup of weak coffee.		
[illegible]		
2 large fried [illegible]		
2 tablespoons of [illegible]		
1 plate of cabbage and lettuce salad	125 (oil)	
2 tablespoons of [illegible]		
1 cup of weak tea.		
[illegible]		
1 plate of vegetable soup	50	3
3 small slices of [illegible]		
2 tablespoons of potatoes	220	4
2 tablespoons of spinach.		
1 plate of scallop and lettuce salad	140	4
small piece of [illegible]		
1 small piece of [illegible]		
Lactose with each meal	300	
Total for [illegible]		
JANUARY 22D.		
[illegible]		
[illegible]		
1 plate of vermicelli soup	120	4
4 small potatoes	200	4
[illegible]		
3 stewed onions	100	4
[illegible]		
[illegible]		
small slices of [illegible]		
[illegible]		
1 cup of [illegible]		
2 tablespoons of [illegible]		
2 slices of bread	230	
Plate of lettuce [illegible]		
1 cup of weak tea		
Ice cream	32	
Orange cake	23	
[illegible] with ex[illegible]		
Total for [illegible]		
JANUARY 23D.		
[illegible]		
[illegible]		
3 tablespoons of macaroni	100	3
2 tablespoons of spinach.		
2 small slices of bread	230	8
1 plate of lettuce and endive salad	125 (oil)	
[illegible]		
Slices of cheese		
1 cup of weak tea.		
Dinner:		
Large plate of [illegible]		
3 tablespoons of macaroni	100	3
[illegible]		
[illegible]		
3 slices of bread	230	8
[illegible]		
[illegible]		
[illegible]	

and a cow at close range, the eyes were not considered in any way defective. No treatment has been attempted, except, perhaps, some home remedies. Even during the Napoleonic period, had the disease affected the same class of society, governments would not have interfered. The landlords would not have permitted any attempt at isolation of the affected, such course would have reduced their working force. But, as it happened the disease spread among the army, touching the very vitality of the nation, reducing its fighting force, and of course the governments found it necessary to consider the matter seriously and employ physicians to investigate the subject. It is this incident that brought trachoma to the notice of the profession and has been diligently studied ever since. Trachoma has thus become an interesting subject for study. With the advancement of science and culture, with the establishment of compulsory education, with the development of humanitarian ideas, with the investigation of the social and economic status of the poorer classes, trachoma has become in some countries an acute problem. It was also necessary that the youth of the country be free from this disease since they constitute the protective and fighting force of the nation, and since the military recruits were taken largely from the rural district, it at once became imperative that even the rough and unclean rural districts must be free from this disease, hence the interest of governments in the cure of trachoma. That the armies of the world are not yet free from this disease, can be seen from the following appended statistics:

UNITED STATES ARMY.

The following statistics only are on file in this office regarding trachoma in the United States army:

Year.	Cases.	Discharges for disability.	Equal ratios per 100,000 of mean strength as follows: Cases.	Discharges.
1905	22	4	39	7
1906	29	8	51	14
1907	40	4	74	7
1908	47	3	72	4

This disease is not on classification prior to 1905.

UNITED STATES NAVY.

1. It is a cause for rejection in persons desiring to enter the navy in any capacity.

2. The occurrence of the disease in the service is shown in the accompanying table.

3. The disease is only seen in its earliest stages in the navy and is treated by expression, followed by bichloride of mercury wash, and by the use of copper sulphate. Precautions are also taken to prevent its spread.

There are no cases recorded in which the disease has necessitated discharge from the service for physical disability.

Year.	Average strength of navy.	Cases: Afloat.	Shore stations.	Hospitals, N.	Hospitals, R. A.	Sick days.
1902	31,240	5				13
			1			3
				0	3	95
1903	37,248	2				24
			1			3
				0	0	0
1904	40,555	7				30
			2			7
				1	3	98
1905	41,313	2				1
			2			40
				1	2	64
1906	42,529	2				13
			1			67
				0	2	145
1907	49,330	4				27
			2			20
				1	2	220
1908	52,013	1				9
			5			27
				1	1	304

AUSTRIAN ARMY.

Year.	Number of cases.	Mean strength.
1902	1,030	296,913
1903	1,375	291,869
1904	1,361	291,975
1905	1,003	283,558
1906	1,220	280,033
1907	1,278	285,455

BAVARIAN ARMY.

Year.	Number of cases.	Mean strength.
1900	3	62,326
1901	8	63,528
1902	17	65,102
1903	4	64,240
1904	0	64,779
1905	0	64,707
1906	0	65,522
1907	0	66,156

DUTCH ARMY.

Year.	Number of cases.	Mean strength.
1900	3	26,170
1901	3	25,845
1902	4	24,925
1903	0	28,357
1904	0	28,396
1905	2	28,399

ENGLISH ARMY.

Year.	Number of cases.	Mean strength.
1902	0	254,357
1903	3	242,182
1904	3	244,425
1905	9	240,075
1906	20	230,128
1907	38	217,844

FRENCH ARMY.

Year.	Number of cases.	Mean strength.
1901	91	488,133
1903	66	493,583
1904	56	479,957
1905	60	490,007
1906	87	512,210
1907	51	496,422

PRUSSIAN ARMY.

Year.	Number of cases.	Mean strength.
1901	264	520,571
1902	249	537,077
1904	194	529,427
1906	180	533,783
1907	174	530,580

RUSSIAN ARMY.

Year.	Number of cases.	Mean strength.
1901	7,201	1,048,327
1902	6,655	1,058,042
1903	6,710	1,082,485
1905	7,330	1,205,545
1907	6,621	1,285,772

SPANISH ARMY.

Year.	Number of cases.	Mean strength.
1903	1	70,[illegible]3
1904	0	85,77[illegible]
1905	0	79,7[illegible]
1906	0	78,5[illegible]8
1907	0	81,[illegible]55

In our own country, the navy is practically free from this disease. In 1908 there were only eight cases reported, all of a mild character, none of them necessitating discharge from the service on account of physical disability. The army is not so free from this disease as may be gathered from the table on page 408.

In 1908 there were forty-seven patients with trachoma in the United States army, three of whom were discharged for disability.

Trachoma at present is endemic to every country and in some places constitutes quite a serious problem, the solution of which is not an easy matter. However the problem is mostly a rural problem, and not a city problem. Most large cities may be said to be practically free from any danger of trachoma. To be sure, there are some cases mostly of a mild nature, although occasionally of a serious character, in the various clinics of larger cities, but the percentage is comparatively speaking very small, and the infection is not spreading to any noticeable degree. In many clinics of large European cities the trachoma cases are usually supplied from the rural districts and small towns. Trachoma, thus, is not a city problem. The reason why large cities are comparatively free from this disease, must be found in the following explanation: The inhabitants of a large city have acquired to a certain extent a little knowledge of hygiene. Cleanliness is a common city virtue. In the poor districts of the city, while conditions are apparently not what they should be, yet, even there, the people keep their hands and faces approximately clean. City life demands that the people wash their faces and hands at least once or twice daily, while the majority of the population observe strict bodily cleanliness. In the city the people are informed of the necessity of consulting a physician at an early stage of their disease and in a vast majority of cases they heed this information. There are no difficulties in reaching a physician in large cities, and even specialists in different branches are numerous. When the affected is poor, unable to pay for medical service, he can easily obtain the same gratis, for cities are filled with hospitals and free dispensaries situated within walking distance of nearly every home, so that there can be no neglect or delay in attempting to cure the condition, unless it be the indifference of the patient, an indifference that is rarely found in the city. Even in the trachomatous countries it is of interest to note that the large cities are for all practical purposes free from this disease. Russia may be a hotbed for trachoma, yet St. Petersburg is not at all alarmed. In Hungary, trachoma is very prevalent in some rural districts, but Budapest has very few cases. In certain parts of the German empire in East Prussia, trachoma is a menace to the welfare of the state, yet Berlin is practically free from the disease. According to Professors Hoppe and Hirschberg the eye clinics in Berlin have only about one per cent. of trachoma, and seventy-five per cent. of the patients come from the rural districts, so much so that when these men were asked to study the disease, they found no material in Berlin, and had to go to the rural districts of East Prussia to make their observations. The cases seen at the clinics in Berlin are of a very mild type, of chronic nature, and not very contagious. The conclusion one may reach from this observation is that large cities are not conducive to the spread of this disease, except it be in prisons, barracks, boarding schools that do not observe hygenic rules. It is well, however, to emphasize the fact that even there trachoma is rare, and does not spread among the inmates.

Trachoma is a country disease, and affects certain districts where the disease is permitted to thrive. If we take East Prussia, for example, we can readily understand why the disease there is a menace to the state, why it spreads, why the problem is a difficult one, and why the government is practically helpless in its endeavor to stamp out this disease. Social and economic conditions must be taken into consideration. In some of the districts, according to Professor Hoppe, there are very few physicians. In the district of Johannesberg, for instance, there are four physicians to a population of 50,000 residing within an area of 1,680 square kilometres. The difficulties to reach a physician under such circumstances are obvious. One has to travel from ten to fifteen miles to see a physician. The transportation medium in these affected districts is neither trains nor electric cars, but one must either walk or travel on a wagon, which practically means to lose a day or two, every time one has to consult a physician. Add to this the question of the necessary expense for physician and medicine, and the difficulty only multiplies. Trachoma requires daily treatment, or at least three times a week, which, under the difficulties mentioned, becomes an absolute impossibility. Those affected with the disease, are mostly the poor working men of the landlord, and they would not allow the affected to lose much time for the treatment of such a disease as conjunctivitis. The result is plain, neglect, no treatment until the disease has produced changes in the tissues which markedly reduce the visual acuity. Even this reduction is not markedly perceived by the people, for indeed they can still see crude objects necessary for their occupation, and so the condition goes on from bad to worse, causing eventually partial, and occasionally even total blindness. Sanitary conditions there is an unknown quantity. These men live in little huts made of lime, the flooring is also made of lime. One little window which is really only an opening tightly closed during the winter, supplies the ventilation. Many of them sleep in the stable. Bathing, or even washing hands or face, is a rarity indeed, except perhaps on a Sunday. Many of them are packed together in one room, the chickens occupy the same room, and under the bed is to be found, in the process of fermentation, the supply of potatoes for the winter season. This, in brief, is a graphic picture of the social, cultural, and economic condition of the districts that constitute the primary source of trachoma.

How are governments trying to combat this condition?

The various governments of Europe have instituted in these trachomatous districts a system of ambulatory hospitals. I have a vivid picture still in mind of this unscientific and uneffective system. Physicians are sent to these districts. They travel from village to village, for the purpose of eradicating this disease. The village inhabitants are notified when the physicians come, and many of them apply for treatment. In many cases, local applications are made by the physicians, in others, the physician merely prescribes. Where prescriptions are given, they are very often not filled either for lack of funds or on account of the difficulties they have to overcome in having them filled. For while there are saloons in every village, the drug stores are as rare as the doctors. One has to travel miles to find a drug store. But even where local applications are made, the treatment is entirely unsatisfactory. The physicians remain only two or three days in one place, occasionally one or two weeks, which is not sufficient even where operative measures have been employed. Some of the more informed unfortunates supply themselves with the copper sulphate stick, and treat one another. The children in the schools are given over to the teacher for treatment. Of course this is the best the government can do under the existing economic conditions, and is productive of some degree of success as can be seen from the reports of Hirschberg and Hoppe. But the method employed is entirely inadequate to meet the gravity of the situation. These trachomatous districts will remain foci for infection until better economic and social conditions will prevail. More doctors, more drug stores, free and accessible clinics, a better appreciation of hygienic measures, the frequent use of water externally, are essential for the elimination of this disease from those districts.

From what we have observed, the question most prominent in our minds, is are we in America in danger of a possible trachoma epidemic? Is there any necessity for stringent measures on the part of the government, city, State, or federal, against trachoma? To these questions, considered purely from the scientific point of view, we are forced to give an answer in the negative.

Trachoma in this country, and especially in Philadelphia, does not constitute a problem that requires governmental interference. We are fortunately, economically, socially, and financially, on a higher scale of civilization. Whatever else may be desirable in our process of advancement, this much is sure that we have all the facilities that medical science can invent. All we need is a campaign of education to bring the matter intelligently before the public. Trachoma in this country must be stripped of its horrors. It is only slightly contagious by direct contact, and a knowledge of prophylaxis is of course desirable. The layman must not be unnecessarily alarmed, neither is it necessary to create hatred against the foreigners, because of their inability to cope with this disease in the old countries. Nor should we apply the methods of European governments in dealing with this disease.

In this country, and especially in Philadelphia, we are not confronted with trachoma but rather with a trachomaphobia. This is a peculiar nervous affection, affecting some members of our profession who go into hysterical convulsions every time they see a few granules on the lids of a foreigner. In fact some of them distinguish trachoma from granular conditions of the lids by means of race and religion of the individual. What is considered a simple granular or follicular condition of the lids in an American, as seen in cases of errors of refraction and in anæmic patients, is diagnosticated as trachoma in a Russian Jew. The fact stands, however, that careful examination reveals the interesting fact that we have very few cases of trachoma in Philadelphia. Those seen in clinics and in private practice, are old cases, and no more infectious. The new cases are of a very mild nature. Trachoma in this country is not on the increase. Considering the fact that the great stream of immigration to this country was chiefly between 1884 and about 1900, and that at that period the trachoma was not in the list of deportable diseases, so that all patients with trachoma were admitted, and considering further the fact that trachoma is still an infrequent condition, one is inclined to the conclusion that the disease in this country, under civilized surroundings, is not contagious to any extent. I am convinced that its contagiousness has been overestimated. The Trachoma Commission in Philadelphia in its yearly report on the progress of trachoma, has the following amusing and tragic recommendation: 1. Medical inspection of schools and homes should be established. 2. Medical inspection of alien employees should be undertaken. 3. The introduction, in the next legislature, of a bill declaring trachoma a quarantinable disease, such quarantine to be at the direction of the proper health authorities. 4. The subsequent introduction, in the same legislature, of a bill to establish a State trachoma hospital in or near Philadelphia to be equally accessible to the port and the coal and iron regions. 5. That this Trachoma Committee be continued with power to act in carrying out these recommendations.

I do not think that these recommendations shed enough glory upon the great profession of a democratic country. Neither are they compatible with good reason. Examination of school children is the only reasonable recommendation of the Trachoma Commission, a thing already in vogue in Philadelphia.

The examination of alien employees, without qualification, is a matter of less scientific import. One cannot help thinking it to be a stump speech to please the gallery of a cheap theatrical performance. But why only alien employees, why not while you are at it, alien employers, alien business men, alien professional men, alien manufacturers, etc.? Everything alien will perhaps please more a certain class of medical politicians. There is a lack of democracy and equality in this recommendation of disturbing the hosts of the trachoma germ.

One may even, in all fairness, ask why not examine the American employees with the same zeal? In fact since we are at the absurdity, we might bring it to its rational conclusion. Why not examine everybody in the country, alien, naturalized,

and inborn citizens? If trachoma is a dangerous germ, and it requires the strong arm of the law to save the country from an imaginary impending danger, it is only sham science to examine a fraction of the community and allow full sway for its development in another. This is political medicine, but not scientific investigation. It is good expediency, but bad science.

But we reach the height of the absurdity, when we read that at the next legislature a bill will be introduced, declaring trachoma a quarantinable disease. If the Trachoma Commission would spend as much energy in studying this disease in this country, both from the point of view of its ætiology as well as from its therapeutic aspect, as will be necessary to pass such a bill, humanity at large would be more benefited. In European states, where this disease is common and neglected the profession has as yet not considered it advisable to have recourse to such drastic measures. Neither is there any scientific reason for such uncalled for measures. We are not in danger from trachoma. The bulk of the profession does not know its very existence, the cases are very few, and those seen are of a mild character. At best, trachoma is but slightly contagious, so that these recommendations cannot be conceived in any other sense than the desire to create a false impression upon the public, and the political powers that be to achieve a certain end. Of course we realize the assumption of the Trachoma Commission, we can plainly see toward what point their minds converge. Aliens, foreigners, catchy words indeed, with such unscientific methods, the Trachoma Commission intends to go before the legislature of Pennsylvania, asking an appropriation for the establishment of a Trachoma Hospital. A Trachoma Institute for the study of this disease, is indeed necessary and desirable, but such institute must not be controlled by politics. Such institute exists now in Philadelphia. It is too early yet to give a detailed account of the work we are doing. We hope that some philanthropic man, realizing the good that could be accomplished through such an institution will come to our aid, to equip it with modern, necessary appliances for the furtherance of the investigation of this disease, and help us in our endeavor to eradicate this disease from our country. Such an institution would be of national import, and of benefit to all mankind. Science is independent of politics, and can work out its destination better by independent research. *Exaggeration will not add one iota to the proper understanding of this disease.* Science must be calm and always adhere to the truth. Trachoma is now classified among the diseases that is necessary to report to the Board of Health of Philadelphia. There is sane reason for such procedure, so as to determine the number of cases in Philadelphia. Although not every case reported to the Board of Health is trachoma, and the enthusiast will soon learn that some of the reported cases will clear up, which will compel him to change his diagnosis. Several such cases have come under my observation at the Trachoma Institute within the last two months.

To conclude then, let me say, that,

1. Trachoma is a disease not so contagious as it has been thought to be.
2. It is comparatively infrequent in Philadelphia.
3. Usually only mild cases come to our observation.
4. There is no trachoma problem in our country.
5. Trachoma does not thrive in civilized surroundings.
6. Trachoma is a curable disease.
7. Only neglected cases terminate in a reduction of vision.
8. In this country, it never leads to total blindness, except, perhaps, among the Indians.
9. Laws on this subject need not be oppressive.
10. Science makes no difference between employer and employee, between alien, naturalized, or inborn citizens.
11. Trachoma is not on the increase, but rather on the decrease.
12. A Trachoma Institute, for the purpose of investigating the various aspects of this disease, already exists in Philadelphia.
13. And, finally, to create fear among the lay people as to the existence of imminent danger resulting from trachoma, which is purely imaginary, is entirely unscientific and harmful to the best interests of the community.

1617 SPRUCE STREET.

FORECASTS OF MEDICAL PRACTICE IN THE FUTURE?

By T. D. Crothers, M. D.,
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Recently several journals have commented on the gloomy outlook for the doctors in the years to come. The number of physicians is constantly increasing, and disease is decreasing. Longevity is greater every year, and preventive medicine is diminishing the sickness and the diseases that were common a few years ago. Every new advance of science in many ways and in the opinion of many persons, diminishes the practice of medicine as a trade and makes it harder for the physician to support himself and family as he should.

Most people are constantly taught to take better care of themselves, and health books are increasing everywhere, teaching the causes of diseases and how they can be treated and prevented, all this to the disadvantage of the actual work of the physician. It is said that the increasing number of physicians make the annual income less and less. Dispensaries, hospitals, and medical charities all directly concern the work of the practising physician and lower his income. These are the complaints heard in many circles.

In one of the western States it was noted that fifty-seven clergymen withdrew from active practice, the principal reason of which was, they could not support themselves on the salaries paid. Every year a number of physicians drop professional work for practically the same reasons. One author estimates that the average income of practising physicians in the United States is less than $900 a year.

and that of clergymen is between $600 and $700. Of course these amounts are inadequate to maintain professional work in even humble circumstances, to say nothing of the ordinary comforts of life. Physicians, as a rule, spend from $2,000 to $5,000 to secure a professional education and get into practice, and then to receive remuneration on a par with a clerk or muscle worker who has spent little or no money for his life work, is to say the least, discouraging.

In face of these difficulties very strenuous efforts are being made to raise the standards of physicians and make education a longer and more expensive preparation and more difficult to attain. The student should have a literary education, a degree from a college before he begins his medical study; then serve in a public hospital for two or three years for which he gets no returns. He is practically required to spend at least six or eight years of his life with an outlay of as many thousand dollars before he can settle down and practise. Then with the most strenuous efforts and sharpest economy he can barely become a self supporter. No wonder the outlook is depressing.

With the same capital and training in other fields the rewards would be far greater and the comforts and attainments freer from annoyance and vexation.

The recent widely heralded analysis of the conditions of the medical colleges of to-day adds new complications to the practical problem of medical education. If the science of medicine grows less and less remunerative, to insist on greater training and a longer period of preparation to do the work that is less and less fairly rewarded, sounds strange.

In practical life the high grade graduates, who have had the best training that time and money can give, have to come down to the level of the poor half trained physician and compete with him for a bare living, often getting no more and less practice than the incompetent rival. Examples like the following are by no means unusual. A physician recently died in a western city whose education and training at home and abroad cost him over $20,000. He was a very highly cultured man, but for twenty years had had a continuous struggle with poverty. He finally died, leaving nothing more than a small home. He practised medicine for the love of it and was a careful, temperate man. Although his culture was recognized and no doubt he did a great deal of good, yet his success was little more than that of his rivals who were greatly his inferiors. He was evidently trained 'way beyond his day and generation in practical medicine.

There is a revolution coming. Medical education and medical practice occupy a very uncertain position. Quacks and irregulars are doing the work of trained physicians and often receiving more substantial rewards.

The medical profession protests, laws are passed, boards are organized and standards are set up to determine the qualifications and capacities called for. Theories prevail as to what should be the capacity and ability of the man and what his training should be, to enable him to take up the work of medicine. Medical colleges are divided up into two distinct classes, one representing the university with its hospital and laboratory attachments, its exact training extending over years. The other, a group of physicians with more or less imperfect appliances, orally teaching students, personally and by suggestion, with limited laboratory and hospital methods. These are called proprietary schools. If the one represents the highest attainments of practical education in medicine, and the other the lowest, the results ought to sustain this view.

Careful studies of the graduates from these two classes of colleges do not show this supposed superiority. The high grade and long time training does not tell in later life, except in individual instances.

A study of the leading medical men in the country shows that a large percentage comes from the second class schools, and that in some way they have done more for the students and given them greater efficiency than the larger schools. A comparison of 100 graduates from the best medical schools of the country with the same number of graduates from the so called inferior schools brings out the startling fact that the difference at the start is not sustained in later life.

At the end of ten years the success of the students from the inferior schools is fully equal to that of the others, and their position in the community and attainments have been equal if not superior to their more favored cotemporaries.

Evidently something is wanting. The more highly trained students have been unfitted in some way and the less highly trained students have had to make up their deficiency in actual service and life. The latter, going out into the world recognizing their disabilities, are stimulated to make great efforts to overcome them and in this way become very practical students and grow to be strong scientific men. On the other hand the hospital and laboratory students soon realize their superiority in the community and make no efforts to increase it, but settle down into careless indifference and lack energy to take advantage of the opportunities about them.

In the one case the student is surfeited and suffers from mental dyspepsia and egotism. In the other the anæmic, half starved student becomes vigilant, energetic, and voracious to acquire every kind of knowledge that will bear on his life and business. The one becomes a very active growing man, the other remains in a region of satisfaction and contentment.

It is a startling fact that a comparatively few highly trained medical students continue their training in later life and become thorough scientists and leaders; while on the other hand students from the lower colleges who have come up through the pressure of surroundings, circumstances, and stimulus to work, go on for the rest of their lives and attain heights and become leaders through hard work and continuous study.

In all this there is revolution and evolution that is very confusing to many persons. On all sides the inquiry is, what is the outcome? Shall we drive out the small colleges and force students to take an extensive course of training with a degree of perfection when the diploma is secured; or shall we leave the smaller colleges to do the work as in the past, only urging that they grow with the de-

mands of the time? Shall we make arbitrary rules and legislation to prevent the untrained man and the irregular man from practising, or shall we leave the great questions to the evolutionary march of events, only urging that the medical man should be not a doctor with a great number of diplomas and certificates, but a student who practises medicine with scientific enthusiasm, who is above 'pathies and schools?

In this field there is great confusion of opinions and very discordant notes fill the air. One fact seems clear, that medical training at present in both high and low schools is very irregular and confusing. Young men from colleges and from the farms, regardless of capacity, are put through the mills of the colleges, and practically ground out and fashioned or trained according to certain fixed rules. No effort is made to determine the capacity or availability, and much of the training is useless in later life.

In certain directions the progress of medicine is very active. In others there is very little advance. Books and journals represent this most thoroughly. Many branches taught in college are impractical, and the work in larger hospitals varies so widely and is so lacking in conditions that appear in practical life that the student has to be retrained when he gets into practice.

Teachers in colleges are evidently out of their sphere. Surgeons are operating, of inferior judgment, and are obviously incapable of doing good work. Specialists are pursuing branches of medical practice that they are thoroughly incompetent by nature to understand or develop.

Men in the profession are sadly failing, because their motives are not above that of trade and personal gain. Physicians should be teachers in college and out of college, and not surgeon plumbers, or detective diagnosticians, or credulous therapeutists. They should be growing scholars, continuously studying facts and their meanings, and the great principles of cause and effect and the laws that govern both mind and body.

Wherever physicians of that kind appear, the quacks move out and the 'pathies fade away. There is nothing to fall back upon. The physician of the future, no matter what college he comes from, will be a consultant, both in medicine and surgery. He will be trained to decide and act for the best interests of his patrons and along the lines of well ascertained cause and effect.

There will be no trade in this. It will be a profound study of the conditions and causes and adaptation to them. Already studies of preventive and scientific medicine make it clear that a new range of practice is coming upon the horizon, and the physician of the future will be retained the same as a lawyer or counsellor, and his services will be paid for regularly and his work will be advising and consulting.

He will be called in consultation for every possible question of ill health, like a lawyer who is retained by large business firms, looks after all papers, responsibilities, contracts, and matters that have a legal aspect and thus prevents the firm from losses. He will make visits regularly to the homes of his patrons and become acquainted with their home life and habits and advise and correct in questions of danger and peril. He will point out the relations of health and disease and indicate where they join and how disease can be avoided. The consultant with his large family of patrons will be brought face to face with problems that can only be answered by the clearest judgment and best knowledge possible. It will be a laboratory and clinical study with new conditions continually changing.

At present the sick man calls in a half dozen experts to determine conditions and prevent causes that should have been seen long ago; this is certainly stupid to say the least. A wise retainer and consultant of a family would have prevented this long before, and now the confused judgment of men unacquainted with all the facts come in as stupid and impractical. Until the medical man attains this position his work will be desultory and lack the great elements of prevention and scientific accuracy.

Already this has been put in practice in some of the large cities with most promising results, and the patrons are very willing to pay for this kind of help.

If the physician had been a consultant on all matters of mind and body there would have been no Christian Science and Emanuel movement. There would be no proprietary medicines bought and sold for every imaginary condition. Epidemics and endemics would have been checked at the beginning, and the great questions of health would have been settled in the home by the family physician before they attained prominence that required public recognition.

The trained physician who becomes an adviser to every man and woman is the ideal to which practical medicine is rapidly moving.

There is no need of sadness or gloom. The diminished income of the physician, the increasing competition, and the supposed low grade of men who are coming into the ranks of medicine, are all incidents in the great revolutionary movement that is going on. Out of this will come the consultant, who is himself a student constantly growing and becoming more and more efficient, and who will act as a health officer, a mental teacher, a wise judge of physiological laws and the great problems of normal life.

For this he will receive liberal compensation, depending on his judgment and skill. There will be specialists, but they, like him, will be trained along broader lines, and both the science and practice of medicine will evolve into a higher range of living and work. No legislation, no examining boards, no arbitrary college regulation will bring this about. It is a pure growth from lower to higher, and is coming. The problems which seem so distressing to-day of quackery and ignorance will take care of themselves, and the physician has only to go on with greater faith and courage.

The pessimism that sees an over crowded profession with diminishing income and influence is looking down and fails to recognize the great march of events which is crowding out the unfit and bringing to the front the real man, no matter what college he graduates from, or what his diplomas are.

In all educational circles the great question is to find the man and woman adapted for the work, then give him the proper training, and success is assured. It is machinelike education that destroys the personality and lowers the professions everywhere. Make the colleges practical training schools, not exclusive hospitals or laboratories. Break up the narrow materialistic views that would limit everything to machinelike demonstrations. Teach the students that there are worlds beyond the five senses, and that preventive medicine is not limited to germs and chemical reactions and cannot be studied from that point of view alone.

Revolution and evolution should take place in the medical colleges first of all; then we shall have a higher profession with larger promises for the future. Great delusional theories, concerning the laws of disease and its movements, have grown up from faulty medical training. The mind and mental operations have been ignored in colleges, and only recently a few lectures on mental disease and psychiatry have been given. A new realm of medicine as important as that of any other has been ignored and is now occupied by quacks and mental healers. Some of the great evils of to-day are ignored by medical men and left to clergymen and reformers, and as a result the profession is impoverished, depressed, and the very work that it should do is done by irregulars. There is a better day coming. Criticism, unrest, discordant cries of wrongs, and childish efforts to right them, are all unmistakable indications that the new century is at hand, that greater discoveries and greater changes are to be made, and already are outlined in many ways.

We are breaking away from the dull conservatism and arrogance of the past, and medicine is going to lead all the others in one triumphant march long before the century has passed.

THE OPERATIVE TECHNIQUE IN ACUTE SUPPURATIVE APPENDICITIS.*

By Willard Bartlett, M. D.,
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Without desiring to touch upon the controversy as to the operability of acute appendicitis at one period or another of its course, I think it safe to assume that all surgeons now do operate upon all patients if seen early. Some may define "early" in one way, some in another, but for our purpose let it be understood that what follows is intended to apply where the disease is a day or two old and pus exists. Complications are not frequent at this period, and for the sake of simplicity I desire to ignore them altogether. However, they may be as numerous and varied in character when later they do exist that no routine procedure will cover them all; hence, I make no attempt here to deal with them, but simply have in mind an operative method which accomplishes all that is desired or needed in my early cases.

We have elaborate routine procedures of undoubted excellence for many of the operations of choice; as for example in inguinal hernia, where we can take our time and as far as the patient's condition is concerned do about as we please in every particular. It seems then that an emergency such as acute appendicitis frequently presupposes, renders it all the more important that the operator has some method in mind which makes it possible to do all that is necessary for these patients in the shortest space of time with the least amount of damage. However, opinions differ to the extent that all sorts of incisions are used. Removal of the appendix is accomplished as a routine by many, while others positively advocate against it.

The treatment of the stump varies greatly in the hands of those who do remove this small viscus. Some sew up the wound in the presence of pus, while others drain with every conceivable agent, from rigid tube to soft material of many sorts. Some operators flush the abdomen in every instance, others mop wet or dry, while many let the



pus take care of itself. As to walling off the general cavity during the operation, there is the same diversity of opinion; in consequence some excellent surgeons carry out a technique which cannot be utilized within what seems to others the time limit allowable for patients in the dangerous condition often obtaining in this disease. Certain incisions and methods of closure necessitate a long stay in bed, a matter by no means without importance, especially in hot weather and in view of the prevalence of hernia through abdominal wounds which have been infected. In view of these considerations it seems to me of value to recite a simple routine procedure at which I arrived after years of simplification.

1. The abdomen is invariably opened through a gridiron incision immediately over the dull area if one can be made out, otherwise at McBurney's point. It is very rarely the case that this incision has to be enlarged, which can be done, though with slightly greater difficulty than is the case in ordi-

nary through and through openings. My experience has taught me that it is just as applicable to pus work as to any other.

2. Immediate search for the appendix is made, it being my practice always to remove it if it can be found without unnecessary loss of time or disturbance of many adhesions in the presence of a large amount of pus. I do not often go so far as to turn out the head of the cæcum in order to find the appendix, but consider this advisable where this carries with it the adherent viscera which completely surround a collection of pus, to be opened outside of the abdomen at the removal of the appendix. It is rarely my custom to do much or any so called walling off with gauze in the search for the appendix. We long ago learned that intraabdominal tension forces liberated pus toward the opening in the wall rather than in any other direction; on the other hand undoubted harm is done by gauze packs; at the same time ready access to the viscera is interfered with. While in clean work I make a peritoneal autoplasty when working on the appendix or any other viscus covered by peritonæum; in these pus cases I simply tie a strand of catgut around the base of it, including the mesenteriolum and cut it off. Not only does this save time but the appendix and adjacent cæcum are often so indurated and friable that ordinary Lembert stitches will not hold. By way of justifying a search for the appendix in the acute stage, it is hardly necessary to state that a variety of dangerous complications are avoided by its removal. In a very small percentage of these cases a fæcal fistula has made its appearance, but not one has failed to close spontaneously in a few days.

3. Drainage is instituted in every case where exudate is met with. This is most readily and accurately accomplished to my thinking by tying at *its middle* a strip of rubber dam or a ribbon cut from an old rubber glove in the catgut ligature on the base of the appendix mentioned above. This treatment suffices for ordinary cases, although, of course, I am not here dealing with remote pus collections which are infrequent early in the disease and which must be considered as complications not to be dealt with in any simple routine procedure. Drainage is further aided by placing the patient in bed on the face directly after the operation. In a few days the catgut ligature is absorbed and the drain comes out of its own accord.

4. Suture of the deeper layers of the abdominal wall is never attempted unless the muscle splitting incision has been considerably enlarged. The drain practically fills the small dead space resulting from the spontaneous closure of such incisions, thus reestablishing intraabdominal pressure sufficiently for our purpose. In the middle of the skin wound is placed one or two clips at each side of which one half of the rubber drain emerges, its two ends being fastened together by a clip which prevents the possibility of its being drawn into the abdomen. Thus one has practically coapted the edges of an infected wound without any danger of pus retention in the depths or under the skin. After the two drains have been removed at the end of a week the resulting defects in the skin are closed with adhesive plaster and in two weeks after the operation most of these patients are out of bed with a solid abdominal wall and with the skin wound completely healed or almost so.

In easy cases this simple procedure of opening the abdomen, ligating the appendix with its mesenteriolum, and attaching the rubber can be accomplished in a very short time (it has been done repeatedly in five or six minutes); however, difficulty in locating the appendix must correspondingly prolong the operation.

ACUTE AMYGDALITIS.

By Nathan Setiel, M. D.,

Acute amygdalitis is of such frequent occurrence and often so severe and prostrating an affection that it deserves more attention than is usually allotted to it. The specialist is prone to regard it as a local condition only, the general practitioner as a constitutional one. It deserves therefore consideration from two standpoints: First, as a disturbance in the tonsillar region which may or may not be severe enough to manifest itself by other symptoms than those referable to the throat. Second, as a constitutional affection with febrile manifestations, but with mild throat symptoms. Obviously, a proper viewpoint would influence the mode of procedure in the way of therapy.

A detailed examination of an oropharynx will evolve information that is of material service in making a comprehensive study of a case of amygdalitis. Where a tonsil is acutely inflamed, congested, and swollen, there is a reaction within its substance that makes itself apparent on the surface. This reaction is participated in by the follicular epithelium and the connective tissue to varying extents. When the changes predominate in the connective tissue, the infiltration may be so marked as to shut off the follicles, thus preventing any visible secretions from accumulating on the surface, and at the same time increasing the bulk and tension of the tonsil. In such event the secretions, being retained under pressure, are absorbed much more readily into the circulation. Therefore where inflamed tonsils show no surface patches of secretions, we often find more pronounced local and constitutional symptoms. This can be explained by the supersecretions acting as a vehicle to convey the germs and their toxines (streptococcus and staphylococcus) more quickly and deeply, thus bringing them into more intimate contact with the circulation.

In dispensaries conducting a large throat service, one has an excellent opportunity of observing many cases of tonsillar inflammation presenting pathological changes of varying intensities. The majority of such patients have only mild or moderately severe attacks, and may be classified as "walking cases of amygdalitis." These patients receive the usual local and internal medication and in one or two days they have completely recovered. Such attacks of amygdalitis are confined to the tonsil itself, the circumtonsillar structures (anterior and posterior

piliars, uvula, soft palate, and pharynx), escaping altogether or showing only slight signs of involvement. These cases seldom advance to the stage of suppuration, and the local and constitutional symptoms rapidly disappear.

In contradistinction to such cases, we find those in which the patient is overwhelmed by an attack, which, judging by its manifestations, appears to be a toxæmic condition accompanied by a great deal of prostration. On account of the usual abrupt onset with chilly sensations, irregular pains, and marked depression, the term "grippy sore throat" is often misapplied. Under these circumstances the patient must take to bed, and the physician is confronted with a constitutional febrile affection. The symptoms are manifold, but soreness of the throat and painful deglutition are usually not the most prominent ones. Here the general treatment is as important as the local in order to secure a favorable recovery.

Acute amygdalitis as a premonitory or a concomitant condition, is most frequently associated with scarlet fever, diphtheria, and more remotely with rheumatism and endocarditis. In the case of the latter two, its relation to them has not been satisfactorily explained, but seemingly it is not such as to warrant the belief existing in the minds of some physicians that frequent tonsillar trouble is indicative of the patient being a sufferer from rheumatism or that he appears to have a special susceptibility to it. That is swinging the pendulum too far to one side. The relationship is not so intimate and resembles very much that between epistaxis and typhoid fever. While epistaxis is a common forerunner of typhoid, yet in most instances it is a condition by itself and is dependent on some other ætiological factor. The same is true of amygdalitis, which may be a disease by itself or only a symptomatic condition. It should be looked upon as a self limited affection, although its course can be materially shortened by prompt and appropriate treatment and without the indiscriminate use of the anti-rheumatic agents.

How then shall we treat these cases of acute amygdalitis? Regard the case as a fever, with a certain amount of throat ailment. As has been previously mentioned, the patient should be confined to bed in a well ventilated room. The effects of the fever and toxæmia on the general system are thus minimized. As in any febrile condition, a brisk cathartic of calomel at night, followed by a dose of salts in the morning, will start the patient right. The diet should consist of nutritious liquids; milk, broths, and light gruels. For children a mixture of egg albumen and orange juice in milk will be found to be very sustaining. There is always some difference of opinion as to the temperature at which foodstuffs should be given. They are most grateful and efficacious when partaken of cold. Combining with this local cooling effect, hot external applications of flaxseed poultices, wrapped around the neck and frequently changed, may be employed with considerable advantage. The contrasting temperatures of internal cold and external heat add comfort and hasten recovery. There are many who advocate the use of cold externally, but I have failed to note any special results after its use. Where the tonsils are massively swollen so that even the swallowing of liquids is very painful, sucking small pieces of ice for half an hour or so will enable the patient to take some nourishment with ease. The pain, restlessness, and insomnia are best allayed by a ten grain Dover's powder taken at night. The combination of three grains phenacetine, five grains Dover's powder, two grains caffeine citrate, administered in such doses three times daily, will be found to control most of the febrile symptoms. Early in the disease if the temperature is high (over 104° F.), tincture of aconite in two drop doses every two hours will be of service as an antipyretic.

Locally astringent agents of all descriptions have been employed. Silver nitrate is undoubtedly the most efficient and universal remedy. A swab dipped in a twenty or thirty per cent. solution, rubbed several times over the entire inflamed surface, will be followed by a prompt alleviation of the symptoms. Such applications to be of value should be made at least once a day, and the course of many severe attacks will be thus shortened. The hasty practitioner in preparing such applications should be extremely careful to squeeze out the excess of the drug, as the most violent attacks of dyspnœa may ensue upon some of the drug trickling down along the pharynx and into the larynx. Other medicinal agents used, but which are not as efficient as the silver salts, are tannine glycerin, alum solutions, and the zinc salts. I have found tannine glycerin to give good results in milder cases. The local treatment on the part of the patient should consist of cleansing the throat with boric acid, sodium bicarbonate, or hydrogen peroxide, used in the form of a spray. Of these, the peroxide of hydrogen is most effective, for by its cleansing and disinfecting properties it prevents many cases from advancing to circumtonsillar suppuration. Gargles of all sorts have been recommended, but on account of the close approximation of the two anterior pillars during the performance of the act, they fail to touch the seat of the trouble, and are consequently of no service whatever.

2 West One Hundred and Fifteenth Street.

PROLONGED EPISTAXIS ASSOCIATED WITH INCREASED VASCULAR TENSION.

*Report of Case with Complications.**

By Harold Hays, A.M., M.D.,
New York,

[illegible] of the New York Eye and Ear Infirmary.

The epistaxis which is associated with increased vascular tension, differs from the usual nasal hæmorrhages in many particulars. There is a distinct pathological and physiological reason for such a hæmorrhage and the symptomatology is more or less constant.

In my paper on epistaxis read at the New York Academy of Medicine six months ago, I referred to the epistaxis associated with circulatory diseases and divided these circulatory diseases into two groups[1]:

1. Those due to increase in connective tissue

* Read before the Manhattan Medical Society, December 23, 1901.
[illegible] Journal, September 24, 1901.

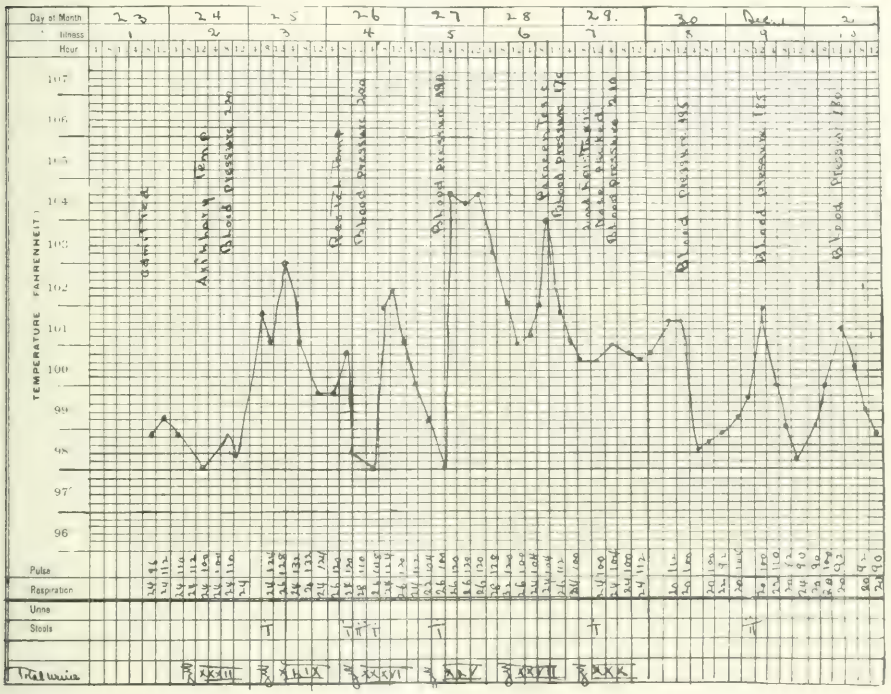
elements in both the myocardial and bloodvessel walls.

2. Those due to some pathological lesion of the heart valves or some congenital deformity of the heart.

In the first group the hardening of the arteries brings about a decided increase in arterial tension. The heart has to work with increased force and, therefore, any hæmorrhage taking place under these circumstances is very likely to be caused either by weakening of the arterial wall, or because nature tries to find an outlet for the overfilled and weakened arteries. Some years ago, the time honored process of blood letting in such diseases produced very beneficial results, and, as an epistaxis is but a minor blood letting, it probably accomplishes, or attempts to accomplish some little good. In patients with hardened arteries, an epistaxis may be considered a premonitory sign of apoplexy and it is a question in some of these cases whether it would not be a wise procedure to open a vein and thus diminish the tension in the cerebral vessels.

The pathological change in the ruptured artery at the point of rupture is the cause for the excessive hæmorrhage and the prolongation of the symptoms. Any vessel may rupture, and unlike many other nasal hæmorrhages, there is no definite rule to follow in locating it. I believe that the commonest location is on the outer wall of the nose, from one of the palatine vessels.

One should be aware of the fact that in these cases, local measures for stopping the hæmorrhage are of no avail unless associated with general measures to diminish the arterial tension. The reason is obvious, but like many other obvious reasons, it is not thought of as often as it should be. In these cases we have a rupture of a bloodvessel of some little size, not a capillary. The walls of this vessel are thickened with connective tissue and often infiltrated with lime deposits. The walls will not collapse readily. Moreover, a constant stream of blood is passing over the ruptured spot with such



force that there is not sufficient time for any appreciable coagulation to take place. Indirect pressure, therefore, as is brought about by "blind" packing of the nose and nasopharynx is the least of the remedies to be applied in such cases. The one exception is in hæmorrhage from [illegible] tum which can be readily seen and controlled by cauterization and pressure. But the rhinologist is doing but half his work when he stops the hæmorrhage in such cases. That hæmorrhage very [illegible] demands the attention of the internist, both to [illegible] patient's general system.

There are a few features which distinguish the

epistaxis from increased arterial tension from other nasal bleedings. These may be mentioned briefly: 1. The hæmorrhage starts suddenly; 2. it is usually profuse; 3. it is often prolonged for hours; 4. it is frequently recurrent at intervals of a few days until the blood pressure is lowered: 5. it is harder to control locally; 6. the usual styptics, cauterants and packings are of little use unless associated with general measures to reduce the tension; 7. as a rule, a larger amount of blood can be lost without affecting the patient, than in other conditions; 8. the only way of permanently stopping the hæmorrhage is by reducing the arterial tension.

The following exceedingly interesting case will illustrate many points just brought out:

Case. Mr. A. W., forty-five years of age, had always been perfectly well. He remembered no illnesses. Oc- [illegible] stop in a short time. He had always imbibed moderately [illegible] drinking [illegible] treat and who treated in return. Just before this present attack he had met many of those jolly friends here in New York. The patient had always been a hard worker, both mentally and physically. At the time I first saw him he weighed 230 pounds.

About 11 a. m. on November 23, 1910, there occurred a sudden spurting hæmorrhage from the left nostril. This hæmorrhage was so profuse that it left a trail of blood for the ten blocks he had to go before he reached his hotel. A physician was called in who packed his nose firmly which slightly diminished the amount of bleeding. However, the patient was losing his nerve. About three hours after the onset, I was called in by Dr. Morris Stark, the physician in charge. I immediately recognized, as he had, that the patient had saved himself an apoplexy and that the important thing was to reduce the blood pressure which at that time must have been well over 200. He was given a hypodermic injection of one sixth grain of morphine and one seventy-fifth of a grain of nitroglycerin. On removing the packing from the nose, which Dr. Stark had inserted some time before, there was a profuse arterial hæmorrhage, which seemed to come entirely from the left side and near the posterior nares, probably from one of the posterior palatine or sphenopalatine vessels. I immediately packed the nose over a rubber finger cot after the method of Casselberry of Chicago. The patient was put to bed in the sitting position and ice cloths applied to the head and neck. For a time the hæmorrhage was much less severe and as usual in such cases, I remained an hour so as to be sure that the patient was safe.

At the expiration of that time there was little bleeding anteriorly. But the patient was beginning to cough up large amounts of clotted blood. On examining his throat, which was an extremely difficult procedure, I could see a little stream of blood trickling down from his nasopharynx. The vascular tension still appeared to be extremely high.

More morphine and nitroglycerin were given the patient and the packing removed. Again there was a gush of arterial blood. A packing of bismuth subnitrate gauze was inserted, but the bleeding still continued. Then ferropyrin was tried, but this proved of little use. Although a small amount of cocaine was used in the nares, adrenalin, except at the time of the first packing by Dr. Stark was not tried, for fear of increasing the vascular tension. A few hours later a tampon of cotton was inserted into the nasopharynx but this also did not stop the bleeding. The unusual phenomenon of the retrograde passage of blood through the nasal duct, was noted. The patient was literally bleeding from his left eye.

During these seven hours the patient had lost at least two quarts of blood, but even with that amount of fluid withdrawn from the system, his vascular tension was still high. His general physical condition was very good. However, his nerve was almost gone. So I insisted upon his [illegible] New York Eye and Ear Infirmary as expeditiously as possible. I feared that if collapse set in it might be necessary at a moment's notice to ligate the external carotid artery.

On his arrival at the hospital he was almost immediately taken to the operating room, the anterior packing removed and a fresh one of iodoform gauze inserted. The hæmorrhage was not quite so profuse, but still bad enough. A large tampon was made of sterile gauze and with much difficulty and after retraction of the soft palate, inserted into the nasopharynx. More morphine was given and the patient put to bed. This completely stopped the hæmorrhage on the left side, after twelve hours continuous and profuse bleeding. About two hours later, on examination, a spurting hæmorrhage occurred from the right (the opposite) nostril. No bleeding point could be seen in the anterior nares. A fresh and larger packing was inserted in this side, the packing on the left side remaining. The patient was constantly retching and gagging and expelling clots of blood from his nasopharynx. And during one of these throat spasms he managed to free the tampon from the postnasal space. Thinking that perhaps the constant retching was keeping him excited, I allowed this space to remain open, and, much to my relief, no further hæmorrhage took place. I remained at his bedside during the night.

During the first twenty-four hours the patient had received in the line of treatment over a grain of morphine and three hypodermic injections of a seventy-fifth of a grain of nitroglycerin. Ice cloths were applied to the head and neck and he was allowed to suck on small quantities of cracked ice.

As far as I could estimate, his blood pressure must have been about 230, measured on a Janeway sphygmomanometer. On the following day he was given three grains of sodium nitrite every four hours and an eighth of a grain of morphine every four hours. And that night a calomel purge was administered. The fluids were restricted and the amount of urine passed carefully recorded.

Axillary temperature was taken at first as the patient would not allow a rectal thermometer to be used. The temperature on the first day was 99.2° F., was normal on the second day, and rose to 103° F. on the third day (see chart). For three days the temperature was remittent, on the fifth day going to 104.8° F. The blood pressure was carefully recorded, going from 230 mm. of mercury down to 170 mm. On this fifth day the patient began to complain of pain in his right ear. There was quite a little tenderness over the tip of the mastoid, and examination of the drum showed considerable bulging as if from a mass of blood in the middle ear. As the pain increased on the following day and the temperature again rose to 104.8° F. a paracentesis was performed, allowing the discharge of a considerable amount of clotted blood. The patient was greatly relieved, the temperature subsided and the mastoid tenderness disappeared. Irrigations of the ear every three hours were continued for several days. The discharge finally became mucopurulent, the organism causing the discharge being the pneumococcus.

On the seventh day, early in the morning, bleeding again started on the left side. This continued for two hours when I again packed the nares anteriorly with pieces of plain sterile gauze. A few hours later these were removed and new ones inserted which were allowed to remain in place twenty-four hours. The blood pressure had again risen to 230 mm. I afterward discovered that he had been restless all night and had been easily disturbed by seeming trifles. Morphine and nitroglycerin were again given and on the following day all hæmorrhage ceased. Up to the present time there had been no serious bleeding, but merely a blood tinged mucous discharge, due no doubt to the blood which had entered the accessory sinuses.

The patient was discharged from the hospital on the tenth day. The right ear was still discharging profusely and there was no hearing in this ear. The following day acute pain in the left ear developed, and a perforation occurred a few hours later. He lost his hearing in this ear also. He received daily treatments for his ears and at present can hear ordinary conversation fairly well, although hearing to the watch is zero in the left ear, on contact in the right. His blood pressure has been regulated and he had kept away from alcohol and tobacco since the onset of the epistaxis.

There are a number of interesting points in connection with this history, as it typifies in its most dangerous form, the epistaxis which may occur in connection with sudden increased arterial tension.

The amount of blood lost, and the length of time over which the hæmorrhage extends are in direct proportion to the diminution in arterial tension. Once the tension is lowered the hæmorrhage ceases. It is absolutely necessary that other remedial measures than local ones, be used. And it is, perhaps, advisable to have an internist on the case who can look after that end of the matter. I firmly believe that the large doses of morphine given the first few days helped greatly in stopping the bleeding. As in the case of a bleeding gastric ulcer, rest is of the utmost importance. The morphine should be pushed to the physiological limit, the pupils and respiration being watched constantly. Careful nursing, attention to bowels and urination, and regulation of the diet are all important factors.

11 West Ninety-first Street.

PHRENOLOGY AND ITS FOUNDER: THE CLAIMS OF FRANZ JOSEPH GALL ON THE HOMAGE OF SCIENTIFIC POSTERITY.

By John Knott, A. M., M. D., Ch. B., and D. P. H. (Univ. Dub.); M. R. C. P. I., M. R. I. A.; etc., Dublin, Ireland.

(*Continued from page 370.*)

The *"bump"* of *destructiveness* was also one of the early blossoms of Gall's enthusiastically tended crop of cerebral faculties and cranial indexes, and the record of its diagnostic fixation would be far more amusing than it necessarily is, had it been less atrociously gruesome in the fundamental features of the data of the original evidence. The most convincing (as we are assured) of the items of testimony on which the decision was originally based were *three* in number. And the limbs of this scientific tripod were furnished by: (1) A respectable and fairly prepossessing young man who had already entered upon a promising career in business, but found that he could obtain no mental quietude till he became a butcher—as the spilling of blood and the destruction of life furnished his keenest enjoyment! (2) A metropolitan citizen of good position and future prospects was possessed by so insatiable an appetite for infliction of pain and destruction of life that, when the office of public executioner became vacant, he promptly threw up all his other pursuits on succeeding in his candidature for the privileged position of *hangman, headsman, and torturer!!* (3) A peculiarly conspicuous specimen of adolescent humanity, whose career had been under observation from early childhood, had evermore enjoyed (and merited) a reputation for cruelty of a perfectly demoniacal type. As a child, he dismembered insects at every opportunity, and with symptoms of unctuous enjoyment; as a boy, he maimed and tortured birds and beasts whenever it could be done with impunity; and never missed a moderately safe chance of inflicting physical pain and injury on a schoolmate or a playfellow; and when the time arrived for him to make his choice of a profession for the period of his responsible manhood, he would entertain no suggestion of a future life career but that of a *surgeon!!!* All those three enthusiasts in the culture of *Schadenfreud*, the [illegible] *originals*, and the [illegible] had been [illegible] by Nature's own hand with highly conspicuous cranial protuberances, in the regional area situated above and behind the external auditory meatus; and the existence of those (with other less notable) items of external evidence led Gall to locate the qualitative moral faculty of *destructiveness* in the corresponding area of the subjacent cerebral cortex. (The *bumps* of the *surgeon* were said to be the most prominent of the series; the reader, must, however, bear charitably in mind that he practised in a generation which knew not anæsthetics, general or local, as utilized in the surgery of the present day!)

The history of the foundation of so striking and important a feature of human character upon the evidence derived from such data has, we know, frequently titillated the organs of risibility of the ignorantly sarcastic; and generated a productive prejudice—and a very articulately demonstrative one—regarding the formation of the current scientific estimate of Gall's logical capacity, and his conception of the innate mysteries of mental physiology. But, before ventilating their opinions on a theme of dimensions so massive, and texture so intricate, they should surely take the trouble of examining Gall's truly colossal work. I have not hitherto come into contact with any one who has read his four folio volumes through, and scrutinized the accompanying *Atlas* of beautiful illustrations. I have done so myself; and one of the special effects produced by the resulting experience is a disposition to suspect that many of the *original* discoverers of matters cerebral in our own generation cannot feel particularly grateful to the disputants who have within the past few years been calling attention to those volumes, from the opposed critical aspects of praise and detraction. For the noise can hardly have (wholly) failed to produce the effect of sending some few of the more intelligently curious to examine for themselves. And I will confidently promise all such that when they do they will find far more startling, and immeasurably less equivocal, revelations regarding reality of authorship than any of the specimens of such that have hitherto been brought to the surface in the course of the famous Bacon-Shakespeare controversy! It surely is a peculiarly, and painfully, significant fact—at least to the earnest and unbiased seeker after truth and knowledge for their own sakes—that few, if any, of Gall's innumerable detractors display a trace of familiarity with the undeniable fact that the "founder of phrenology" actually did more to advance the knowledge of the structure and functions of the organ of mind than did—taken collectively—*all* the other *anatomists and physiologists of his generation;* to which may be gratuitously added, as all skilled readers must admit, of all preceding generations. Such a statement may, of course, appear to the many to conform too obviously to the most advanced lay conception of "a large order." But it is none the less true. When that enthusiast commenced his researches, the almost invariably irregular and unsystematic methods of anatomical and physiological investigation, carried out, as they necessarily were, in the (practically complete) absence of microscopic procedure, had actually left the knowledge of the central nervous [illegible]

infant form had been swathed by the immortal Stagirite, more than two thousand years before. And, since the publication of Gall's colossal work, its vast and varied contents have proved a veritable *quarry*—rather *mine*—from which the materials of the *original* observations and *discoveries* of successive generations of anatomists and physiologists have been successfully—often, indeed, very skilfully, as well as secretly—exhumed. As a typically enthusiastic genius, his restless pursuit of knowledge in this domain never seemed to slacken in pace, or tire by the exertion of its performance. As is probably always the case with such investigators, his ways and methods occasionally, indeed, became suggestive of the unrestrainable, if not actually unreasonable, enthusiast or "faddist" or "crank"; and the record of his progress and development (as of others of that ilk) sometimes becomes, on this account, amusing as well as instructive.

Having earnestly requested my reader to bear constantly in mind the facts that Gall was but in a very restricted sense the sculptor of the phrenological bust of our latter day shop windows (and some drawing room, as well as study, tables); that he indignantly repudiated and denounced the mercantile adaptation of his researches and teachings by his runaway assistant Spurzheim; and that his name should not, accordingly, be so unquestioningly associated by the semi-scientist, and the "well read" and critical "man in the street" with the *"science"* of *phrenology* ("as she is taught"—by his self-elected successors and *mis*representatives); I shall proceed to invite their passing attention to two specimens of the multitudinous results which were obtained by the researches of this indefatigable pioneer of the anatomy and physiology of the brain. One of these is concerned with the first localization of a cortical centre in the brain. *Motion* (probably from the fact that it is an earlier, and simpler, and more obvious, and more universally diffused, function of animal life than *sensation*) would seem to have had its presiding areas more approximately (if *not* quite definitely) outlined in cerebral space than those of the various *senses;* and (*a fortiori*, from such point of view) incomparably more so than those of the *intellectual faculties.* But it should be noted at this stage of our discussion that even the motor areas are not arranged in watertight or nonconducting departments, nor are their anatomical limits definable with geometrical precision. Rather more than a third of a century ago, the late Professor Brown-Sequard, who was then regarded as the most eminent of living experimental (and pathological) physiologists, having noticed the unforeseen fact that a special experimental lesion of the cortex of the rabbit's brain always produced a *motor paralysis* on the *same* side, was led to a thorough investigation of the published records of corresponding results. And he was able to collect, and subject to critical analysis, a series of no less than 200 cases of pathological lesion of the *human* brain in every one of which the corresponding symptomatic anomaly had been proved by the testimony of reliable experts—some having been observed by himself, and all the others by skilled specialists. Thus we find that, whatever assumptions may be (as they so often have been) made on the resonant basis of "according to the modern doctrine of cerebral localization," the naked fact actually is that the presiding cortical areas of the human brain have *not* the borders of their respective domains of jurisdiction mapped out with anything approaching geometrical accuracy of limitation. And the present writer, for one, frankly confesses that he has always found it difficult to realize how any intelligent and reasoning observer, who knows the minute structure of the brain to a fair degree of intimacy, could for a moment conceive that the exercise of any of its central *specialized* functions would be likely to (or possibly) be confined to an absolutely limited and rigidly definable area. The possibilities of "shunting" and "short-circuiting," with associated development of vicarious action, are surely suggested by the structure and arrangement of every component of every one of the constituent tissues of the cerebral cortex. That such *re*arrangements do occur is, of course, a fact well known to every competent clinical observer—who is armed with the requisite weapons of research that can be furnished only by familiarity with the associated data of physiological and physical knowledge. And here I will just call the attention of the reader to a single case: a specimen strikingly demonstrative, indeed, of the fallibility of the orthodox and accepted "scientific dogma" of our own pathological generation. It is now nearly a couple of decades ago (February 20, 1891) that the late Professor E. H. Bennett, of the University of Dublin, exhibited at a meeting of the Pathological Section of the (now Royal) Academy of Medicine in Ireland the brain of a patient whose death had been caused by the growth of a large tumor, which involved a very considerable area of the cerebral cortex. And his short—and characteristically pithy—comment included the following clauses: "Those familiar with the admitted sites of the centres of volition governing the left upper limb will see that these, and those of many other parts of the left side of the body are destroyed; but never during life was there any paralysis of the limbs. How are such facts to be reconciled with our present views of cerebral localization?" In the course of the ensuing discussion, Professor McWeeney made the only reasonable suggestion which could possibly be advanced as an answer—of "vicarious action." In presence of such facts, and remembering that the strength of every chain of scientific reasoning is represented by that of its weakest link, I would take the opportunity of suggesting, as we pass, that the orthodox localizers of our generation can afford to display a somewhat more substantial *quantum* of modest diffidence than they seem usually disposed to assume. The plain unvarnished fact is that there exists at the present moment but *a single* known *cortical centre* of the human brain of which the specialization of function has been successfully defined with anything even approaching the sanctity of exclusive consecration. I refer to the *speech* centre. And I have some reason for believing that comparatively few, of even the better informed members of the medical profession, are aware of the biographic fact that the discovery of this centre is solely due to the untiring zeal and penetrating clinical discrimination of Franz Joseph Gall! A specially illustrative item of the utter irony of scientific reputation is furnished by the fact that this same

cortical area is generally known to anatomical and physiological posterity as *"Broca's* space." Broca had been one of the noisiest opponents of Gall's published view till he chanced to see a single autopsy which corroborated the claim which it announced. Again the repetition of the old story!—as a green convert he became correspondingly vociferous in his apostolic enunciations of his new faith in *localization:* and bounced and spluttered so noisily and aggressively, in the direction diametrically opposite to that in which he had previously been progressing, that he actually forced his contemporaries to forget that the discovery was Gall's—only; and with the net result that his own name became permanently attached to the "space" in question, like an adhesive label!

Every anatomical student has—in Dublin, at least, used to have, before the Caledonian immigration had reduced its Medical School to its present attenuated consistency of anatomical attainments—to face the horrors of mastering the course and ramifications of the *fifth* cranial nerve, the well recognized *pons asinorum* of the medicochirurgical curriculum. And every human being—lay, as well as medical—is forced to feel in turn the agonizing inconvenience of its functional activity, at some stage (and very usually, indeed, after a very short period) of terrestrial existence; for it is the vigilant structure which conveys to the cortex cerebri all telegraphic messages called forth by the sensations with what may be roughly described as the "front half" of the head on its own side—face, ears, teeth (!), etc.—with corresponding areas of the scalp, and of the part of the neck adjacent to the chin and lower border of lower jaw. All the famous students of human anatomy, before the time of Andreas Vesalius and after that of John Hunter, had seen the roots of this terrible structure emerge from the place of its "apparent origin" on the lateral margin of the pons Varolii; below the surface of which they had, one and all, failed to trace them with any degree of definite precision—*if* they had ever made a good attempt in way of trying. But the devoted energy and industry of Franz Joseph Gall enabled him, with the aid of the collateral illumination derived from his continuous researches in comparative anatomy—even without the apparently necessary employment of the microscope—to trace the roots of this, the most complex of all the structures of the tangled human frame, to a well defined *locus* in the lower part of the medulla oblongata:—where the histological anatomist of our own twentieth century, armed with all the most magnifying microscopes, and furnished with the most up to date staining reagents, is obliged to leave them still growing! And as a mere fact—and a perfectly uncontradictable one—in the history of scientific progress, those two discoveries of Gall have ever since functioned as the generating foci around which the circumferential *expanding* shell of our knowledge of the central nervous system (with its inevitable parasitic and saprophytic deposits, and excrescences of pretentious nonsense and of shameless charlatanism) has ever since been continuously developing. And these are but two of the specimens—although, perhaps, the most significant in general importance of relations, and productive in results—of the hundreds of discoveries made by Gall; which have, too (as must be learned with moral, as well as scientific, humiliation), since the period of his published results created the name and fame of so many *original* investigators in all the sectional areas of the important domain of neurology!

Thus after all, as human nature—in the mass—still, unhappily, remains in an unregenerate state, there is little reason for surprise on discovery of the detestable fact that the "eminent" and "distinguished pioneers of mental and neural science are found united in a conspiracy of scornful silence, alternating (as was unavoidable) with turbulent squalls of derisive detraction, regarding the merits of the neural researches and discoveries of Gall, the much misrepresented (probably even before being misunderstood) "founder of phrenology." (Was it not our own Jonathan Swift who pointed out, with a sarcastic bitterness too evidently derived from his personal experience, that: "Whenever a true genius appears in the world, you may always know him by this sign, that all the asses are arrayed in conspiracy against him"?) But I have considerable hopes that the claims of his system of cerebral localization will, in the near future, be again examined with the added illumination of the more penetrating light and broader expanse of view which are now so readily available. Such investigation must not only place his work in a very different aspect to that of former years, but also give a more enlightening view of the relations of many of the most undeniably important, as well as most intensely interesting, of the scientific problems associated with the structure and functions of the human *cortex cerebri* than has hitherto been offered for our edification by any of Gall's successors and *mis*representatives—that is to say, his plagiarists and detractors.

It is due to scientific candor, and to the spirit of fair play in discussion and investigation of truth to admit, before proceeding further, that I, for one, implicitly believe that "there is something in" Gall's scheme of localization; as I confess to believing that there is, or has been, a nuclear grain of truth in every body of doctrine that has found widespread acceptance with humanity, at any period of the history of its "progress." I have never yet known an observer who was gifted with exceptional powers of discrimination whose opinion of the individual was not greatly—I might even call it irretrievably—influenced by "first impressions." And such impressions are, inevitably, those derived (partly *"radiated"?*) from the features, collective and individual, of the physiognomy of the specimen of humanity then exposed to the transitory inspection. Here I use the term *physiognomy* in its broadest sense—with the inspiring connotation supplied by its Hellenic verbal architecture, in the generation of its employment by the grand old Stagirite himself. It thus includes *phrenology,* as I understand the application of the latter term to Gall's researches and results; and also the aspects, and outlines, and general contour, of every area of face, neck, trunk, and limbs—even down to the extremities of the ungual and hirsute appendages—which engage the respective attentions of the expert and the trainer, in the special departments of *athletics, calisthenics, cosmetics,* and (even general) *æsthetics.* Not only do the cranial superficies, and

its features taken individually and collectively), with the infinite variety of "permutations and combinations" of the form and functional activity of the same which contribute to the genesis and transmission of "expression," afford material to the observer for the formation of opinion regarding the mentality and morality of the owner, but the outlines of every portion of the human body, even to the tips of the fingers and toes, are worthy of the best consideration in this connection. So are those of the (cutaneous) *complexion*—when uninfluenced by artificial chromogenetic processes; of the *hair*—when not correspondingly modified in tint, or much misdirected by the curling tongs or other machines of the toilet table; and of the *nails*—when not overelaborated by the genius of the manicure. And, with the characteristics of form and feature, I would also include those of every general movement of body, limb, and surface muscles—which has not been overmuch modified or specialized by "education." And if *science* means *knowledge*, as some of us have been in the habit of believing, and if "the proper study of mankind is man," a poetic aphorism with which many thinkers still agree—representing as it does the practical conclusion derived from the general experience of every day existence, as well as the venerable teachings and preachings of the *vates* and *philosopher* in some of the most enlightened periods of the world's history—I would take the present opportunity of specially commending to the attention of the members of the inner circle of our cocksure scientists, as well as to the critically intelligent denizens of our metropolitan thoroughfares, some passing consideration of the unadorned aphorism, of which the truthful wisdom has never, I believe, been successfully disputed: "Beware of the man whom dogs and children avoid."

The divine old Greek, whose *idea* of κοσμος and μικροκόσμος is so thoroughly suggestive of the *theory* (θεωρία) or contemplative vision of the Deity which this latter term was constructed to connote, believed that the signature of the cosmic environment was stamped on the surface of the human body and—within special limits of respective arrangement—on that of each of the various other members of the animal kingdom. Accordingly, examination of the latter was found to throw light on the dark places of the more complex, and artificially invested, human character. Thus the justly celebrated J. Baptista Porta, the "founder of physiognomy," takes the appropriate opportunity of observing to his reader: "*Sentiebat igitur Plato quod si homo vniuersum corpus alicui prorsus animali consimile haberit, iisdem etiam moribus, & affectibus, quibus illud afficeretur.*" And his examination and application of that text of the inspired master, throughout the whole of his wonderful folio, *De Humana Physiognomia*, prove that a worthily equipped pupil of the founder of the *Academy* had arisen in the *Græcia Magna* of the original generation which passed through the end of the sixteenth into the early years of the seventeenth century. And when he comes to subject the *lion* to his special critical method—to the monarch of beasts is, of course, afforded the pride of place—the depiction of features, singly and grouped, presents a truly classic model of eloquently artistic word painting:

"*... capiti rotundum existit, tamen quod alia, ut medio magis cruda, eminente superciliis, & nasum versus veluti nube, sed frontis id, quod ante caput, elatum habet, ocutis charopis, non valde rotundis, neque valde prominentibus, supercilio prægradi, naso crassiori, quam tenuiori, subrotundo, crasso, & solido, superiori maxilla non prominente, sed inferiori æquali, ore amplo, labris tenuibus in ore magno, ita vt in partes superiores inferioribus superiniestæ, iisdem locis iuxta labiorum angulos, collo magno, sed mediocriter crasso, qui vno osse rigido constat, cui colla, armosque vestiant iubæ, pilis infima parte crispis, pectore robusto, metaphreno lato, costis, & dorso valde firmis, ossibus adeo robustis, ac solidis, vt exiguam admodum, & perobscuram medullã habeant, vt prorsus carere videantur, tantaque duritia vt ignis elidatur, veluti e silice, colore fuluo, pedatim graditur, tarde, & pedibus multo distantibus, humeris ad singulos passus commotis, voce graui. Ingenio. est liberali, magnanimo, victoriæ cupido, forti, miti, iusto, & pio, amore, cum quibus versatur afficitur.*

—We learn that one of the items of facial physiognomy which specially distinguishes the lion from his proverbially contrasted fellow quadruped, the ass, is the marked projection of the upper lip of the latter: "*Quibus labia superius crassa sunt, & superius ultra inferius emineant; stulti indicatur a simili asinorum, & simiarum specie. Asinis enim & simiis labia superiora magis eminentia sunt. Et in hoc a leonibus differunt, quia his gracilia sunt: Polemon in figura iniuriosi, cui vero inferius labrum superiori prominet, fatuus, suspensi iudicii, & ad asinorum naturam refertur.*" Other distinctive features are indicated: frontal convexity—"*qui fronte rotunda, stupidi, similes ad asinos ingenio, Aristoteles ait*"; and conspicuous aural longitude—"*Rhases stolidus ais, sed longævus: nam optimam calidi & humidi proportionem demonstrant: vnde longæui homines fiunt.*"

Turning to a specimen almost diametrically contrasted in both moral and physical qualities, we find the domestic *swine* credited with characteristics quite as significant and suggestive: "*Sus pilum crassum, rigidum, & erectum habet, frontem angustam, oculos paruos, cauos, profundosq; supercilium nasum versus deorsum nutat, ad tempora vero eleuantur, pars nasi extrema crassa, os totum valde porrigitur, labia crassa, rotunda, & foras extenta, collum nimis crassum. Ingenio animal maxime brutum, solidum, iracundum, superbum, luxuriosum, nullius disciplinæ capax, impurum vorax.*" And in commenting on the characteristically *angusta frons* of this animal he gives an illustration of the allied type of human face with a quotation of the harmonized and amalgamated opinion of the Stagirite and the Conciliator: "*Frons parua, angustaque stolidum indocilem, inquietum, & inquinatum hominem monstrant: ad sues relatum.*"

Then the tendency of the great founder of our modern physiognomy to appreciative association receives a further, and far more conclusive, item of corroborative testimony from his demonstrative juxaposition of the highest and noblest facial types of both man and quadruped. For he places on his printed page the respective (facial) effigies of the divine *Plato* and a highly contemplative looking specimen of the *canine* tribe—for the purpose of impressive demonstration of the similarity of feature found in both, as to "*longitudinem ex aure ad aurem.*" And he adds the very interesting item of information that: "*Hanc frontem paulo ante nostra tempora Dantes Alighierius habuit.*" And on another page we find the respective busts of *So-*

crasses and a *sinus* juxtaposed for the purpose of illustrating the intellectual significance of large and brilliant eyes (*Cervus . . . ingeniosus inter animalia*): while we have elsewhere the telltale *facies* of the fox correspondingly utilized to illuminate and decipher the moral mystery which lurked in lurid activity behind that of *Cæsar Borgia*. Other specimens of the almost interminable series of facial types (of man and beast) thus illustrated by Baptista Porta are: The low brow of C. Caligula Cæsar, "*in qua frontis latitudo conspicua*"; the more than "Roman" prominence of nasal organ presented by a famous Florentine genius of the golden age of the Medici—"*Habes his lector Rhinocerotis id [illegible] nasum magnum, a cuius medio cornu procedit, & Politiani vera effigies*" (!); the more typical nasal product of the seven hilled city: "*Præsens commostrat figura aquilæ caput, cuius nasum incuruum cum Sergii Galbæ naso comparandum, concinne spectandum proposuimus*"; another modification of the anterior convexity of the same feature is illustrated in impressive profile outline: "*Hoc schæmate galbi nasus incauus cum connexa circulari frontis superficie exprimitur, cum humano ad ciusmodi formam effigiato*"—with the comment (derived from an "antiqua translatio Aristotelis"), "*Qui nasum concauum habet, ante frontem rotundum, & supereminentem rotundum, luxuriosi sunt, & ad gallos referuntur*"; and our author's addition of "*Hos ego etiam puerarios iudicarem: abutuntur enim Venere galli gallinacei, perdices & coturnices, quæ fere similem nasum habent. Cum enim fœminæ ouis incubant, mares dimicant, pugnamque inter se conferunt quos cælibes vocant; qui victis in pugna fuerit, victoris Venerem patitur, nec nisi a suo victore subigitur, ex Aristotele: & multos amicos cognoui eiusmodi naso præditos, huic enormi luxuriæ generi obnoxios. Fingunt Poetæ Iouem aquilæ forma Ganimedem rapuisse: sub tali figmento id fortasse innuentes. Ælianus etiam ichneumonem huic turpitudini obnoxium dixit. Tali naso Satyri & Sileni ab antiquis effigiati sunt, & tali naso etiam Socrates ipse præditus fuit: nam Xenophon Socratem Silenis similem fuisse, & pressis naribus, scribit.*"

Reascending to the contemplation of the brain case proper, we find the ever present Stagirite quoted for the opinion, *in re* "caput magnum," that *caput quod magnitudine exuperat, obtusi & indocilis hominis argumentu dixeris*," which had been corroborated by Polemon and by Adamantius; also, Albertus Magnus for his statement that: "*Caput, quod præ sui magnitudine ad humeros vergit, sensu & virtute carere dixit, immensum autem stolidum, tultum, & vehementer indocile.*" Another opinion of "the master of those who knew" was that: "*eos, qui nimiū plus in capite extumuerint, somniculosos.*" The reader is also treated to a rather startlingly vivid illustration in way of pictorial emphasis when informed that. "*Hac tabella maximum bubonis, & Vitellij Cæsaris vastum caput exprimitur*"—in which the arranged comparison of the "phiz" of the owl with that of the Roman Emperor does as high credit to the author's instincts and capabilities as a showman as it very obviously does to his scientific enthusiasm and attainments, and his powers of original observation. Then we find the conspicuous ownership of a specimen of the *caput minimum*—with association of long neck and large body—impressively illustrated by comparison with a full length profile view of a full grown and dignified ostrich. And the concentrated value of the posession of such type of feature is established by the testimony of Aristotle himself; who "*censuit hominem animantium omnium prudentissimum esse, quum capite ad reliqui corporis proportionem minimo fit, immo & inter ipsos homines, qui hac parte diminuti sunt, fere prudentiores esse, quam qui sunt grandiori*"; and corroborated by that of Avicenna: "*Paruum caput, si cum fortitudine virtutis formatiuæ fuerit, optimum erit. Ad animalia referendo: capite prædita paulo maiora paruis, ingeniosiora sunt, vt cerui, & similia.*" On the other hand, however, we find the great Stagirite's appreciation of that of his famous pupil and (subsequent) patron: "*Alexandro Magno laudat mediocre caput.*" And this moderate proportion is that which is estimated most highly by Baptista Porta himself: "*Ratio naturalis est, quod moderata membrorum magnitudo ex optima vi formatrice, moderatam iudicat humorum temperiem. Et mihi videntur Iconi comparandi, ipse enim ad corporis rationem moderata capitis magnitudo est, vt apud Aristotelem videre est leonis formam describentem. Ego vero liberalem, magnanimum, & audacem dicerem: ad Iconem relatum.*"

(*To be concluded.*)

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CVII.—How do you treat acute otitis media? (Closed February 15, 1911.)

CVIII.—How do you treat hiccough? (Answers due not later than March 15, 1911.)

CIX.—What are the best means of reducing infant mortality? (Answers are not due until April 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED) *that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to question CVI was awarded to Dr. Joseph di Rocco, of New York, whose article appeared on page 376.

PRIZE QUESTION CVI.

[illegible]

In treating obesity, one always must remember that there are two kinds of obesity; first, the constitutional or [illegible] by a [illegible] of the [illegible] and, second, the [illegible] overfeeding. The expression "overfeeding" is to be

taken in a relative sense because, as Zuntz has remarked, "the human body is a kind of machine which does not in every case work with the same economy," that means that the same amount of work requires far more energy in one case than it does in another. Therefore the treatment for this second form of obesity is self evident. One must try by diminishing the supply of food and increasing the amount of work, to use up the superfluous fat. The possibility of working both these ways is, however, limited. There are but few people who will submit to a cure by actual starvation and even those few will only do so in case of necessity; and to increase one's amount of work over a certain degree, would be unphysiological and dangerous. Therefore it is necessary to supply the patient with such food which, while being of ample volume, affords but little nourishment. This prevents the patient from feeling starved. A diet for such a patient would be:

Mornings: 200 c.c. coffee with little milk and sugar, half a roll, an apple of 200 grammes.

Noon: A large bowl of consommé, 150 grammes; lean meat, 100 grammes; potatoes, 100 grammes; salad or cucumber, red beets or cabbage; an apple of 200 grammes.

Evenings: Lean meat, from 150 to 200 grammes; vegetables, 100 grammes; salad or mixed pickles, 100 grammes; radishes, 100 grammes.

Water as much as desired; if patient should feel very hungry, an apple between meals. No sweets, no bread, no starchy food at all.

Of course, this diet is only an instance, a special case will always require special rules. We must take into consideration, whether the patient was used to eat much or little, as there are people who will grow fat even with a scant supply of food. No doubt the regulation of diet is the most important part in the treatment of obesity. It is good to make the patient masticate his food very thoroughly (Fletcher); every bite must be chewed until it loses all taste; in this manner the food is better assimilated and the need of food is greatly diminished. Who eats slowly cannot eat so much.

Another great help in this treatment is to increase oxidation. This can be done by increasing bodily work and by baths. The steam baths (Turkish baths) which are generally used, are worthless in this case, as they only withdraw water from the body which is immediately replaced and as, in case the bodily temperature rises, the organic albumin is decomposed, which is undesirable. The sometimes favorable results of these steam baths are due to the loss of water; different observers, I myself among them, have seen that the bodily circumference of patients had considerably decreased while the weight had almost remained the same, a sign that the specific weight of the body had increased. Cold baths of a longer duration and especially swimming are to be highly recommended. The duration of a bath may be prolonged until a chill sets in. By using such baths, especially by sea bathing, the temperature of the body is considerably decreased and the patient must burn up a certain quantity of fat, in order to regain his normal temperature. At a rough calculation, a patient who weighs 200 pounds and whose temperature has gone down 0.5° C. in a cold bath, will use up at least fifty calories to reach his normal temperature. It is understood that the increase of appetite after such a bath must not be satisfied by nourishing substance, but by such of less nourishing qualities as, for instance, apples. In cases where the reaction of the vessels is a poor one, precautions must be taken accordingly, for instance, a good brisk walk, which drives out the perspiration, or some short heat storing procedures before the bath, or a good amount of bodily work (exercise, running) after the bath. Altogether, bodily exercise in connection with a cold bath is the ideal, therefore swimming is to be highly recommended. But let me say again that in all somewhat hard cases it is impossible to cure obesity without putting the patient under a diet. In prescribing the diet, one should keep down the consume of salt as much as possible, in order to drain the system. The loss of weight which is sure to follow, has a favorable psychic influence upon the patient and keeps him eager to continue the cure; it also promotes the bodily exercise. A medical treatment which would principally consist in purgatives, is not generally advisable, as by keeping the movements liquid, the smooth intestinal muscles are weakened to such an extent that constipation sets in, which can be very obdurate and demand a special treatment so that it becomes more annoying than obesity itself.

All these methods may as well be employed to treat constitutional obesity, but in many cases they are not sufficient. It is astonishing with how small a supply of food these patients will keep their weight. Only in such cases I should recommend a treatment with substance of thyreoid, beginning with three half tablets daily. At all events, this treatment must be carefully handled, as a good many persons cannot stand it and will react upon it with different serious nervous symptoms and heart trouble.

A very special attention is to be given to such cases of obesity which show trouble of the heart, œdema, and a feeling of weakness. The ideal treatment for the first kind, is Karell's milk cure, beginning with 200 c.c. milk, which is to be taken in small draughts. This diet is to be continued while the patient is to be carefully watched, for four or five days; then and not before, a few eggs, a small piece of meat, and some vegetables may be added. Of course, the patient has to stay in bed, especially during the strict milk diet in the beginning.

In the case of pronounced muscular weakness, the patient must be prepared for his treatment accordingly, by a general massage. In connection with that, the patient has to exercise, movements of resistance, if possible on the gymnastic apparatus of Zander, are the best. The idea to crush the fat by massage only, to drive it into the circulation and thus hasten the cure, is childish and completely unphysiological. It is evident that an egress of fat into the blood, even if it were possible in that form, would be of the most dangerous consequences. If such a coarse massage treatment has ever shown success, it was because the patient was trying to protect himself against this illtreatment, by strain-

ing all his muscles and thus got the muscular exercise.

Let me resume, in few words, that a limitation of the food supply, in connection with bodily exercise and promotion of the oxidation of fat by cold baths, form the most effective treatment of obesity.

Dr. E. T. Milligan, of Detroit, Michigan, observes:

This subject may be divided into three parts, in which respect it is not unlike the *Gallia est omnis* of undergraduate days: 1. When may a person be fairly called obese? 2. What are the causes of this condition of obesity? 3. What remedial agents may be employed in its reduction?

It shall be my purpose to develop this theme under these subheads, and while I try to be brief, I shall endeavor not to become obscure.

First of all, I wish to offer two observations as prænotanda which, although they may not appear to have any direct bearing on the subject, should be kept in mind. It is a fact of common experience that some persons on a diet of low energy value and with considerable physical labor persistently store up fat. This phenomenon is probably due to an economic protoplasmic metabolism going on in the body cells, a biological factor for which as yet no sufficient explanation has been offered. In the second place—and this is my last prænotandum—obesity is sometimes hereditary, and whenever this is the case a cure will be effected with difficulty, if at all.

Physiologists tell us that obesity is a condition of excessive storage of fat. Note the word "excessive." A moderate deposition of fat in areolar tissue is desirable both on utilitarian and æsthetic grounds. When, however, even the thinnest strips of connective tissue are loaded with an adipose accumulation so that the normal functioning of the vital organs is impaired and vigor and activity of movement interfered with, the condition is pathological and the patient may be truly called obese.

The causes of obesity may, I think, be summed up under the following heads: 1. The habit of overeating, especially as regards foods rich in starchy and saccharine matters. 2. Too little exercise. 3. The habitual use of alcoholic beverages (beer, ale, and sweet wines) which delay metabolism.

While it is true that fat may be synthesized from all classes of foodstuffs, the carbohydrates and fats must be looked to as the chief source of supply.

The most important factor in the reduction of obesity is a diminution in the gross amount of aliment and a rearrangement of its constituents. Care should be exercised not to cause the patient too great discomfort. The diet must be sufficient to maintain health and strength. Let the physician interrogate the person as to the character and quantity of the food and the frequency with which it is taken. It may be put down as a principle that the carbohydrates are to be very much reduced. The copious ingestion of liquids, even water, must be interdicted. A small cup of unsweetened tea or coffee or a glass of skimmed milk may be taken with the meals. Alcoholic beverages especially should be forbidden. Even as harmless a drink as water should not be taken in quantities that exceed forty or forty-five ounces in the twenty-four hours.

The following dietary plan, though admittedly low in calories, may be used with good effect on persons who are obese without being anæmic:

Breakfast:—Two slices of bread or toast with butter, a boiled egg, and a cup of tea or coffee unsweetened.

Dinner:—Mutton chop or small beefsteak, one baked potato, small saucer of peas, two slices of unbuttered bread, an apple or its equivalent, and a glass of skimmed milk.

Supper:—A slice of cold ham or beef, several lettuce leaves, a few slices of tomatoes, small saucer of prunes or its equivalent, and a cup of unsweetened tea or coffee with two slices of bread unbuttered.

Stated in general terms, the diet for the twenty-four hours should not exceed the following proportions: 200 grammes of bread (about half a loaf); 350 grammes of lean meat or proteid; 250 grammes of vegetables and salads; 1,500 c.c. of water (about five glasses).

Another factor in the reduction of obesity, almost, if not quite as important as the first, is exercise. Of calisthenic systems there is no end, suffice to say that the exertion should be severe enough to cause perspiration. While all these systems have their place and, in a manner at least, accomplish their purpose, there is to my mind no system of exercise for keeping down weight comparable to vigorous walking alternating with short runs. If every individual could do his eight miles a day in the manner indicated excessive corpulency would soon become as rare as it is now common. I reduced my own weight twenty-two pounds in six weeks' times by a daily walk of ten miles, interrupted from time to time by short, slow runs. The noticeable feature of the performance was that I did not find it necessary to do any dieting whatever.

Let us impress upon the obese person that, if he sincerely desires it, he has within his own grasp the means of ameliorating his condition. Let him, whenever possible, discard all means of locomotion save that provided by his own limbs. His *superfluum alimenti* will gradually diminish in bulk, and the habit of exercise once acquired is apt to be carried through life. *Probatur ambulando.*

Dr. Heber Butts, of Washington, D. C., remarks:

Before making any attempt to remove objectionable surplus adipose tissue, a careful physical examination should satisfy the physician that no renal or cardiovascular disease exists. The presence of glycosuria, albuminuria, or arteriosclerotic changes in the bloodvessels contraindicates the extended and rather severe treatment to which the victim of adipositas must submit in order to be reasonably certain of a fair measure of success.

The four essential parts of the treatment, given in the order of their importance, are as follows:

1. *Dietetic.*—Food being the source of all tissues of the body, including adipose tissue, no considerable or lasting degree of success can be expected, un-

. . . notably the carbohydrates, starches, and fats, which are known to produce adipose tissue. This abstinence does not need to be absolute, but it should be minimized as much as possible.

It is neither desirable nor necessary to starve the patient. On the contrary, he may eat to satiety, provided he avoids the carbohydrates and fats. His diet should consist largely, if not entirely, of lean meat, fish (especially salt fish), and vegetables which are bulky, but which contain little starch or sugar. Celery, lettuce, radishes, turnips, carrots, string beans, spinach, cabbage, cucumbers, cauliflowers, rutabagas, kale, "greens," watermelons, cantelopes, sour pickles, and limited amounts of tomatoes, are vegetables of this class. These bulky vegetables enable the patient to fill his stomach and satisfy his sense of hunger, but they contain very little fat producing material. Bread, beats, beans, and potatoes must be avoided as much as possible. The sparing use of bread made from whole wheat flour, or "Graham bread," may be permitted.

All alcoholic beverages must be avoided, not only because the alcohol stimulates the digestive organs, and in this way increases the desire for food, but because the oxidation of the alcohol in the body prevents to a degree the active oxidation of foodstuffs and tissues.

2. *Eliminative.*—Food should not be permitted to remain long in the intestinal canal, because the longer it remains the more fat producing material there will be absorbed. At least one or two bowel movements must be insured daily, therefore, by the administration of a tumblerful of laxative mineral water each morning before breakfast, or larger doses of stronger hydragogue mineral cathartics, if necessary. On account of their carbohydrate content, such vegetable cathartics as figs, prunes, and dates are contraindicated.

3. *Hygienic.*—Secondary only in importance to a proper diet is the necessity for frequent daily active exercise to the degree of moderate fatigue. This exercise should be taken at least three times daily immediately after meals, and should, if possible, be increased from day to day, but always kept within the degree of moderate fatigue. The best form of exercise, and easiest to prescribe, is walking in the open air for a definite distance after each meal. To avoid monotony, walking may be varied with bicycle riding, horseback riding, rowing, and swimming, or exercise of an appropriate kind in a gymnasium. These exercises, in addition to increasing metabolism, delay digestion and hasten elimination of foodstuffs by increasings peristalsis.

Baths, especially hot baths and vapor baths, are valuable hygienic adjuncts to exercise, because, by their use, the skin is kept in a healthy condition, and thus elimination is aided. They also increase metabolism in the tissues, which is desirable. Sleep should be restricted to seven or eight hours in twenty-four hours.

4. *Therapeutic.*—About the only drug of any value in the treatment of obesity is thyreoid extract in doses of from 0.12 to 0.30 gramme, three times daily, taken at meal time. It is well to administer 0.001 gramme of strychnine sulphate with each dose of thyreoid extract to avoid cardiac depression, and also aid, in a slight degree, intestinal peristalsis. For their psychic effect, and as aids to metabolism of minor importance, massage and the galvanic current may be indulged ad libitum.

These measures for the reduction of weight must be pursued for a period of time extending over several months, or even one or two years. The too early return to an ordinary diet before the digestive tract and the body have adapted themselves to new digestive and nutritional habits is apt to result in the production of more adipose tissue than had treatment never been undertaken.

Dr. A. S. Risser, of Blackwell, Oklahoma, says:

The intelligent treatment of obesity requires, first of all, a careful physical examination of the patient, his family history, habits of life, and temperament. The ætiology or type of the disease and the complicating conditions must be determined. Only thus is it possible to determine either the necessity for treatment or the probable results of treatment. In many instances treatment is necessitated not so much by the obesity itself as by the complications to which obese persons are subject, chief among which are diseases of the circulatory and respiratory systems.

In general, three main types of obesity exist: 1. That class in which there is a family or hereditary tendency; 2, the acquired forms due to overeating and insufficient exercise; and, 3, those cases resulting from faulty metabolism or perverted functions. Examples are certain cases of anæmia and chronic cardiac or renal disease.

It is necessary, therefore, to individualize each patient. This can be done without losing sight of the broad fundamental principles which should govern all therapy. Briefly stated the physician must ask himself such questions as these: What is the type; what are the causative factors in this case of obesity; what relation, if any, does it bear to other disease that may be present; will the complicating disease be improved by reducing the obesity or must the former be removed before the obesity can be successfully treated; will the functions and powers of the organs of the body be improved by reducing the fat content of the body; is it necessary to institute a real reduction cure or will it be sufficient merely to prevent a further increase in the deposition of fat; can I gain a sufficient control over the patient, his habits of life, and temperament so that I can treat him successfully at home, or must he be sent to a special institution?

The correct answer to these questions will prevent improper treatment. It will save us from treating patients who do not require treatment. Also, it will forbid our refusing to treat patients who, while not showing urgent indications for treatment, might be induced to apply to quacks and quack remedies which could do great physical damage. I believe there are few cases of obesity in which intelligent treatment will not accomplish great good, both physical and mental. In any case, the general impression and status of the patient, the state and functions of his organs as shown by careful physical and urinary examination—these are more to be considered than mere over weight.

Treatment has for its objects: 1. The oxidation or destruction of fat already present in the body;

and, 2, the preventing or limiting the deposition of a further oversupply of fat. The means employed are dietetic, hygienic, and medicinal, with the emphasis on the first two. Inasmuch as the majority of obese persons are given to the habitual ingestion of too large an amount of food, it is necessary to limit the supply of food, especially of the fats and carbohydrates. Without entering into details or theories of the metabolic processes concerned in the formation and deposition of fat in the body, we are safe in assuming that the main sources of fat are the starches, sugars, and fats. The chief limitation must therefore be placed upon such articles of diet, although it is usually necessary to limit the total intake of food. As varied a diet list as possible should be allowed and the total caloric value must not fall too far below the normal. The diet list of Ebstein makes a good working foundation, although no single diet list is suitable for all cases. Each patient is a law unto himself. The success of any treatment is measured not only by loss of weight, but also by the improvement of the general health and the subjective condition of the patient.

It is best to prohibit alcohol because its oxidation in the body tissues is substituted for the oxidation of fat and foodstuffs. Another reason is that alcohol taken with meals tends to stimulate the appetite. It is better to give coffee before meals since coffee has a tendency to reduce the appetite.

The amount of water taken at meal times should usually be limited. This is especially important in the cases complicated with heart weakness where it is necessary to reduce the resistance offered to the action of the heart. Here digitalis and other heart tonics must be given for long periods of time. In the anæmic this must be supplemented by iron in some form. In all cases complicating conditions must be dealt with in a rational manner.

Perhaps no method of treatment is complete without also promoting the oxidation of fat already in the tissues. For this purpose we employ carefully graded muscular exercises. Whether it is in the form of walking, horseback riding, golf, rowing, mountain climbing, or weight lifting, their aim is to increase oxidation. The test of efficiency is loss of weight accompanied by strengthened cardiac action, deeper, freer respiration, improved circulation, increase of general muscular strength, and a heightened feeling of well being.

Other important adjuvants of treatment are the various baths. Hot baths promote perspiration by dehydrating adipose tissue. Cold and brine and carbonic acid baths combined with brisk friction also promote oxidation. The alkaline laxatives and purgative waters wisely used are most efficient.

Of specific drugs there are scarcely any worthy of mention. Phytolacca seems to be of service in some cases. The extract of thyreoid gland has proved of most value, but it must be administered with the same care and circumspection as in other conditions, and its effects must be as carefully watched.

In conclusion: No one means of treatment is sufficient or efficient. Many means must be employed in combination, and treatment must be continued for long periods of time. If the physician can obtain the cooperation of the patient, and can maintain correct habits of diet and living, he can obtain some remarkable and gratifying results in the treatment of obesity.

(To be concluded.)

Correspondence.

LETTER FROM LONDON.

from Salvarsan.

The outbreak of plague in the Manchurian district is looked upon very gravely in this country. Several British medical men belonging to the different schools of tropical medicine have gone out to China, and the British government is also taking active steps in the matter. According to the reports the disease, which appears to be entirely of the pneumonic or septichæmic type, has spread rapidly southward with uniformly fatal results. It is said that there is no authenticated instance of recovery, and the cases seem irresponsive to Yersin's serum. The infection, according to Dr. Dujardin-Beaumetz, of the antiplague department of the Pasteur Institute, has been spread by the handling by traders of the fur of the "bartagan," the Russian term for a small animal of the marmot species, the importance of rats as a factor in transmission not having been determined.

The absence of cooperation among the various health authorities with China, added to the dense ignorance and superstition of the masses, renders the work of isolation and disinfection exceedingly difficult. At Mukden and Harbin several medical men have succumbed to the disease. Among them are Dr. A. F. Jackson, a medical missionary from Birkenhead, who had only arrived in China five months ago. He volunteered to undertake the arrangements for the isolation of the Chinese coolies at the railway stations, and, falling himself a victim, died thirty-six hours afterward.

The death is also reported of Dr. Michel, of Harbin, Dr. Mesny, and a Russian lady doctor, Mme. Lebedoff.

A series of important newspaper articles on the plague is being published in the *Times* by Dr. Louis Sambon, of the London School of Tropical Medicine. He points out that the long immunity such as these islands have enjoyed is not by any means a new feature in the history of the disease. Bombay, after nearly two centuries of quiescence, suffered an epidemic in 1896. Moreover, plague in common with other insect borne diseases is little influenced by sanitation.

The only way to prevent the introduction of the disease into a previously immune place is by preventing the introduction of plague infected rats. The true plague rat is the black species, the chief source of the disease throughout the East. Dr. Sambon points out that plague is not a disease of the rat alone. It attacks dogs, cats, ferrets, bats, squirrels, pigs, hares, rabbits, cattle, sheep, and poultry. This wide zoological distribution makes it so difficult to stamp out the disease once it has taken hold in any place. The disease spreads first among one set of animals, then among another, but often

among several simultaneously. The passage of the organism through certain animals may exalt its virulence, while it may be attenuated by passage through others. Dr. Sambon insists upon the fact that, contrary to the prevailing belief, in epidemic plague transmission from man to man is more frequent than transmission from rat to man. He believes that during an epidemic the rat strain of *Bacillus pestis* is replaced in many cases by a human strain and the rat fleas are replaced by the fleas of man and by those of the cat and dog, which attack man almost as frequently as the so called human fleas. The views of Dr. Sambon are not altogether in agreement with those of other authorities, and no doubt Dr. Sambon's articles will stimulate further work on the subject.

Mr. McKinnon Wood, replying in the House of Commons on February 13th to a question by Mr. A. Baker regarding the precautions taken by the Chinese government to ensure the safety of European doctors working in the plague district of Harbin, said: "His Majesty's minister at Pekin reports that all the doctors have been inoculated with Haffkin's vaccine. They are comfortably installed on a railway car with the exception of one who is living with the British consul. The Chinese government have done their best for the personal comfort of the doctors, whose private letters show appreciation of their considerate treatment. They wear masks, oilskin boots, and complete overalls when dealing with cases of plague."

At an ordinary meeting of the Ophthalmological Society of the United Kingdom held recently Mr. Herbert Fisher read a paper entitled The Pituitary Body and Lesions of the Optic Chiasma. After alluding to cases which from time to time had sporadically been reported he dealt shortly with the development, structural anatomy, and function of the hypophysis cerebri. Recent experimental work on the pituitary body and its function by Paulesco and Harvey Cushing was narrated. The association between the hypophysis cerebri and other ductless glands was reviewed. Cushing deduced from his extensive work on the subject that acromegaly and gigantism were the result of supersecretion of the anterior lobe of the pituitary gland. The author relates in detail nine cases of pituitary body and chiasma lesion which he had personally observed over a long period of time. The cases showed the early liability to sexual disturbance and impotence in pituitary body lesions.

Some examples of very practical benefit by treatment with thyreoid extract and pituitary extract were recorded. In the later cases a special extract of the anterior lobe only was being tried, with some encouraging signs of benefit. In every case charts of the field of vision were exhibited. The additional value of x rays in demonstrating enlargement and destruction of the sella turcica was well exemplified by the skiagrams of the patients.

Dr. C. F. Marshall, in a letter to the *Medical Press and Circular*, points out that several cases of blindness have been recorded after the use of salvarsan, or "606." He mentions a case quoted by Hutchinson of a healthy young woman who nearly died after an intravenous injection of "606." Two cases of blindness following injections of the drug were recorded by Dr. Isaac (*Berliner klinische Wochenschrift*, August 15th). A case was recently shown by Mr. Howell at the Royal Society of Medicine in which the drug had probably produced changes in the central nervous system. Dr. Marshall lastly draws attention to several cases of congenital syphilis in which the patients died shortly after and probably as a result of injections of this drug (*British Journal of Children's Diseases*).

Therapeutical Notes.

Treatment of Parkinson's Disease.—In *Quinzaine thérapeutique* for January 25, 1911, A. Robin is cited as the author of the following method of treating Parkinson's disease. The continued treatment provides for a lukewarm bath, three times a week and lasting half an hour, to which a package containing the following mixed powder has been added:

℞ Sodium sulphide, ... gr. iss;
Sodium chloride, ... 5iv,
Calcium bicarbonate, ... gr. xxv;
Calcium sulphate, ... gr. viiss;
Iron and magnesium chloride, ... gr. iss,
Sodium bicarbonate, ... gr. xxv;
Magnesium bicarbonate, ... gr. xl;
Lithium silicate, ... gr. ix,
Aluminum silicate, ... gr. xlv;
Potassium silicate, ... gr. xlv;
Sodium arsenate, ... gr. iss;
Gelatin, ... 5iiss.
M. et ft. pulv. No. 1.

Moderate exercise should be taken regularly, and the entire surface of the body should be gently laved with spirit of camphor every morning.

The occasional internal treatment should consist of the administration five minutes before breakfast and dinner of eight drops of the following mixture, in a tablespoonful or so of water:

℞ Tincture of ignatia, ... ♏xxx;
Tincture of buck bean (*Menyanthes trifoliata*), ♏xxx,
Tincture of blessed thistle (*Cnicus benedictus*), ♏xxx;
Tincture of star anise, ... ♏xxx.
Mix and filter.

Continue the drops for four days, stop for four days, and repeat again for one month.

During the interval when the drops are not given, prescribe (*a*) the administration, five minutes before each meal, of ten drops of a ten per cent. solution of sodium metharsenite (arrhenal), in a little water; (*b*) a solution of hyoscine hydrobromide as follows:

℞ Hyoscine hydrobromide, ... gr. 1/7.
Distilled water, ... 5xx
Ft. solutio.

On the first day give one teaspoonful of this solution on arising; on the second day one teaspoonful on arising and another at three o'clock in the afternoon; on the third day one teaspoonful three times a day, on arising, at eleven o'clock, and at three o'clock; on the fourth day it is given four times a day, on arising, at eleven o'clock, three o'clock, and six o'clock.

This treatment is continued for four weeks, or instead a daily injection may be given of fifteen minims of a solution of hyoscine hydrobromide of the following composition:

℞ Hyoscine hydrobromide, ... gr. 1/7;
Distilled cherry laurel water, ... 5i,
Distilled and sterile water, ... 5i
Ft. solutio.

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THE ACADEMY OF MEDICINE'S NEW BUILDING.

In our issue for February 18th we gave an outline of the work accomplished by a special committee of the New York Academy of Medicine in raising funds for enlarging the capacity of the academy's building. In a recent announcement, dated February 23d, the general committee explains somewhat at length its plan of building operations, a plan by which ultimately an entirely new structure will be provided. The academy has acquired land in Forty-fourth Street, in the rear of its present building, and in Forty-third Street, by the side of that building, and all this land is to be turned to account in the construction of the new edifice. Besides the specific advantages set forth by the committee, this scheme will admit of the use of light material for the outer walls and of architectural treatment resulting in a great improvement upon the present sombre façade of the Forty-third Street building.

"Because of the insufficient foundations of our present building," says the committee, "and because of the uncertain but large expense that would result from any remodeling of our present building, as well as the waste of expensive space if we made additional walls, the committee found itself in accord with the advice of architects who advised strongly against attempting to use our present structure as part of a completed new building." The committee believes that without interfering with the activities of the academy it is feasible to use the entire area in its possession in such a manner that ultimately the building will be new from the foundations up.

Though the committee has not yet the supporting opinion of architects, it offers the following order and general scheme of construction: The building upon the Forty-fourth Street property of a structure from eight to ten stories high, to hold the power, heating, lighting, and ventilating plants, together with the administrative offices and the book stack. In this building, it is pointed out, several of the lower stack stories could be used for reading room and meeting room purposes temporarily during the period of demolition and rebuilding upon the property on Forty-third Street. Two years, the committee thinks, should see such a structure completed, and it is to be hoped that by that time ways and means will be apparent for rebuilding on the entire Forty-third Street front.

While it is the opinion of the committee that no work should be undertaken until an acceptable plan is fully matured for the entire new structure, conclusions have been reached with regard to certain details. The stack should be built to hold 300,000 volumes and so placed as to allow of indefinite expansion by superimposing extra stories. The reading rooms for general and private use should occupy from fifty to a hundred per cent. more space than at present. The main hall should seat a thousand persons without the use of galleries. The provision for meetings and offices for medical and kindred societies should be so increased as to allow of a substantially augmented source of revenue.

SALVARSAN AS A SPECIFIC FOR YAWS.

Dr. Richard P. Strong reports in the *Philippine Journal of Science* for October, 1910, twenty-five cases of yaws successfully treated with dioxydiamidoarsenobenzol. The salvarsan was sent by Professor Ehrlich and was used intramuscularly, the site of injection being the gluteal muscles. The patients were all Filipinos, and as a rule no great complaint of pain was made, although a number of young children were among the inoculated, while a European suffering with syphilis, who was given a large injection into the buttock, suffered severe pain, lasting for nearly twenty-four hours. It was found that in every one of the cases of yaws treated a single injection of salvarsan was sufficient to produce a cure, even though a number of the patients showed tertiary lesions with ulcerations. A few of them had previously been treated with iodides, but all other treatment was suspended after the injection. Dr. Strong also [illegible] a Wassermann reaction.

The synopsis of the cases as given by Strong is as follows: Three or four days after the injection of the drug, the granulomatous lesions began to disappear, and in the course of from ten to twenty days they had usually disappeared entirely, leaving a perfectly smooth pigmented skin where the lesions had previously existed. The absorption of tumor masses measuring several centimetres in diameter and about a centimetre in thickness in so short a time, and without the influence of any local treatment whatever, was very striking and surprising. Even in cases where large granulomatous masses or deep ulcerations existed, these were healed within from two to four weeks. A slight reddening appeared about the margins of the lesions in from twenty-four to forty-eight hours after the injection of the preparation. The centre of the lesion then usually assumed a purplish or bluish, congested appearance. Phagocytes were attracted to this area, which assumed a grayish or brownish hue. The spirochætæ quickly disappeared and the granulomatous tissue became absorbed, leaving dark pigmented areas of skin which later resumed their normal color. In cases in which crusts existed, these frequently dropped off. The patients thus treated had shown no signs of relapse, although they received but a single injection, and over four months had elapsed since most of them were inoculated.

Strong concludes that the cure of yaws by dioxydiamidoarsenobenzol and the successful results which have been obtained with it in the treatment of certain cases of syphilis may suggest again the identity of yaws and syphilis. It does not appear strange to him that this preparation should have such a destructive action upon both *Treponema pertenue* and *Treponema pallidum,* since both from a morphological and from a biological standpoint these two organisms appear closely related, a fact which may explain why potassium iodide, which is so valuable in the treatment of syphilis, has hitherto been the most efficient remedy employed in the treatment of yaws. He thinks, like other observers, that the therapeutic argument for the identity of yaws and syphilis, and hence for the identity of their specific organisms, is very fallacious. Many instances in medicine might be quoted in support of this statement; for example, quinine, which destroys certain forms of *Plasmodium malariæ, Plasmodium vivax,* and *Laverania malariæ,* also destroys *Amœba dysenteriæ.* Strong closes his article with the following sentence: "It would appear that dioxydiamidoarsenobenzol is as important a specific for yaws as quinine is for malaria. Therefore a fourth medicinal specific in medicine has been discovered."

Dr. Henry Noble Hill, [illegible] reports in the *British Medical Journal* of February 18th very interesting experiments with dioxydiamidoarsenobenzol in framboesia. Eighteen patients with yaws (adults and children) received each an intramuscular injection of salvarsan. The injection was made deep into the muscle of the buttock, and the adults were given 0.6 gramme of salvarsan in an emulsion with six cubic centimetres of sterilized olive oil. In twenty-four hours a marked improvement was noticeable, the yaws tubercles drying up from the periphery, so that whitish circles appeared surrounding them. This improvement continued until the patients seemed to have been cured.

Having read a report of a breast fed infant with hereditary syphilis being cured by injecting the syphilitic mother with salvarsan, Mr. Alston made the following experiments: He put a cantharides blister on a number of the yaws patients cured by salvarsan, and injected the serum from the blister into several other persons with yaws, the adult dose being sixteen cubic centimetres. The serum acted as rapidly as the original dioxydiamidoarsenobenzol. In some cases improvement was noticed in sixteen hours after the injection. To verify his experiments, Mr. Alston put a cantharides blister on some healthy persons and injected the resulting normal human serum into yaws patients without results. Furthermore, he put blisters on three patients with yaws and used the patients' own serum for injection, again without results. Finally, he used boiled serum from yaws patients that had been cured after Ehrlich-Hata treatment in yaws cases, and the serum was efficacious. When these experiments were carried out, no other treatment of any kind was used, and no complications, local or general, occurred.

POSTOPERATIVE OCCLUSION OF THE DUODENUM.

In an interesting article (*Presse Médicale,* August 20, 1910) Hardouin reports five cases of postoperative occlusion of the duodenum, characterized by copious and frequent vomiting and epigastric distention, contrasting with the evident retraction of the remainder of the abdomen. When left to itself this acute dilatation of the stomach rapidly ends by death from collapse, occasionally after a period of temporary quiet. The process has been met with after removal of uterine fibroids or ovarian cystomata. The treatment of the vomiting is exceedingly simple; all that is necessary is to place the patient in the genupectoral position, when the symptom will rapidly subside. Frequently diarrhœa terminates the scene. At autopsy the stomach and duodenum will be found greatly distended, the latter

organ being compressed at the point where the superior mesenteric artery passes over it.

There are two possible explanations of this process. Either the duodenum is primarily compressed by the mesenteric artery, with the result that the duodenum and stomach become dilated, or the gastric dilatation is primary. From its weight and size the stomach pushes down the intestinal mass, thus causing a severe traction on the mesentery, which in turn brings about compression of the duodenum. Hardouin is rather inclined to the latter theory. According to him, the cause of the gastric dilatation should be looked for in the nervous system. A reflex inhibition of the solar plexus arises, having the sensitive nerves as a starting point; in his cases it was the sensitive peritoneal nerves. However, he points out that acute dilatation of the stomach can arise without any surgical procedure having taken place.

HYPERTHYREOIDISM AND TUBERCULOUS DISEASE.

The difficulty of distinguishing between early tuberculous disease and a mild degree of hyperthyreoidism is given little if any attention in most textbooks and monographs. Yet the fact that either condition may mimic the other quite closely must be admitted when the number of symptoms common to the two conditions is recalled. The tachycardia, temperature, tendency to sweating and to digestive disturbances, the loss of weight, and the psychical condition suggest either possibility. Furthermore, it is a well known fact that the thyreoid is frequently enlarged in tuberculous disease. This is in all probability a physiological response on the part of the gland to the greater demands made upon its antitoxic function. The diagnosis of the presence of either uncomplicated condition is of course made easy by the presence of other characteristic signs in certain instances, while in others some time is required to distinguish them.

The coexistence of tuberculous disease and exophthalmic goitre has been noted by many observers. The frequency with which this association is overlooked has been emphasized in a recent paper by Dr. F. Bialokur (*Zeitschrift für Tuberkulose*, December). The symptoms of a beginning pulmonary tuberculous affection sketched in upon the picture of a well developed case of Graves's disease are too often attributed to a simple bronchitis when a careful examination would reveal their true significance. On the other hand, it is not at all uncommon to find suffering from tuberculous infection a patient whose thyreoid gland has responded [illegible] is liberating an excessive amount of its active product. Bialokur states that excessive sweating, palpitation of the heart, diarrhœa, and nervousness in tuberculous disease are not infrequently due to this cause. It is much more frequent in women than in men and may occur in any stage of the disease, but is less often seen in the advanced stage. The dominating symptom is palpitation, and it is ordinarily this complaint which draws attention to the condition. The thyreoid gland is found to be somewhat enlarged, but in rare cases only does it attain to considerable size. An obvious exophthalmos is seldom seen, but on careful examination there is always at least a suggestion of it. He states that the sexual instinct is usually exaggerated.

The result of this hyperthyreoidism is to stimulate the tuberculous process, and the increased tuberculous toxæmia in turn stimulates the activity of the thyreoid, so that a vicious circle is formed which is very difficult to break up. For this purpose Bialokur suggests recourse to surgical measures or the exposure of the thyreoid gland to the Röntgen rays. He reports a number of cases treated by the latter method with very favorable results. The symptoms of hyperthyreoidism were completely controlled, and the patients, relieved of this added burden, made much better progress in their fight against the tuberculous trouble. Reports vary as to the efficacy of the x ray in Graves's disease, but beneficial results are obtained in a certain number of cases, and it might well be tried before having recourse to operative measures in the presence of pulmonary tuberculous disease. It might be suggested that the possibility of the hyperthyreoidism being due, in part at least, to an alimentary toxæmia should also be borne in mind, particularly in the case of patients who have been subjected to an indiscriminate stuffing process. An appropriate control of the diet, with such other measures as may suggest themselves for the purpose of combating toxæmia, may prove of much service. Fortunately the prime indications for the treatment of both hyperthyreoidism and tuberculous disease during the active stages are the same—fresh air and rest.

[illegible] DILATATION.

[illegible] to note in certain patients the association of bronchial dilatation with such other lesions as syphilitic aortitis, aneurysm of the aorta, locomotor ataxia, and hepatic lesions. It is because of these coincidences and being inspired with Tripier's ideas that he has endeavored to establish the syphilitic origin or bronchiectasis. This association of bronchial

dilatation with certain visceral lesions generally recognized as being due to syphilis is an argument to be added to the histological proofs established by Tripier in favor of their syphilitic origin.

Moreover, Wassermann's reaction was positive in all the cases where the test was resorted to by Abécassis in subjects presenting bronchial dilatation. This notion once established and admitted, pulmonary syphilis, in this pathological type, should be much more frequent than is generally supposed. From the practical standpoint, it is quite important to be aware of the syphilitic ætiology of bronchiectasis in order to be sure when certain symptoms presented by the patient lead one to suspect it. On the other hand, the early resort to an appropriate treatment, at least at the beginning of the lesion, that is to say, before the development of bronchopneumonia or gangrene of the terminal portion of the bronchial ramifications, may favorably influence the evolution of the process.

Obituary.

ALOYSIUS O. J. KELLY, M. D.,
of Philadelphia.

This distinguished physician and well known writer died on Thursday, February 23d, at the early age of forty-one. He was the professor of the theory and practice of medicine in the University of Pennsylvania at the time of his death. He obtained his degree from the Medical Department of the University of Pennsylvania in the year 1891, and from that time made Philadelphia the scene of his career. He was for several years prominent in editorial work, in which his excellence was conceded by everybody conversant with his achievements.

News Items.

The University of Pennsylvania Medical Bulletin Discontinued.—Announcement is made by the editorial board that the University of Pennsylvania Medical Bulletin was discontinued on March 1st.

Dr. Edsall's Successor.—Dr. Alfred Stengel, professor of clinical medicine in the University of Pennsylvania, has been appointed professor of medicine to succeed Dr. David L. Edsall, who resigned recently to accept the chair of preventive medicine at Washington University, St. Louis.

New York Academy of Medicine.—At a stated meeting of the academy, to be held on Thursday evening, March 16th, Surgeon General Walter J. Wyman, of the United States Public Health and Marine Hospital Service, will deliver an address on Some Present Day Public Health Activities.

The New Amsterdam Eye and Ear Hospital to be Closed.—The New Amsterdam Eye and Ear Hospital, in West Thirty-eighth Street, has received permission from the courts to sell its property for $60,000. The institution has been conducted at a loss and will be discontinued in the near future.

Typhoid Fever and Tuberculosis in the Philippines.—In view of the increase in the number of cases of typhoid fever and of the desirability of having more accurate statistics with regard to tuberculosis in Manila, these two diseases have been placed upon the list of those for which notification is compulsory.

An Outbreak of Diphtheria at Johns Hopkins.—On account of what appears to be a general outbreak of diphtheria among patients, nurses, physicians, and students at the Johns Hopkins Hospital, the medical school was closed on February 25th. On February 26th the total number of cases reported was forty-three. None of the cases are very serious, however, and it is expected that the outbreak will soon be under control. The medical school will probably be reopened next week.

The Harvey Society Lectures.—The seventh and eighth lectures in the course will be delivered on March 25th and April 1st, respectively. The lecture on March 25th will be delivered by Professor H. Gideon Wells, of the University of Chicago, on Calcification and Ossification. The eighth lecture, which is the last in the course, will be delivered by Dr. S. Weir Mitchell, of Philadelphia, the subject being William Harvey, the Discoverer of the Circulation of the Blood.

The Opening of the Chemists' Building.— The joint committee of arrangements, representing the Chemists' Building Company and the New York Sections of the American Chemical Society, the Society of Chemical Industry, the American Electro-chemical Society, Verein Deutscher Chemeker, and the Chemists' Club, have issued invitations to the formal opening of the Chemists' Building, which will be held at 52 East Forty-first Street, New York, on Friday afternoon, March 17th, at half past three o'clock.

The Massachusetts General Hospital.—In the ninety-seventh annual report of this institution, which has just been issued, the trustees say that a new administration building is needed, also a new building for nurses, and a ward building. A country branch to which surgical cases could be sent to regain strength is recommended, and it is suggested that a private hospital nearby for those who are able to pay their own surgeon or physician but need the advantages which only a hospital can supply, would serve a good purpose.

The Plague Unchecked in Manchuria.—According to press despatches, dated February 28th, Pei-Chuan-Lin-Tze, about fifty miles north of Harbin, is being ravaged by the plague, about two thousand deaths daily being reported. The disease is raging at Kirin, Hulan-Chen, opposite Harbin, and at Bodune, about one hundred miles southwest. Bread riots have occurred throughout the stricken district. The foreign consuls are preparing to depart. Troops have refused to march into the infected district, and martial law has been established.

Personal.—Dr. Frederick J. Leviseur, of New York, has been appointed consulting dermatologist to the Montefiore Home.

Dr. I. L. Nascher, of New York, delivered a lecture on Geriatrics before the Bennett Medical College, Chicago, on Tuesday evening, February 28th. It is said that this college will probably include the subject of geriatrics in its curriculum next year.

Dr. Theodore C. Janeway has been appointed senior attending physician to the Presbyterian Hospital, thus becoming head of the medical staff.

Dr. Leartus Connor Honored.—Dr. Leartus Connor, of Detroit, was the guest of honor at a dinner given by the medical profession of Detroit on the evening of February 23d, to celebrate Dr. Connor's completion of forty years of active practice in the city of Detroit. Nearly one hundred physicians were present, and letters and telegrams of congratulations were received from many others who were unable to attend the dinner. Dr. Walter P. Manton acted as toastmaster, and among those who spoke were Dr. Charles B. Stockwell, of Port Huron, Dr. L. E. Maire, Dr. Frank B. Tibbals, and Dr. Guy L. Kiefer.

The American Society of Medical Sociology.—A meeting of this society will be held at No. 12 Mount Morris Park West, New York, on Saturday evening, March 4th, at 8:30 o'clock. Dr. William J. Robinson, president of the society, will deliver an address on the Rational Limitation of Offspring, the Most Important Immediate Step for the Betterment of the Human Race from an Economic and Eugenic Standpoint. The discussion will be opened by Dr. Abraham Jacobi, Dr. S. Adolphus Knopf, Dr. Heinrich Stern, Dr. James P. Warbasse, and will be continued by other members of the medical profession and the laity. A cordial invitation to attend is extended to all who are interested.

A Department of Tropical Medicine at the Postgraduate Medical School.—[illegible] ...lical School and Hospital where physicians will receive instruction in the treatment of diseases of the tropics. ... will have its own laboratories and two wards will be set aside for its exclusive use. Captain J. F. Siler, of the Medical Corps of the Army, is organizing the department. There is now a small clinic, and when the school moves into its enlarged quarters in October there will be further development along broader lines. The course which has been planned will be for graduate physicians only.

The New Wing of the St. Francis Hospital, ...nx, was opened on Wednesday, February 22d. There was a reception on the ground floor of the new, completely equipped, four story building, which is to be used to house the staff and the servants of the hospital. The completion of this structure rounds out the original plans for the entire hospital of the Sisters of the Poor of St. Francis. Together with St. Joseph's Hospital in the next block it makes the largest hospital community in the city. Dr. John H. Dorney, chairman of the reception committee, was assisted by Dr. L. F. Warner, Dr. John Shrady, Dr. Thomas McParlan, Dr. Francis Donlon, Dr. Alexis Leon, Dr. Frederick Kameron, Dr. Daniel J. Donovan, Dr. William Neuman, and Dr. John H. Larkin. There were more than one hundred physicians present.

The East Side Physicians' Association of New York.—At the regular meeting of the society, held at the Café Boulevard, on February 23d, the Early Diagnosis of Carcinoma was the subject of the evening. The following papers were read: Laboratory Methods in the Diagnosis of Carcinoma, by Dr. Richard Weil; Glycyl Tryptophan Reaction for Carcinoma of the Stomach, by Dr. William G. Lyle; Carcinoma of the Skin, by Dr. William Gottheil; Uterine Carcinoma, by Dr. Ralph Waldo; Carcinoma of the Breast, by Dr. Archibald E. Isaacs; Gastric Carcinoma, by Dr. Albert A. Berg. These papers were discussed by Dr. Morris Manges, Dr. Arthur F. Chase, Dr. Simon Strauss, Dr. Julius W. Weinstein, Dr. Gedide Friedman, Dr. Arnold Sturmdorf, Dr. Harry G. Watson, Dr. Meyer Rubin, Dr. Jonathan G. Wells, Dr. Anthony Bassler, and Dr. J. M. Lynch. It was a very large and enthusiastic meeting.

The Society of the Alumni of Bellevue Hospital celebrated its twenty-fifth anniversary on Tuesday, February 28th. A meeting was held at the hospital in the afternoon, and in the evening there was a dinner at Delmonico's. Two hundred and fifty members of the alumni association were present. Dr. Floyd M. Crandall, president of the society, was toastmaster, and among those who spoke were Dr. Stephen Smith, one of the oldest members, Dr. J. W. S. Gouley, Surgeon General Charles F. Stokes, of the Navy, Dr. William M. Polk, president of the New York Academy of Medicine, Dr. Joseph D. Bryant, and Dr. John Winters Brannan. Dr. Starling Loving, of Columbus, Ohio, who is said to be the oldest member of the alumni society, was present. Dr. Loving and Dr. William Dibbons, who died recently, were the first paid internes at Bellevue, and they worked in the cholera epidemic. At the dinner were fourteen of the nineteen founders of the society.

The Forsyth Dental Infirmary.—The Forsyth Dental Infirmary for Children, Boston, was founded by John Hamilton and Thomas Alexander Forsyth in memory of their brothers, James Bennett and George Henry Forsyth, and was incorporated in 1910. A tract of land on the Fenway has been purchased as a site for the institution, and tentative plans for the buildings have been made public by the trustees. These plans provide for a building three stories in height, built in a U shape, so that light from all sides can be permanently assured, the building material being either cut stone, white or Tennessee marble. The institution will be devoted to the care of children's teeth. It will offer an opportunity to all deserving children under the age of sixteen years to obtain, free of charge, expert advice and care of their teeth. Apart from actual work on mouths, it is expected to furnish valuable practical teaching in oral hygiene. Provision has also been made for research work. A research fellowship has been established and is now held by a man selected for his fitness. The laboratory will be so equipped as to offer opportunity under expert supervision for special work in research. The lecture room will be used for the educa-[illegible]

To Inflict the Death Penalty by Electrocution in Pennsylvania.—A hearing has been given the bill recently introduced into the State legislature of Pennsylvania which provides for changing the method of inflicting the death penalty from hanging to electrocution, and confining the execution of such sentences to the two State penitentiaries. This bill has been amended so as to provide that an autopsy be held immediately after the execution; that the body of the criminal be turned over to the State anatomical board, unless it is claimed by relatives, and that not more than six representatives of the press witness the execution. The measure will be favorably reported to the house. Among those who addressed the committee which has charge of the bill, were Dr. Edward A. Spitzka, of Jefferson Medical College, Philadelphia; Dr. William J. Dugan, also of Jefferson College, and Dr. Frank G. Scammell, county physician of Mercer County, N. J.

The Third International Laryngorhinological Con-[illegible] and September 1st and 2d, this year. The programme provides for a discussion of the following questions: The relation of experimental phonetics to laryngology, introduced by Dr. Gutzmann, of Berlin, and Dr. Struyken, of Breda; bronchoscopy and œsophgoscopy, indications and contraindications, introduced by Dr. Killian, of Freiburg, Dr. Kahler, of Vienna, and Dr. Chevalier Jackson, of Pittsburgh; the lymphatic apparatus of the nose and of the nasal fauces in its relation to the body in general, introduced by Dr. Broeckaert, of Ghent, Dr. Poli, of Genoa, and Dr. Logan Turner, of Edinburgh; the so called fibrus polypi of the nasal fauces, their ætiology and treatment, introduced by Dr. Jacques, of Nancy, and Dr. Hellat, of Petersburg. The secretary of the congress is Professor Rosenberg, Berlin, N. W., Schiffbauerdamm 26.

The Tuberculosis Campaign in the Phillippines.—An Antituberculosis Society for the Philippine Islands was organized on July 29, 1910. This society has begun practical work in many directions and has been largely instrumental in starting the Tuberculosis Camp at "El Deposito," San Juan del Monte. A number of public meetings have been held and much publicity work has been done in disseminating useful information with regard to tuberculosis. With the successful inauguration of this project, the Philippine Islands take rank with the most advanced communities of the world with respect to the measures which they have taken for the prevention and suppression of this disease. At the San Juan Camp approximately twenty incipient hospital cases will be provided for, and in addition the antituberculosis society will provide quarters for one hundred persons who will use this place as a night camp to be utilized mainly by individuals who work at their various occupations during the day.

Gifts and Bequests to Hospitals.—The will of Mrs. Sarah H. Porter, of Philadelphia, who died in Atlantic City on February 11th, contains a bequest of $1,000 to St. Christopher's Hospital for Children, Philadelphia.

The Presbyterian Hospital, New Orleans, will receive $20,000, through the will of Mr. W. R. McKowen, who died in New Orleans recently.

The will of Catherine M. Harron, late of Philadelphia, contains bequests of $1,000 to each of the following institutions: St. Francis's Hospital, at Trenton, N. J., the Free Hospital for Poor Consumptives, St. Joseph's Hospital, St. Agnes's Hospital, and St. Vincent's Hospital, Philadelphia.

Mrs. Minnie Bachman, of Sharon, Pa., has announced a gift of $10,000 to the Lancaster General Hospital, to be used to provide a free room to be used exclusively by residents of Strasburg and vicinity.

Many Jewish charities were remembered in the will of Mrs. Annie M. Ferguson, who died recently in Pittsburgh. The following is a partial list of these bequests: Montefiore Hospital, $1,000; the Jewish Consumptives' Relief Society, of Denver, Col., $1,000; the House of Shelter, of Pittsburgh, $500; the Jewish Home for the Aged, $100.

The will of Mrs. Mary Elizabeth Woodhull Perry, of Boston, includes a bequest of $4,000 to the Eastern Maine General Hospital, at Bangor, for the establishment of a child's cot, to be known as the Little Arthur Cot, in memory of her little brother. The home for Aged Women, in Bangor, will receive $5,000.

By the will of Anton W. von Utassy, who died in Germantown, Pa., on February 15th, the Hahnemann Hospital will receive $5,000, on the death of the testator's widow, [illegible]

The Health of Philadelphia.—During the week ending [illegible], the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Typhoid fever, 17 cases, 3 deaths; scarlet fever, 47 cases, 7 deaths; smallpox, 2 cases, 0 deaths; chickenpox, 47 cases, 1 death; diphtheria, 96 cases, 18 deaths; measles, 512 cases, 10 deaths; whooping cough, 20 cases, 2 deaths; pulmonary tuberculosis, 90 cases, 59 deaths; pneumonia, 61 cases, 71 deaths; puerperal fever, 1 case, 2 deaths; erysipelas, 10 cases, 2 deaths; mumps, 18 cases, 0 deaths; tetanus, 1 case, 0 deaths; trichiniasis, 1 case, 0 deaths; trachoma, 2 cases, 0 deaths. There were 6 deaths from tuberculosis other than that of the lungs, and 12 from diarrhœal diseases under two years of age. There were 43 stillbirths: 26 males, and 17 females. The deaths from all causes numbered 526, in an estimated population of 1,573,509, corresponding to an annual death rate of 17.38 in a thousand of population.

Sleeping Sickness Expedition to Africa.—In continuation of the vigorous policy of the Liverpool School of Tropical Medicine in applying its energies to battling against disease in the region of the equator, the twenty-seventh expedition of that institution has just sailed from Liverpool for Gambia and Senegal. The object is to investigate the cause of sleeping sickness in the regions named and the distribution of the tsetse fly which carries the disease. The expedition is composed of Prof. J. L. Todd, of Macdonald University, Canada, Dr. Walbach, of Harvard University, and Mr. Ernest Todd, a Canadian. An expedition was sent out by the society to Senegal and Gambia in 1902 for a similar purpose, but Dr. Dulton, one of the two members thereof, contracted the sleeping sickness disease and died in Africa. The present expedition is to continue the investigations of the one that terminated so unhappily, and it is believed will be greatly assisted by the discoveries which have been made since 1902. It is purposed to test thoroughly several theories which are now practically accepted.

Vital Statistics of New York.—During the week ending February 18, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,644, corresponding to an annual death rate of 17.21 in a thousand of population, as compared with a rate of 16.39 for the preceding week, and a rate of 17.12 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 18.78; the Bronx, 15.98; Brooklyn, 16.50; Queens, 12.60; Richmond, 11.60. There were 134 stillbirths. The deaths of children under five years of age numbered 439, of whom 280 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 39; over five years of age, 47. There were 203 deaths from pulmonary tuberculosis, 154 from pneumonia, 123 from bronchopneumonia, 108 from Bright's disease, 181 from organic heart diseases, and 98 from congenital debility and malformations. There were 15 deaths from suicide, 4 from homicide, and 62 due to accidents. One thousand and six marriages and 2,367 births were recorded during the week.

The Health of Chicago.—During the week ending February 18, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 13 cases, 3 deaths; measles, 151 cases, 3 deaths; whooping cough, 16 cases, 1 death; scarlet fever, 199 cases, 16 deaths; diphtheria, 144 cases, 11 deaths; chickenpox, 55 cases, 0 deaths; tuberculosis, 147 cases, 86 deaths; pneumonia, 84 cases, 132 deaths. There were 9 cases of smallpox, 2 of German measles, 2 of cerebrospinal meningitis, and 57 of contagious diseases of minor importance, making the total number of cases reported 879, as compared with 822 for the preceding week, and 906 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 45, and there were 36 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 196, of whom 142 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 678, corresponding to an annual death rate of 15.8 in a thousand of population, as compared with a rate of 15.5 for the preceding week and a rate of 14.8 for the corresponding period last year.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending February 25, 1911

	February 18th		February 25th	
	Cases.	Deaths.	Cases.	Deaths.
[illegible]	526	203	566	200
Diphtheria and Croup	396	23	389	8
Measles	434	17	360	[illegible]
Scarlet fever	503	26	519	[illegible]
Smallpox	[illegible]	[illegible]	[illegible]	[illegible]
Varicella	176	[illegible]	147	[illegible]
Typhoid fever	28	8	17	4
Whooping cough	88	[illegible]	48	[illegible]
Cerebrospinal meningitis	[illegible]	[illegible]	8	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Reading Matter Wanted by New York Hospitals.—Commissioner Lederle, of the New York Department of Health, announces that donations of old magazines would be acceptable for use at the hospitals of the department, particularly at the institutions for tuberculous patients, the Otisville Sanatorium and Riverside Hospital, on North Brother Island. At Riverside the patients have lately taken great interest in cutting out the illustrations from old magazines, framing them, pasting them on boxes, and otherwise using them in making articles for sale at the fairs and bazaars which the nurses and physicians get up for the patients from time to time. The magazines thus furnish the means of cheering occupation to the patients, as well as employment from the reading material. Any pictures that could be used for decorating the walls of the wards, or any discarded toys would also be most acceptable. There are about 260 patients now in the wards of Riverside Hospital and there are 401 tuberculous cases in the sanatorium at Otisville. Such magazines, pictures, and toys, if addressed to the Department of Health, Fifty-fifth Street and Sixth Avenue, New York, will be gratefully received, in any quantity small or large, and will be immediately forwarded to the hospitals.

Society Meetings for the Coming Week:

MONDAY, *March 6th.*—German Medical Society of the City of New York; Utica, N. Y., Medical Library Association; Niagara Falls, N. Y., Academy of Medicine; Practitioners' Club, Newark, N. J.; Hartford, Conn., Medical Society; Roswell Park Medical Club, Buffalo; Hornell, N. Y., Medical and Surgical Association.

TUESDAY, *March 7th.*—New York Academy of Medicine (Section in Dermatology); New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Ogdensburgh, N. Y., Medical Association; Oswego, N. Y., Academy of Medicine; Hudson County, N. J., Medical Association (Jersey City); Medical Association of Troy and Vicinity; Long Island Medical Society; Bridgeport, Conn., Medical Association; Syracuse, N. Y., Academy of Medicine; Society of Alumni of Lebanon Hospital, New York; Lockport Academy of Medicine; Amsterdam City Medical Society.

WEDNESDAY, *March 8th.*—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx, New York; Alumni Association of the City Hospital, New York; Brooklyn Medical and Pharmaceutical Association; Medical Society of the County of Richmond, N. Y.; Dunkirk and Fredonia Medical Society; Alumni Association of the Norwegian Hospital, Brooklyn.

THURSDAY, *March 9th.*—New York Academy of Medicine (Section in Pædiatrics); Brooklyn Pathological Society; Blackwell Medical Society of Rochester, N. Y.; Jenkins Medical Association, Yonkers, N. Y.; West Side Clinical Society, New York; Buffalo Ophthalmological Society; Society of Physicians of the Village of Canandaigua; Gloversville and Johnstown Medical and Surgical Association; Physicians' Club of Middletown, N. Y.

FRIDAY, *March 10th.*—New York Academy of Medicine (Section in Otology); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Saratoga Springs Medical Society; Society of Clinical Serology; Society of Ex-internes of the German Hospital, Brooklyn; Society of Alumni of St. Luke's Hospital, New York.

SATURDAY, *March 11th.*—Physicians' Club, New York.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL

February 22, 1912

1. A [illegible] Midwifery. [illegible] LINCOLN HUNTINGTON.
2. Some Practical Points in Connection with Dislocation [illegible] Bigelow. By GEORGE H. MARKS.
   Ovarian Pregnancy. Report of a Case. [illegible]

1. **Midwifery.**—Emmens and Huntington describe the midwife situation in the several States and abroad. They say that two standards of skill and a divided responsibility are inevitably found. The midwife must either be a competent, trained obstetrician, or she must become a subordinate cooperating with the obstetrician, as does our excellent trained obstetrical nurse, relying on his judgment and resting with him the responsibility of the two lives, before a system harmonious and satisfactory can result. The story of temporizing with the ignorant, half trained, often malicious midwife in our sister States to-day reads like many another misguided "freedom" which is virtually a license by the State to practise quackery on an ignorant, unsuspecting public. The women and infants pay for this "freedom" in deaths, unnecessary invalidism, and blindness. Who are to blame? Is it the ignorant public? Shall we blame the legislators? They believe it to be the duty and privilege of the medical profession of America to safeguard the health of the people; they believe it to be the duty and privilege of the obstetricians of our country to safeguard the mother and child in the dangers of childbirth. The obstetricians are the final authority to set the standard and lead the way to safety. They alone can properly educate the medical profession, the legislators, and the public. A resolution of the Women's Municipal League awaits only a formal endorsement to urge the importance of legislation, not for the licensing and regulating of the midwife, but for such minor changes in the laws as will make the present statutes effective in dealing with the midwife in Massachusetts.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

February 25, 1912

1. Retroperitoneal Shortening of the Round Ligaments. By F. F. SIMPSON.
2. Technique of Examination of Œsophageal Lesions. By H. [illegible]
   Technique for Removal of the Appendix and Fixation of the Cæcum. By [illegible]
4. Observation on Twenty-Eight Patients Treated with the Ehrlich-Hata Remedy (Salvarsan). By B. C. CORBUS.
5. Intraperitoneal Shortening of the Round Ligaments for Retroversion of the Uterus through the Temporarily Dilated Inguinal Canals and Internal Rings, with Closure of the Wounds by a Careful Hernia [illegible] By [illegible]
   Immunology. A Medical Science Developed through Animal Experimentation. By FREDERICK P. GAY.
7. Transfusion in Pellagra: A Review of Twenty Cases. By H. P. COLE.
   Experimental Poliomyelitis in Monkeys. Immunity Principles. Effects of Hexamethylenamine; Early Diagnosis; Virus Carriers. By [illegible]
9. Cultivation in Vitro of Rat Sarcoma. By R. A. LAMBERT and F. M. HANES.
10. Arsenic in Syphilis. By A. HERTZFELD.
11. Weak Medical Schools as Nurseries of Medical Genius. By [illegible] S. PITCHELL.

2. **Examination of Œsophageal Lesions.**—Plummer speaks of the technical methods which have proved of special value in the examination of œsophageal lesions, and may be grouped under three heads, namely: Röntgenography, œsophagoscopy, and the various methods of sounding. Röntgenography discloses thoracic masses obstructing the œsophagus by pressure from without, and occasionally a good shadow may be obtained of an œsophageal tumor. Its chief service is that of revealing the position, shape, size, and relations of diverticula and dilatations when filled with bismuth mixtures. Diverticula, as a rule, give shadows which are characteristic. The large dilatations which occur in the upper third of the œsophagus above organic strictures can be distinguished from diverticula by a tail-like portion of bismuth extending downward from the bottom of the sac. However, this may be absent. Passing a small sound on a thread quickly distinguishes the two conditions. Most striking are the large, irregularly spindle shaped shadows obtained in cases of diffuse dilatation of the œsophagus following spasmodic and, infrequently, organic stricture at the cardia. In cases of cardiospasm the lower extremity of the shadow is cone shaped and its apex corresponds to the hiatus œsophagi, while in cases of organic stricture the outline is irregular and terminates above the hiatus. In most instances the dilatation extends to the upper border of the manubrium and is constricted at the root of the lung. The dilatations occurring above organic strictures are, as a rule, of limited extent and in their lower portion irregular in outline. While the fluoroscopic pictures are interesting in studying both the normal and pathological processes of deglutition, they add but little to the plate method in œsophageal diagnosis. Mucilage of acacia has proved the most valuable vehicle in which to give bismuth. It adheres to the œsophageal wall and can be readily washed out. The heavier bismuth meals and the rubber bags filled with bismuth do not give any advantage commensurate with the discomfort caused the patient. The bismuth capsule but rarely gives information not more easily obtained by other methods of examination. The adaptation of Mixter's method of using a silk thread as a guide has proved of inestimable value. The patient swallows six yards of silk thread. This passes down through a sufficient number of coils of intestine to prevent its withdrawal on being pulled taut. With the whalebone staff and olive passed on a silk thread we may locate pockets, determine their depth, measure the diameter of strictures, divulse them, and estimate the rigidity of the œsophageal wall at the seat of narrowing. Only sufficient force to detect obstruction is permissible in advancing an unguided œsophageal sound. With a silk thread that degree of force may be used which is short of carrying the thread out of its course and through the œsophageal wall, or of endangering the œsophagus by longitudinal traction, or of splitting the œsophagus by a dilating wedge. If sufficient obstruction is encountered to make it seem possible that the thread might be carried out of its course, a piano wire should first

be passed on a thread and the olive passed on the wire. With the wire in place the possibility of introducing a sound is assured. When passing an olive on the wire, tension on the thread should be maintained to avoid any possibility of the tip of the wire penetrating the wall of the stomach or œsophagus. Leaving foreign body cases out of consideration, the most essential service of œsophagoscopy is that of revealing the character of the œsophageal wall. It is a relatively safe procedure in the hands of one who has acquired good technique. Friction on the walls of the passage is an important element, as it makes advancement of the instrument jerky and obscures any fine sense of resistance at the tip of the instrument. He calls attention to Brunning's modification of Killian's œsophagoscope. It has a convenient and a sufficiently strong handle to permit of bringing the cardia into view, a light that rarely fails at the critical moment, a short upper section with a tip well adapted for easily passing the cricoid, and that eliminates friction in introducing a telescoping section through the lower portion of the œsophagus. A satisfactory examination can, in the majority of cases, be made without an anæsthetic in less than five minutes. In rare instances a guide becomes necessary to pass the cricoid, a ledge of mucous membrane, or a tortuous œsophagus, the lumen of which is large enough to admit an œsophagoscope. This guide must follow the lumen of the œsophagus in such a way as to make perforation with its tip impossible. At its tip it should be sufficiently flexible to follow the lumen of the canal or a silk thread, and yet not double on itself. From its tip it should gradually merge into the rigid staff of the œsophagoscope so as not to permit of any abrupt curve or ledge which might bruise or gouge the mucous membrane. In œsophagoscopic work one of the chief drawbacks is the constriction of the œsophagus above that portion of the œsophageal wall essential to our knowledge. In about thirty-five per cent. of the cases of carcinoma, for instance, the mucous membrane is intact at the lowest point in the œsophagus which can be brought under inspection. A small œsophagoscope may be introduced through a preceding one, with a guide, sufficiently far to bring the involved mucous membrane into view. The elimination of friction by the first instrument introduced permits of safely carrying out this procedure in a good many instances. Occasionally the thread is a valuable guide in following the course of the œsophagus with the œsophagoscope. To the experienced operator this is not of much advantage, except in cases of congenital malformation and in locating the slitlike opening into the distal portion of the œsophagus in cases of diverticula. When drawn taut the thread impinges on that margin of the distal opening of the œsophagoscope toward the lumen of the œsophagus.

4, 10. **Salvarsan.**—Corbus, from his experience, thinks that the intravenous method is vastly inferior to the intramuscular method, on account of its rapid elimination. He gives the technique of the alkaline intramuscular injection, as proposed by Alt and Lesser, in detail, the dose being 0.5 gramme in women and 0.6 gramme in men. At the time of writing his article Corbus was able to retreat his patients in the fifth or sixth week. In those that have gained a negative Wassermann reaction before the second injection, he stops treatment after the second injection. In those that still show a positive Wassermann reaction, he continues the treatment with mercury until such a time as he feels justified in injecting the salvarsan a third time. He concludes that a single injection has in favorable cases approximately the same result as a four or five months' treatment with mercury and iodine. It may show a brilliant effect in cases in which mercury and iodine have failed. Salvarsan has advanced the treatment of syphilis in a decided manner, but on account of its strong arsenic content, repeated doses may have a disastrous effect on the human organism. Every physician should master the technique before attempting to use it; only in this way will the drug be safely guarded from many pitfalls.—— Hertzfeld reports his experience with arsenic preparations in the treatment of syphilis. He thinks the most important field for the use of salvarsan is in the acute stages of syphilis. He says that even if salvarsan does nothing more than to heal the primary lesion as rapidly as it does and thereby prevent a further invasion of the system and close an avenue of infection to others, it has accomplished a great deal.

5. **Retroversion of Uterus.**—Goldspohn observes that the improved Alexander operation thoroughly performed has more good and approximately perfect results recorded to its credit than, so far, are recorded to the credit of all other operations combined that have been performed chiefly for retroversion of the uterus. No Alexander operation should ever be performed without digital exploration within the pelvis through both internal rings, to prove that no adhesions remain, and to prompt and facilitate an adequate dissection of the round ligaments from the broad ligaments to give the former a sufficiently forward course to hold the fundus uteri forward effectively. Prolapse of the uterus, or retroversion, due chiefly to elongation of the sacrouterine ligaments, should be treated by shortening these ligaments, when possible, or by attachment of the psoas parvus tendon or a portion of the psoas magnus muscle to the back of the cervix, in the manner suggested by Harris, and never by shortening of round ligaments as the chief act. Inasmuch as transplantation of round ligaments into the abdominal wall by some one of the numerous minor variations in technique, secures a creditable correction of retroversion in most cases by way of a median incision, which is also available for appendectomy, and various desirable explorations within the abdomen, this manner of operating has largely and properly superseded the general type of operating by way of the inguinal canals. A plan of operation that is still more correct anatomically and surgically, has, in recent years, been carried out by at least seven operators with satisfaction. It consists in doing first, a sufficient median laparotomy and the required intraperitoneal work, and secondly, in shortening of round ligaments within the opened inguinal canals themselves, both by way of a transverse suprapubic incision, either straight or curved upward and extending through the aponeurosis of the recti muscles, as may be required.

6. **Immunology.**—Gay gives a review of the history of the science of immunology and its development through animal experimentation. He concludes that it is evident that no true conception of the principles of immunity was possible until the methods of experimentation on living animals were applied. And each successive principle determined has of necessity depended on further animal experimentation. The sacrifice of animal life necessitated in acquiring our present knowledge of the mechanism of animal resistance to disease would seem justified from the standpoint of theory alone. In view of the present and potential value of applied immunology in the diagnosis, the prevention, and the cure of human and animal disease, skilled animal experimentation necessitates the encouragement of every humanitarian.

7. **Transfusion in Pellagra.**—Cole reviews twenty cases of transfusion in pellagra. He has found no ill effect resulting to the patients directly from the operation. We may safely resort to transfusion in the severe type of case, steadily retrogressing under approved therapeutic procedures. He has noted no advantage in the employment of a donor who has recovered from pellagra as compared with the donor who has never had pellagra. There is apparently no advantage in the use of a relative for a donor as compared to the use of a nonrelative. The recoveries (sixty per cent.) following transfusion in the grave type of cases, compares most favorably with the recoveries (from ten to twenty per cent.) in the same type of cases in which other therapeutic measures are employed. The employment of transfusion in the terminal stages of pellagra must be undertaken with a full knowledge of the difficulties and dangers of the operation. Without careful selection of the cases and unprejudiced conclusions, this procedure will fall into an undeserved ill repute.

MEDICAL RECORD

February 25, 1911.

1. Preliminary Report of Cases Treated by the [illegible] Hata "606" Injection, By Charles H. Chetwood.
2. A Simple Method for the Relief of Certain Forms of Odynphagia. By P. Tyens H[illegible]
3. A Case of Aneurysm of the Heart, By Joseph [illegible] B[illegible]
4. Stock Vaccines in Acute Gonorrhœa, By [illegible] A. P[illegible]
5. Gastric Ulcer, Hæmorrhage, Operation, General Peritonitis, Vaccine Therapy, By J. R[illegible] V[illegible]
6. Melted Iodoform Ointment in the Treatment of Suppurating Bubo and Ischiorectal Abscess, By H. A. B[illegible]
7. Is Cancer Contagious? A Report of Five Cases with Four Deaths. By G[illegible] H. W[illegible]
8. A Case of Multiple Pregnancy with Eclampsia, By Edwin A. Griffin.

1. **Salvarsan.**—Chetwood reports twenty-eight cases of syphilis in which he used salvarsan. Eight cases are given in detail; in these there were three tertiary bone lesions; one tertiary skin lesion; one late secondary skin lesion; one primary and beginning secondary stage; one syphilitic orchitis; one secondary lesion of fauces and forearm. Mercury and potassium iodide had been given more or less continuously in three cases; very little in four cases; beginning treatment in one. Pain was intense at the site of injection for twenty-four or forty-eight hours in all cases, and persisted for the greater part of a week in over half of them. The temperature reaction was not marked in any. A detrimental effect was not noted. Dose: In six cases, 0.5, 0.55 in one, and in one, 0.6 gramme. The powder, which is provided in a vacuum tube, is mixed with a small amount (3 or 4 c.c.) of distilled water, to which is added 0.4 or 0.6 c.c. of fifteen per cent. sodium hydroxide. This is carefully mixed in a glass mortar until all granules of the powder disappear and a thoroughly homogeneous mixture is obtained. Enough distilled water is then added to bring the total quantity up to from eighteen to twenty c.c., together with an additional quantity of sodium hydroxide of 0.4 or 0.6 c.c., which is mixed in slowly, simultaneously with the addition of the distilled water, and has the effect of helping to make a good solution, but which is not permanent, and should be used promptly after mixing. The injection is made in two sections of 10 c.c. each into the two gluteal regions. Symptoms improved markedly in all, and practically disappeared in seven within two weeks after injection. Partial relapse in one case which proved to be temporary. Complete relapse in one case at end of four weeks. Wassermann reaction before injection positive in all but one in which it was negative both before and afterward, in spite of the disappearance of the lesion. Of the other seven three have yielded a positive reaction at the end of about a week, and one a positive reaction at the end of two weeks following injection. In three it has not yet been taken. In addition to these eight cases, reported in detail, there have been four other patients who have received the salvarsan injection hypodermically, and these cases have followed more or less the same course. These cases consisted of an early general secondary syphilide of the skin, a tertiary bone syphilis, secondary syphilitic ulceration and necrosis of the lower extremities, and a patient with no outward evidence of the disease, clinically, but a promptly positive Wassermann reaction and an inordinate desire to receive the "606" injection. The last sixteen cases have a special interest on account of the fact that they have been given the remedy by intravenous injection, and the freedom from pain and other reaction, with the exception of nausea and vomiting, has been a noteworthy feature in these sixteen cases, as has also been the even more prompt favorable action upon the symptoms than was experienced by the hypodermic method. These cases were: Seven cases of general syphilitic eruption, one of which presented a specific iritis; three cases of syphilitic ulceration of the fauces, one necrosis of skull, one primary lesion, and four cases with no present symptoms. In one of the cases the eruption faded away almost completely in sixteen hours, and in the others there was marked disappearance in forty-eight hours, and prompt improvement in the coexistent iritis. All the cases with ulceration in the fauces responded actively to the Ehrlich treatment. There was, twenty-four hours after the intravenous injection, already an evidence of drying up of the circumference of the sore and softening of the induration in the same area, in the case with the primary lesion. This patient had [illegible]

pallidæ were found in the serum from the lesion and the blood reaction had yielded a positive Wassermann, as it had in all of the other additional cases with one exception. Chetwood concludes that there is little question as to the great importance of this almost sensational contribution to medical progress; yet in weighing its importance we must await the latest reports, and the probable inconsistencies and vagaries that always follow the too dogmatic claims for a new discovery. The overzealous enthusiasts tend rather to do harm than to help the successful investigator, and the hard-headed skeptic is the counterbalance, though the other extreme.

4. **Stock Vaccines in Acute Gonorrhœa.**—Palmer reports eight cases of acute gonorrhœa successfully treated with stock vaccines. He has used the Luer all glass syringe. The vaccine is abstracted from the bottles by pushing the needle through the rubber cork and withdrawing the quantity desired without removing the cork from the bottle. A little air must sometimes be injected into the bottle before the withdrawal of the vaccine can be accomplished. This procedure maintains the portion of the vaccine not used in a sterile condition, and considerably reduces the cost of the treatments. The injections are made into the gluteal muscles, and it has been his custom to insert the needle perpendicularly to the skin as in intramuscular injections.

7. **Is Cancer Contagious?**—White reports the history of five cancer patients, four of whom have died, three in one house and two in the other, all either related by blood or living in close association with one another in the capacity of husband and wife. The five victims have all been infected within the last five years.

BRITISH MEDICAL JOURNAL.

February 11, 1911

1. Remarks on the Choice of a Diuretic, By EUSTACE SMITH.
2. On Some Points Connected with the Serum Treatment of Diphtheria, By E. W. GOODALL.
3. The Argyll Robertson Sign in Cerebral and Spinal Syphilis, By J. MICHELL CLARKE.
4. Tuberculin Dispensaries, By A. M. N. PRINGLE.
5. Color Vision and Color Blindness, By F. W. EDRIDGE-GREEN.
6. The History of Yellow Fever in West Africa, By Sir RUBERT BOYCE.

2. **The Serum Treatment of Diphtheria.**—Goodall is averse to use diphtheritic antitoxine as a prophylactic. Not only might it happen, he remarks, that the person treated was peculiarly susceptible to the action of serum, even if he was not known to be asthmatic, but supposing that he was not naturally susceptible, it would not be unlikely that by the injection he would be rendered artificially so, in which case, if subsequently it were found to be necessary to use antitoxine remedially—a by no means unlikely event in these days of sera and vaccines—he would run the risk of undergoing a very unpleasant illness. There are some instances of outbreaks of diphtheria in institutions for the care of children, in which the use of antitoxine as a prophylactic, given cautiously and after due inquiry into the children's life history, may be justified. But our author is strongly of the opinion that an indiscriminate use of serum as a prophylactic is not only unnecessary but unjustifiable. As to the question to give antitoxine to persons who are only suspected to be suffering from diphtheria, he remarks that, as a rule, doubtful cases of diphtheria are not severe cases, and in the cases of individuals over ten years of age a delay of a day or two will clear the case up and not prejudice the patient's chance of recovery. In patients under ten there is only one class of cases in which the diagnosis is doubtful and the disease dangerous—namely, the laryngeal cases. Diphtheria not infrequently commences in the larynx, and, in the absence of exudation upon the fauces, it is very difficult to say whether the case is one of diphtheria or not. If one can exclude such well known causes of laryngeal obstruction in children as measles, retropharyngeal abscess, and the like, and is hesitating between a laryngitis due to diphtheria and one due to a less malignant organism, one must fear the worst disease, and bring against it the best remedy—namely, antitoxic serum. In cases of undoubted diphtheria there is seldom necessity for hesitation as to the use of antitoxine. If we are called upon to treat an asthmatic who has been unfortunate enough to contract diphtheria, we will have to choose between two evils. If the attack of diphtheria is severe, and especially if the larynx is involved, we will be compelled to risk his supersensitiveness. For, happily, it is not every asthmatic who is supersensitive.

6. **Yellow Fever in West Africa.**—Boyce shows from carefully collected statistical notes—he goes as far back as 1807—that yellow fever is endemic upon the West African coast. He thinks that the stegomyia here is also responsible for the condition.

LANCET

February 11, 1911

1. Clinical Aspects of Emotion and Action, By THOMAS CLAYE SHAW.
2. Color Vision and Color Blindness, By F. W. EDRIDGE-GREEN.
3. The Pathology and Treatment of Injuries Caused by Electricity, By Sir THOMAS OLIVER.
4. An Experimental Investigation into the Question of the Possibility of Modifying the Effect of an Inoculation of Tuberculin by Combining with It a Local Anæsthetic, By H. WARREN CROWE.
5. Some Remarks on Pantopon Anæsthesia, By C. LOUIS LEIPOLDT.
6. A New Method of Administering Nitrous Oxide, with or without Oxygen, for Prolonged Dental Operations. By NORMAN S. HEEGAARD WARNER.

2. **Color Blindness.**—Edridge-Green, in his second Hunterian Lecture, remarks that the following points should be remembered in examination for color blindness: 1. Most color blind make mistakes with certain colors, but are correct with regard to others. 2. The color blind name colors in accordance with their color perception, and thus show definitely to which class they belong. 3. Colors may be changed to the color blind while leaving them unaltered to the normal sighted. 4. The phenomena of simultaneous and successive contrast are much more marked for the color blind than for the normal sighted. 5. Many color blind match correctly but name the principal colors wrongly. 6. Many color blind recognize colors easily when they are close to them or the surface is large, but

fail to distinguish between them when they are at a distance or the image on the retina is small. 7. The color blind are more dependent upon luminosity than the normal sighted, and are liable to mistake a change in luminosity for a change of color. 8. The color blind find special difficulty with faint and dim colors. 9. The color blind who have shortening of the red end of the spectrum cannot see reds reflecting or transmitting only rays corresponding to the shortened portion. 10. The color blind find more difficulty in comparing colors when different materials are used than when the colored objects are all of the same nature. 11. Most color blind find more difficulty with transmitted than with reflected light. 12. The color blind have a defective memory for colors. 13. Colors may be changed to the normal sighted while leaving them unchanged to the color blind. 14. The color blind may have a sense of luminosity similar to that of the normal sighted. 15. The dichromics distinguish between the colors of the normal sighted which are included in one of theirs by their relative luminosity and the difference of a saturation which is apparent to them. Of tests, the author mentions the lantern test, the classification test, the pocket test, and the color perception spectrometer.

3. **Treatment of Injuries Caused by Electricity.**—Sir Thomas Oliver says that for slight shock followed by recovery no treatment is required. For burns the application of boric acid compresses, or charcoal poultices if there is much destruction of tissue, is called for. Where an injured workman is in contact with, or cannot lose grip of, live metal, the greatest care must be exercised in touching his body, for any attempt to separate the two might be followed by a disastrous shock to the person rendering assistance. Under any circumstances the breaking of the current means a fresh shock to the individual concerned. The rescuer should have his hands in india rubber gloves or wrapped round with thick, dry rags. If it is a live wire with which contact has been made this should be cut if possible with long iron scissors in wooden handles. Once the circuit is broken, should there be no signs of life, the body must be placed upon its back and artificial respiration immediately resorted to and continued for a considerable time. Even if there is no quick response, artificial respiration should be continued for a long time.

BERLINER KLINISCHE WOCHENSCHRIFT.

January 16, 1911.

1. Polyarthritis. By [illegible]
2. Principles of the Treatment Advocated by Ingel, Oertel, and Strauss-Widal. By A. Martin-Lö[illegible]
3. The Use of Venesection and Infusion of Salt Solution in the Treatment of Diseases of the Skin. By Carl Bruck.
4. Landry's Paralysis. By G. C. Bolten.
5. Clinical Observations of Anaphylactic Attacks after Injections of Serum. By E. Allard.
6. The Antiformin Method of Acting upon the Tubercle Bacilli. By Lorenz.
7. Diagnosis of Carcinoma of the Stomach by Fischer-Neubauer's Method of Decomposing Glycyltryptophans. By Hermann Ley.
8. A Word Concerning the Bismuth Stomach. By B. Stiller.
9. Otology in Berlin. By A. Passow.

2. **Certain Forms of Treatment.**—Magnus-Levy discusses the nutritive therapy in circulatory disturbances as advocated by three or four principal authors. Karell, who introduced the milk treatment, was, he states, purely empirical. Oertel acted on the theory that the cause of the circulatory disturbance was an increased quantity of fluid in the body and took measures to deplete the amount of excessive fluid. Strauss and Widal he credits with scientific work in the determination of the important part played in the circulation and in the production of œdema by common salt, and the need of regulation of the quantity ingested in diseases of this nature.

3. **Venesection and Infusion of Salt in Skin Diseases.**—Bruck reports a number of cases of various diseases of the skin in which he successfully employed venesection and infusion of common salt, and he believes this method of treatment applicable not only to the diseases mentioned, but to others as well in which the action of toxines may be conjectured. Three procedures are suggested: 1. Venesection and withdrawal of a large quantity of blood without subsequent infusion of salt; 2. venesection followed by the subcutaneous infusion of a salt solution; 3. venesection followed by an intravenous infusion.

4. **Landry's Paralysis.**—Bolten states that Landry's paralysis forms a sharply defined clinical picture that can be distinguished readily from polyneuritis and poliomyelitis by the absence in long continued cases of muscular atrophies, reactions of degeneration, and sensory symptoms of paralysis. The typical cases depend on intoxication. The paralyses are the consequences of functional cessation in the spinal and bulbar centres and not due to anatomical disturbances in them. The toxine seems to leave the sensitive neurone intact and to affect exclusively the motor function without impairing the structure. In all cases in which reactions of degeneration and degenerative muscle atrophies are met with the condition is one of polyneuritis running a very rapid course, or of very far advanced poliomyelitis.

MEDIZINISCHE KLINIK

[illegible]

1. Meningitis Cystica Serosa of the Posterior Cranial Fossa. By [illegible]
2. The Connection between Civilization and Mental Disease. By [illegible]
3. An Instrument for Intravenous Injection. By W. [illegible]
4. The Cure of Septic Ulcers of the Cornea by Zinciontophoresis. By Labowski and Sachs-Mueke.
5. Antiperistalsis of the Colon. By Willy Bloch.
6. The Method of Using Salvarsan in General Practice. By [illegible]
7. Successful Use of Preparations of the Hypophysis. By Bahrmann.
8. Cycloform as an Ointment and Powder. By Eugen Bircher.
9. The Theory of the Physical Treatment of Asthma. By Pescatore.
10. Function Testing of the Bone Marrow in Man by Means of Gelatin Injections. By [illegible]

1. **Meningitis Cystica Serosa of the Posterior Cranial Fossa.**—Bing reports a case of this nature with close attention to all the symptoms presented. A large quantity of cerebrospinal fluid was evacuated by operation and for several months the

condition of the patient improved. Eventually there was some recurrence of the symptoms, and the patient was given iodide in the hope of promoting the absorption of the reaccumulated fluid, and later on tincture of nux vomica in increasing doses. This treatment was effectual, and the author believes that he has secured permanent relief.

4. **Treatment of Septic Ulcers of the Cornea by Zinciontophoresis.** — Labowski and Sachs-Mueke maintain that iontophoresis with zincions is an extremely efficient procedure in the treatment of septic ulcers of the cornea, which seems to surpass all other methods employed up to the present time, especially when used in conjunction with paracentesis of the anterior chamber.

6. **Use of Salvarsan in General Practice** — Lenzmann sterilizes the skin of the back, anæsthetizes it with novocaine, and then injects subcutaneously 200 c.c. of a solution of salvarsan. Then he massages the region so that the fluid may be distributed and absorbed before the effect of the novocaine can pass off. When the skin regains its sensibility the patient feels a burning, which may amount to marked pain, but this passes away in a little while.

7. **Successful Use of Preparations of the Hypophysis.**—Bahrmann reports a few cases of inhibited cerebral development in which improvement was obtained after the administration of tablets made of the tissue of the hypophysis.

MUNCHENER MEDIZINISCHE WOCHENSCHRIFT.

January 31, 1911

1. Experiences in the Treatment with Salvarsan, By Kopp.
2. [illegible] Clinical Testing of Salvarsan. By Treupel and Levi.
3. Pemphigus Syphiliticus of the Newborn. By Baisch.
4. The Technique of the Intravenous Injection of Salvarsan. By Stuehmer.
5. The Estimation of the Diastolic Blood Pressure by Palpation of the Arteria Cubitalis. By Ehret.
6. Further Experiences in Strophanthus Treatment of Eclampsia, By Roth.
7. Arterial Rigidity in Children. By Hamburger.
8. An Apparatus for Producing Passive Motion of Muscles. By Hirschfeld.
9. The Transformation of the *Staphylococcus aureus* into the *Staphylococcus albus*. By Palier.
10. A Case of Multiple Inflammations of Joints Following a Test Injection of Tuberculin T. R., By Diem.
11. Two Cases of Laryngœsophageal Resection, By Zimmermann
12. Suicide with Bromural, By Rieger.
13. The New Spring at Weissee. By von Dessauer.
14. The Sodium Spring at Kochel. By Diessl.
15. A New Nasal Douche, By Gutberlet.
16. Josef Wolsteiner, By Eversbusch.
17. Instruction in Pathology in the United States, By Ch[illegible]

1. **Salvarsan.**—Kopp states that salvarsan is a valuable aid in the struggle against syphilis and its symptoms; its efficiency against the pathological processes set up by the spirochæta of Schaudinn cannot be mistaken. The extremely important question whether it is possible to stop abruptly the frequently deleterious course of syphilis by means of salvarsan cannot yet be said to be answered; perhaps such a brilliant result is possible when the treatment is applied to perfectly fresh cases; in the later stages it appears to be less probable that such a result can be attained. It is not yet certain that repeated doses of salvarsan, or a combination of this with mercurial treatment, may not lead to still further improvement. But under certain circumstances it seems to be certain that results may be attained by its use in a shorter time than by treatment with mercury and iodide. The intravenous infusion is by far the most advantageous method of applying salvarsan, it is the surest, the best, and the most convenient method as regards the patient. The intravenous infusion presents some technical difficulties which require some practise to overcome, but presents no dangers except in the presence of the few and rare contraindications on the part of the patient. All other methods of application are attended by danger of more or less extensive necroses, even though aseptic, and should be employed only when the intravenous infusion is for any reason impracticable. In such cases the slightly alkaline, opalescent solution of Alt, much diluted and divided into small doses, injected in different places, is to be preferred. Kopp believes that in fresh cases the largest possible doses that can be borne should be injected into the veins in order to kill all the spirochætæ circulating in the blood, if possible, at one blow and so arrest the disease. In order to determine the final result of such treatment it will be necessary to keep patients treated in this manner under observation for several years during which time thorough clinical and serological examinations are made. By that means only can the question of the possibility of a quick and positive permanent cure be made. Ambulant patients should not be treated with salvarsan; the treatment should be confined to those who are under unexceptionable care and preferably in hospitals.

3. **Pemphigus Syphiliticus of the Newborn.**—Baisch reports a case that shows that the intravenous injection of the nursing mother alone with salvarsan does not suffice to cure serious cases of syphilis in infants; that children in the first week of life are able to bear large doses; and that salvarsan is able to produce a rapid healing of even malignant cases of congenital pemphigus syphiliticus which are absolutely refractory to methods of treatment hitherto employed and in which the prognosis is almost certainly bad.

4. **Technique of the Intravenous Injection of Salvarsan.**—Stuehmer describes an apparatus by means of which the fluid to be injected is kept under the control of the eye of the operator up to its actual entrance into the vein, at the same time avoiding a complicated system of tubes.

7. **Arterial Rigidity in Children.**—Hamburger calls attention to the comparative frequency with which arterial rigidity is met with in the later years of childhood and to the nervous, or vasomotor, character of the same.

WIENER KLINISCHE WOCHENSCHRIFT

February 9, 1911

1. The Action of Placental Serum and of the Serum of Pregnant Women upon Human Carcinoma Cells, By R. Kraus and E. von Graff
2. The Reciprocal Relations between Inflammatory Diseases of the Appendix Vermiformis and the Fallopian Tubes with Especial Reference to the Perforation of the Appendix in the Tube, By F. [illegible] Gellhorn

3. Bodily Proportions of Cretins. By ARNOLD FLINK.
4. The Streptothrix Diseases in Man, By GEORGE GRONDAHL.
5. Quarantine Studies, By EMIL WIENER.

1. The Action of Placental Serum and of the Serum of Pregnant Women upon Human Carcinoma Cells.—Krauss and von Graff say that the serum of the human umbilical cord is unable to destroy human carcinoma cells. This serum acts like carcinoma serum. The serum of pregnant women acts in a manner to destroy carcinoma cells up to the tenth month of pregnancy when it becomes weaker in its effect and frequently exhibits the inhibitive properties in serum of the umbilical cord, or carcinoma serum. Since we have found that serum of the umbilical cord is constant in its action like carcinoma, while the serum of pregnant women in the tenth month is inconstant, the cause of the constancy is probably in the placenta which, like tumors, produces changes which lead either to the disappearance of the carcinolytic properties of the human serum, or to the formation of inhibitive substances. As the serum of a newborn infant is carcinolytic this theory increases in probability.

3. Bodily Proportions of Cretins.—Flinker gives as the main result of his studies concerning the body proportions of cretins that the form of the cretin as compared with that of a normal adult man is distinguished by a comparatively disproportionate size of the head, short neck, proportionately long body, and very short legs. These are the conditions that rule in childhood, so the peculiarity of the proportions of the bodies of cretins depends on a continuance of a lower period of development. This agrees with the results of pathological study, which ascribes the changes in the skeleton in cretinism to an arrest of growth in childhood.

PHILIPPINE JOURNAL OF SCIENCE.

October, 1910.

Tolerance for Alkalies in Asiatic Cholera, By ANDREW WATSON SELLARDS.
2. Effect of the Concentration of Solution in the Treatment of Collapse in Asiatic Cholera, By ALLAN J. MCLAUGHLIN and ANDREW WATSON SELLARDS.
3. The Chemical Composition of the Blood in Asiatic Cholera, By HANS ARON.
4. Cholera and Choleralike Vibrios Encountered in the Philippines, By ALLAN J. MCLAUGHLIN and FLORENCE P. [illegible]MORE.
5. The Specific Cure of [illegible] By RICHARD P. STRONG.

1. Tolerance for Alkalies in Asiatic Cholera.—Sellards remarks that the choice of alkali for treatment may vary somewhat in the different stages of cholera. The chief advantage of the normal carbonate would depend upon its ability to absorb carbon dioxide, but apparently few deaths occur primarily from failure of the internal respiration. Sodium acetate may have some advantages, especially for the stage of collapse. As much as eighty grammes within twenty-four hours have been injected, but perhaps this amount is slightly excessive in certain cases. As a general routine, sodium bicarbonate has been the most effective of the three salts. Its administration in collapse has several advantages and, in selected cases, concentrations of 1 or 1.5 per cent. may be used. A weaker solution could probably be chosen which would be suitable for routine use in all cases of collapse. Early in the stage of reaction, at least as much as sixty grammes may readily be given within twenty-four hours. The most important indication for discontinuing its administration is the development of muscular cramps or twitchings. These symptoms may appear, although the urine remains acid, and may be considered as a reaction to the alkali. Several cases in which excessive amounts of alkali were tolerated without the appearance of this symptom, terminated unfavorably. There was a wide variation in the amount of alkali which resulted in the production of muscular contractions. The quantity apparently varied in direct proportion to the severity of the disease, although Loeb has shown that the precipitation of the calcium salts by carbonates gives rise to muscular contractions. If administration of alkalies is delayed until uræmic symptoms develop, secretion of urine follows promptly after injection of sodium bicarbonate, but the final termination is usually unaltered. In no case was the urine kept constantly alkaline. In the majority of cases an alkaline reaction was never obtained, and it is difficult to conjecture what the effect might be of maintaining a constantly alkaline urine throughout the course of the disease. The most important single factor in determining the amount and frequency with which alkali should be injected is the quantity of urine excreted. Sodium bicarbonate in 1.5 per cent. solution in two litre quantities has been injected as soon as patients come out of collapse and repeated at from twelve to twenty-four hour intervals until a free secretion of urine follows. Aside from mild convulsions, the only other untoward symptom following the injection of alkali was a temporary hæmaturia. This occurred in three of fifty-five cases. It was slight in amount and persisted for from two to four days. In comparing the two groups of cases, namely, those treated with chloride and those with alkali, the most important difference is the absence of uræmia in the bicarbonate series. As a rule, morphine failed to quiet patients when the stage of uræmia had developed. However, after the injection of alkali, the respiration improved and the restlessness of the patients disappeared. Observation of the individual cases sometimes showed a sudden improvement following the injection of alkali. The value of the injection of alkalies is seen most clearly in that class of cases which have only mild symptoms of cholera, but in which nevertheless a fatal uræmia develops. In the specific treatment of cholera, there are several distinct pathological conditions which are commonly present and, consequently, no one treatment can meet them all. The treatment of the toxæmia, which is the most important factor, is not under satisfactory control. The effect of fluid on the relief of mechanical conditions in the stage of collapse is well established. Symptoms of acid intoxication and the development of uræmia during the stage of reaction did not occur (except in one instance) in a group of fifty-five cases treated with acetate or bicarbonate of sodium. The conclusions are that examination of the urine in cholera [illegible]

of ammonia. Cholera patients showed a definite tolerance to alkalies, a considerable excess of sodium bicarbonate being required to render the urine alkaline as compared with normal individuals. Within certain limits, the administration of alkalies not only failed to render the urine alkaline, but its acidity was even increased, as measured by titration. Following the injection of alkalies, there was sometimes a sudden and marked increase in the excretion of urea. The early administration of alkalies practically eliminated death from uræmia. The most important findings are the tolerance for alkalies and the change in the course of the disease. This tolerance may be dependent either upon the cholera infection, or upon the accompanying nephritis; apparently it is related more closely to the uræmia than to the enteritis. The condition will be of more general interest if it proves to be present in uræmia from other causes than if it is specific for cholera.

3. **Composition of the Blood in Asiatic Cholera.**—Aron states that in the stage of collapse in cholera a loss of water in the blood is regularly encountered, accompanied by a corresponding loss of chlorides (salts). This water loss is constantly high in the blood of persons who have died of cholera. In the later stages of the disease, the blood again shows an almost normal content of water, but the salts are not replaced to the normal amount. Therefore, the blood at this stage has a diminished salt content and is hypotonic.

GLASGOW MEDICAL JOURNAL.

February, 1911.

1. Some Remarks on the Position of Laryngology and Rhinology in Medicine. By ROBERT FULLERTON.
2. Hæmatoporphyrinuria not Due to Drugs, in a Patient whose Urine Contained at Times Hæmoglobin and at Times Sugar. By T. E. MONCRIEFF and H. H. BOOTHBY.
3. The Dr. James Watson Lectures on Recent Advances in Bacteriology (Concluded). By WALTER K. HUNTER.
4. Some Cases Resembling Atrophy of the Optic Nerves Which Recovered under Treatment. By LESLIE BUCHANAN.

4. **Atrophy of the Optic Nerves.**—Buchanan reports a number of cases, males, between thirty and fifty years of age, healthy looking men, who were working in responsible positions. None of the patients exhibited the signs or symptoms of toxic amblyopia; none were addicted to the overuse of either alcohol or tobacco; and none complained of, or exhibited evidences of, either digestive derangement, kidney disease, or syphilis. In each case the complaint was of slowly increasing defect of vision both for near and for distant work, without any head pain or other evidence to lead to a definite cause. Several of the men were in employment where form and color vision was tested from time to time, such as railwaymen, postal servants, ship's officers, etc., and there could be no doubt that the diminution of vision must have been of recent origin in several. The symptoms had been diminution of central vision—both form and, less markedly, color—and peripheral contraction of the visual field, generally symmetrical. The optic nerves presented the appearance of early atrophy, pallor, and sharp outline, without diminution of the calibre of the central vessels. In none of the patients was there any evidence of nervous disorder, and the subsequent history of such of the cases as he had been able to watch for one, two, three, or more years proved that the disease was not due to advancing sclerosis of brain or spinal cord. Examination of the urine showed that there was no disease of the kidneys, and careful enquiry failed altogether to show any point from which toxic influences could start. The appearance of the optic nerves and the history of the cases indicated that it was not overuse of the eyes, and there was not the least indication to show that there was in any case an attempt at malingering, as most of the men continued at work during the entire time they were under supervision. The treatment, in all cases, was purely medicinal—either tincture of nux vomica or strychnine combined with potassium iodide. In general, no benefit was experienced until a month or two had elapsed, and then it was slow but steady for about a year; treatment was kept up until the visual acuity and the field of vision ceased to improve.

Proceedings of Societies.

SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

Twenty-third Annual Meeting Held in Nashville, Tenn., December 13, 14, and 15, 1910.

The President, Dr. W. O. ROBERTS, of Louisville, in the Chair.

(*Continued from page 397.*)

Complications Due to Operative Procedures.—Dr. L. E. BURCH, of Nashville, mentioned the accidents following operative procedures in his own work and referred to accidents occurring in the work of other surgeons. He laid stress on the following points: 1. Many of the accidents following operations were preventable, while others were not. 2. No operation should be advised, however trivial in character, unless there was a positive morbid condition to indicate its performance. 3. No operation should be carried out, under either local or general anæsthesia, until a careful history of the case was obtained, including a thorough physical examination, with urinary and blood findings. 4. Better results would be obtained and fewer accidents would happen if patients were given preliminary treatment before operation. 5. Surgeons should never state to patients that any operation was free from danger.

The Formation of a New Vagina.—Dr. ALEXANDER HUGH FERGUSON, of Chicago, reported three cases. In the procedure presented the author did not profess to produce a normal vagina; still, in two of the three cases reported a vagina had been formed which yielded satisfaction. The third patient was not yet married, but there was no doubt that the vagina would prove as efficient as the two others. The technique of the operation varied slightly in each case, but the underlying principles were the same, namely, first to utilize the available mucous membrane; second, to form three flaps;

third, to tunnel through the peritonæum behind the bladder and in front of the rectum, dissecting the peritonæum from both structures without opening the peritoneal cavity; fourth, to invert the flaps into the tunnel thus formed and suture them in place with catgut. The lateral flaps included the mucosa of the labia minora on either side, exercising care not to interfere with the mucous membrane in connection with the clitoris and meatus urinarius. The central flap was cut as thick as possible in order not to interfere with its nutrition. The lateral flaps were cut with the same precaution in mind. The fact that the flaps were not sutured together rendered the cavity dilatable to an ideal extent. Horse hair was used to close over the denuded areas. A roll of gauze about seven inches long was anointed with sterile petrolatum and zinc oxide and inserted into the plastic vaginal canal. The external end spread like a flange and was held in place by a firm pad. It must not fit too tightly. As to the after treatment, the initial dressing must not be withdrawn for six or eight days. The parts must be kept as aseptic as possible. The internal stitches were catgut and might be left to become absorbed. The horse hair should be left in place for two weeks. Absolute cleanliness without antiseptics was of primary importance. The patient must remain under observation for at least three months.

A Position for Saving Time in Combined Abdominal and Pelvic Operations.—Dr. A. C. Scott, of Temple, Tex., described this position as follows: By the use of any metal knee holder which fitted comfortably in the popliteal space, one might secure a combined exposure of the abdomen in an elevated position, and at the same time exposure of the pelvic outlet, permitting the use of self retaining specula, if desired. This was accomplished by having the popliteal knee holder hinged on a short upright bar which was broadened and slotted at the lower end to slide, with a set screw, upon a horizontal metal bar, which in turn was fixed to a strong cylindrical upright bar, sliding in a viselike clasp at the side of the operating table. The sliding upon the horizontal bar allowed of adjustment for the varying lengths of the patient's thighs. The cylindrical sliding upright bar at the side of the table permitted the thighs to be moderately flexed or fully extended, abducted, or adducted at will. Before starting the anæsthetic, the patient's hips were brought beyond the edge of the table and the limbs placed upon the knee holder. A piece of bandage loosely wound about each foot and ankle was tied to a convenient point below the corner of the movable part of the table to prevent extension of the leg; another was placed above each knee to prevent elevation of the knees, thus securely holding them in their respective knee holders. Any modern operating table would serve the purpose for these attachments and enable one to secure the desired combined position if it had a pivotal point about the centre permitting the entire surface of the table to be raised and lowered at will. He used a modification of the Markoe table, which operated with a wheel and ratchet and could be changed by the anæsthetist with perfect ease. After the patient was in position and the anæsthetic was begun, the foot of the table was lowered some five or six inches for convenience or completing the preparation by thorough rinsing of the abdomen and vagina. This was done and the table returned to the horizontal plane without again having to take hold of the patient with the hands.

The advantages of this position were: 1. Where two operators were working together with plenty of assistants at their command, the time required for many complicated operations might be reduced to a marked degree, often as much as fifty per cent. 2. By changing the axis of the table, the pelvis and the abdomen might be lowered, if desired, or elevated to secure the advantages obtained by the Trendelenburg position at any stage of an abdominal operation without interfering with work simultaneously being done upon or through the pelvic outlet. 3. All the advantages of the Trendelenburg position might be obtained without its disadvantages. 4. All the advantages of the dorsal position for pelvic outlet work were obtained without flexing the thighs upon the abdomen or otherwise interfering with work required through the abdominal wall. 5. The final preparation of rinsing both the abdomen and vagina was easily accomplished while the anæsthetic was being given without having to lift or disturb the patient again. 6. By wide abduction of the extended thighs during abdominal operations room was made for a second assistant to stand with advantage for sponging, ligating, and retracting equal to the one standing directly across the table from the operator.

The Treatment of Anteflexion.—Dr. Henry T. Byford, of Chicago, did not offer a new treatment. He asserted that the newest methods were not satisfactory and selected for consideration one of the old methods and gave the essentials and technique that had given success in his practice. The method consisted in keeping the cervix overdilated for six months to a year, and in the prevention, during the second year, of contraction sufficient to cause symptoms. The advantage of this method over all others consisted in keeping the uterus under the influence of the treatment until the cervix developed to a size that would not interfere with uterine drainage and cause symptoms, when the case could be compared to those of symptomless rigid anteflexion that we sometimes observed in multiparæ. He maintained that the cutting operations favored atrophy of the cervix and were irrational in most cases because the cervix was already deficient in development.

Complete Transverse Destruction of the Spinal Cord. Dr. [illegible] read a paper in which he reported a case of complete transverse destruction of the spinal cord from pistol wound without penetration of the spinal canal; with a consideration of concussion as an ætiological factor in the production of this lesion and of the question of suturing the cord when it was completely divided. He narrated two cases of pistol wound of the dorsal vertebræ in which the cord was not injured by direct impact of the bullet, but in both of which paralysis and the usual signs of a transverse destruction of the cord immediately supervened, proving fatal in one case, which came to autopsy, when the bullet was found lodged in the second dorsal vertebra, but not penetrating

into the spinal canal or impinging on the cord. The other case presented similar symptoms and was submitted to laminectomy, but the cord was not divided nor could the missile be found. The patient was still living, but was in a very precarious condition, with absolute paralysis below the eighth dorsal vertebra. These cases were thought to have been due to concussion of the cord. The views of a number of military surgeons and authors were quoted in regard to the production of the lesions of the cord by concussion without direct impact on the spinal cord, who were unanimous in the belief that such injuries did occur. The question of suturing the severed spinal cord was discussed, and several operations of this character in the hands of other surgeons were mentioned. The results had not been good, and physiologists declared that regeneration of the severed spinal cord was impossible. But marked improvement had followed in one case, and there was no reason why the cord should not be sutured in appropriate cases.

An Unusually Large Ovarian Cyst.—Dr. J. Shelton Horsley, of Richmond, reported a case (and showed photographs) of a large ovarian cyst which weighed 116½ pounds. The greatest abdominal circumference was sixty-three inches. It was successfully removed. He referred to the fact that operation in these cases of large ovarian cysts usually had a high mortality rate on account of the pressure, which caused organic changes and made the patients poor surgical risks.

Dr. Thomas S. Cullen, of Baltimore, said that four years and a half ago he saw a patient who weighed 174 pounds. She was supposed to have an ovarian cyst, but it turned out to be a fibroid tumor. An eighty-nine pound fibroid was removed, and the patient immediately after the operation weighed eighty-five pounds. After a week in the hospital, when œdema began, she weighed eighty and a half pounds, and although she had bed sores, she promptly recovered. In that case after operation the ribs stuck out six inches and the recti muscles, which lay high up on either side, gradually came together until at the present time they were only two centimetres apart.

Dr. Alexander Hugh Ferguson had been called to a small town near Indianapolis to see a woman with a large ovarian cyst. She had carcinoma of the left breast and gallstones. She was in a bad condition. He introduced a small trocar and cannula, which went into a cyst that was quite watery. The trocar was left in place for twenty-four hours. The next day she was able to eat, a thing she had not been able to do for two weeks, and was able to swallow. Her heart, which was bad, improved. He passed a large trocar in another direction through the same opening, and allowed it to remain for another twenty-four hours, and then she was brought to Chicago, and three days later he operated and at one sitting removed the cyst, the left breast, and 1,250 gallstones from the gallbladder, and she recovered.

A Malignant Intestinal Growth Requiring the Removal of an Unusual Number of Abdominal Structures.—Dr. Thomas S. Cullen, of Baltimore, in his paper reported the case of a patient, fifty-six years of age, very pale and emaciated. Within a few hours prior to operation her weight had been reduced from 120 to eighty-five pounds. Pelvic examination revealed a growth plastered on the posterior surface of the uterus. This almost filled the pelvis and felt very much like a myoma. The patient, however, gave a history of flattened stools occasionally associated with diarrhœa, and a malignant intestinal growth was suspected. On opening the abdomen Dr. Cullen found a growth involving the lower portion of the descending colon, also a loop of small bowel, and extending out and forming a tumor mass in the mesentery of the small bowel. Intimately blended with this tumor mass was the uterus. The appendix was also involved. As the patient's condition was very poor, the operator hesitated to do anything, but the family physician said that she could live only a few days in her present condition, and that she was suffering a great deal. As no secondary nodules could be found either in the mesentery, in the lymph glands, or in the liver, removal was undertaken. The uterus was amputated through the cervix and with the tubes and ovaries turned up on the surface of the tumor. The appendix was next amputated, carefully covered over with gauze, and also turned up on the tumor. About three feet of small bowel and almost a foot of large bowel were then clamped off and the mesentery of the small bowel, containing the tumor, gradually tied off. All the structures mentioned were removed in one piece, as it would have been absolutely impossible to separate the uterus without opening the cancerous mass and the bowel. It was possible to remove the entire mass without soiling the peritonæum. The four ends of the bowel were closed. A lateral anastomosis was then made between the small bowel and the cæcum, and as the descending colon had been redundant it was possible to do a lateral anastomosis between the descending colon and the sigmoid. A drain was laid in the pelvis. The specimen was exhibited. The patient made a very satisfactory recovery and was at present in good health. The ultimate outlook was not a favorable one.

Aneurysm.—Dr. J. Garland Sherrill, of Louisville, reported a case of aneurysm and described a new method of ligature of the left subclavian. From a study of the reported cases and his own work, the following conclusions were drawn: That ligature of the subclavian artery in the first portion of the right side showed a higher mortality than on the left. This was probably due in part to the short distance between its origin and the first branch, and also to its close relation to the pneumogastric nerve, thoracic duct, and internal jugular vein. The mortality of ligature in the second division was 55.5 per cent.; in the third division about 50 per cent. The mortality was greater when ligature was done for injury to the vessel than for aneurysm. With present methods the mortality of ligature in any portion of the subclavian should be greatly reduced, as was shown by recent results of Halsted, Schumpert, Jungst, and Curtis. Distal ligation had not proved satisfactory. When the aneurysm was situated high on the axillary artery or upon the distal portion of the subclavian, the anterior operation should be employed when the vessel was accessible. The method here described was of-

fered for the treatment of those cases in which the aneurysmal tumor encroached upon the tissues of the neck in such a way as to preclude the possibility of ligation by the anterior method. He had found that at the origin of the left subclavian from the arch of the aorta there was no danger of including the pneumogastric nerve in the ligature or of damaging the thoracic duct.

Goitre Operations.—Dr. JOHN R. WATHEN, of Louisville, described an improved technique in goitre operations, based upon an experience of 142 operations for the different types of goitre, with no case of injury to the recurrent laryngeal nerve or any clinical evidence of injury to the parathyreoids. The use of the scissors had replaced that of the knife entirely, and all the structures, beginning with the skin, and later the enlarged thyreoid gland, were elevated and approached from the lower surface. This lessened the hæmorrhage by placing the parts on the stretch, made the work more rapid and safer, and allowed of easier blunt dissections being made. The neck was opened by pinching up the skin with the fingers and making a small cut through the skin and the platysma. The cut surfaces were now grasped with volsellæ and traction was made upward; next blunt pointed curved scissors were used as a dissector, and the skin with the attached platysma was rapidly separated from the muscles below and then cut along the curved line used by the Kochers. By continuing the upward traction, the two large skin flaps were dissected up to the hyoid bone above and to the sternum below. The ribbon muscles were now separated in the middle line and clamped high up and cut on one or both sides when needed, as had been suggested and practised by Dr. C. H. Mayo. The fibrous and the true capsule over the goitre was next opened and with a large volsella the enlarged lobe was elevated and traction was made in an upward direction and to the opposite side of the neck. This readily allowed the capsule to be dissected downward and placed the bloodvessels to be ligated on the stretch, causing less venous hæmorrhage, and relieved the trachea of the pressure from the weight of the tumor. The vessels could now be clamped at the elevated goitre and lifted away from the surface of the capsule. The capsule adherent to the posterior structures was thus separated from the vessels, and there was no danger of the nerve being included with the vessels or any danger of injuring the parathyreoids. Occasionally, when the enlarged lobe extended high up in the neck, it was better to place a second volsella on the upper part and make traction upward and downward to better expose the superior thyreoid artery and vein. This constant upward traction on the tumor allowed it to be rapidly dissected from the posterior structures, and only held by the isthmus of the gland. A large clamp crushed this part, which could be sutured over. The capsule, muscles, and skin were now closed in the usual way and drainage was provided through a stab wound in the lower flap. This technique differed from that of others in that it did not employ the knife, which was dangerous in neck surgery; it cut the skin and superficial structures only after they had been elevated and dissected up from below; and it grasped the goitre and elevated it away from the dangerous area underneath. This constant traction caused much less hæmorrhage and allowed of a rapid operation, within plain view of the surgeon. It was surprising how few forceps were used when the venous hæmorrhage was thus controlled.

Collapse of the Trachea in Thyreoidectomy.—Dr. T. C. WITHERSPOON, of Butte, Mont., said that during the last fourteen months he had twice had the trachea collapse while he was performing thyreoidectomy for exophthalmic goitre. The predisposing cause of collapse of the trachea was the anatomical defect in the rings posteriorly. This allowed the lateral walls to approach closer under pressure and to change the cross section of the tube from a circle to an oval with its long diameter anteroposteriorly. Another factor influential in starting a collapse was the proximity of the recurrent laryngeal nerve to the thyreoid gland. It was possible that more or less softening occurred from the toxic effects of the gland secretions. The one prophylactic measure which he suggested as a means of avoiding pressing upon the trachea was a parasternocleidomastoid incision. This enabled the operator to raise the gland out of its bed without median pressure of appreciable degree. No doubt a collar incision with enucleation from between the sternohyoid and sternothyreoid muscles of either side necessitated considerable pressure upon the trachea. While working out the problem of removal of the thyreoid under local anæsthesia, he found it very much easier to do so by the paramuscular than by the collar incision. Manipulation was easier and discomfort minimized. He experimented upon the cadaver in developing a technique and removed over twenty goitres under local anæsthesia before using a general anæsthetic. This was excluding his first patient, operated upon in the early nineties, to whom chloroform was given. Of late years he had used the collar incision, possibly modified slightly, but he was rather of the opinion that his former plan of paramuscular incision gave a better field, made operating easier, and did not leave an ugly scar. He believed this incision would prove a valuable prophylactic against tracheal collapse.

Catheterism of the Common Duct as a Practical and Effective Upper Route for Enteroclysis Medication in Toxic Biliary Cases. (McArthur's Procedure.) Dr. ROBERT MAYNARD, of New Orleans, related his experience with this operation and said it was a conclusive demonstration of the good effects of this mode of procedure. It convinced him that it constituted one of the most valuable therapeutic resources in dealing with the dangerous postoperative complications of biliary cases. Since his first experience he had had occasion to try it in another case of choledochus drainage after cholecystectomy or gangrenous and perforated gallbladder. In this case, notwithstanding the excellent effect on the circulation of the duodenal infusion, which was liberally applied, the patient succumbed on the fifth day from the effects of general peritoneal sepsis and exhaustion [illegible] pulmonary infarcts. He had also applied it in three other cases, two referred to him by other surgeons. [illegible] persistent biliary [illegible] (after [illegible]) for

multiple calculi and cholecystitis. In these cases he had been surprised by the rapid cure of the fistulæ after repeated catheterism of the biliary tract, including the duodenal orifice of the common duct. In no case had he had occasion to apply the simple procedure recommended by McArthur, which was to connect a saline drip to a drainage tube in the gallbladder, thus allowing the water to find its way into the duodenum via the cystic duct. This was a very simple performance; but in all his cases he had preferred to inject the fluid directly into the duodenum by introducing a catheter through the gallbladder opening into the common duct and then into the duodenum. For this purpose he had found nothing so effective as a ureteral catheter, beginning with a fine bougie and gradually dilating with the catheters until No. 3 of the French scale had been reached.

Letters to the Editor.

AN INDIGNANT AUTHOR

57 Wimpole Street, W., London, *February 10, 1911.*

To the Editor:

Abusive criticisms like that of my book on *The Mental Symptoms of Brain Disease* by your reviewer on January 28th are best ignored, but I feel bound to take notice of it in order to defend the two eminent alienists, Dr. Jules Morel, of Ghent, who honored me by writing a preface to the work, and Dr. T. Claye Shaw, of London, who has also seen the book before publication and has since written a flattering review of it.

Your reviewer is entitled to say that "the book is absolutely without merit," though let me tell him that all the medical critics on this side of the Atlantic have so far only praised the work. But when he goes on to say that "the work resembles others prepared with a pair of scissors and a glue pot," he is trying to give the impression that the work is *copied,* and that without acknowledgment; whereas what he wanted to convey, and in truth ought to have said, is that the work is an original one containing hundreds of cases quoted from medical literature in support of the author's theories and giving proper references for verification.

Unfortunately for himself, your reviewer has "given the game away" in the last sentence, that the book which is only fit "for high grade imbeciles" is "pre-Gallian phrenology gone mad." It is "phrenology," then, that acts on your reviewer like "a red rag on a bull" and caused this insane abuse.

Your reviewer is evidently ignorant of the fact that before Gall there was no phrenology and hardly any knowledge of either the anatomy or physiology of the brain; he is also ignorant of the mass of literature on the *localization* of the mental functions of the brain that has accumulated during the last thirty years, and is ignorant or pretends to be ignorant of the writings of his own countrymen, Mills, Allen Starr, Spitzka, B. Sachs, on this subject, not to mention a host of foreign investigators, and evidently confounds every attempt at localization with the vulgar phrenology that has been tabooed long ago.

It is in justice to Messrs. Jules Morel and T. Claye Shaw that I ask you to be fair enough to publish my reply. Personally I treat such vulgar abuse of an honest work with contempt.

Bernard Hollander, M. D.

THE OFFICIAL TINCTURE OF IODINE.

Sutton, N. Y., *January 19, 1911.*

To the Editor:

Up to the time of the last revision of the pharmacopœia, tincture of iodine consisted of a simple solution of iodine in alcohol. Without any apparent justification the formula was altered by the addition of iodide of potassium in the current edition of the pharmacopœia.

In the abstract Iodine in Treatment of Wounds of the Hands in the *Journal* of December 24th, p. 1288, the abstracter calls attention to the fact that the U. S. P. tincture contains iodide of potassium, whereas the French tincture does not.

The addition of the iodide renders the tincture more miscible with water, which is an advantage when the tincture is to be administered internally. However, as probably ninety-nine per cent. of all the tincture used is used externally, this advantage is negligible. The iodide causes the tincture to dry more slowly and it is harder to confine it within limits. I have had complaints, especially from dentists, in this regard.

As the pharmacopœia is now undergoing revision, would it not be well to restore the time honored tincture, and if there is any demand for the present tincture, let it appear as "compound tincture of iodine"?

D. M. Holbrook.

THE OPEN DOOR POLICY FOR HOSPITALS.

27 East Eighty-first Street, New York, *February 9, 1911.*

To the Editor:

From various quarters considerable importance—rightly so—has been attached to the Clinical Congress of Surgeons of North America recently held in Chicago. The features thereof were the announcement of clinics and operations (specialties represented) held by the surgeons to the local hospitals at specified hours *during the limited number of days of the convention.*

The advantages from an educational point of view of such a plan cannot be gainsaid. It has occurred to me, however, that the scope of such a plan would be materially widened if we did not wait for a casual convention before putting into operation such a practice daily. This would forthwith follow if the right publicity were given in the announcement of the multitudinous operations daily undertaken at the large number of hospitals of the city.

As the matter of announcements now stands, the hospitals with some attempt at regularity issue postal cards setting forth the name of the surgeon who is to perform the operations constituting the order of the day. Such notification is given to individual practitioners, at request, a few hours in advance by mail; so there is also an interchange of compliments between the hospitals in this regard, and finally

these postal cards are displayed on the hospital bulletin board of the New York Academy of Medicine, often too late to be of service, because of unavoidable lateness in mailing. For completeness's sake, I refer to the custom of some colleagues who have issued a card once a season, announcing the days upon which they will hold a clinic.

All these means are, however, far from attaining the widest publicity among the profession. As a means toward this end, I am reminded of a notice which has attracted my attention in the pages of a contemporary British publication, the *Lancet*, for many years and to whose value I can in a measure attest from experience. In substance it sets forth in each issue, under the heading Medical Diary for the Ensuing Week, the names of the metropolitan hospitals, the names of the operating surgeons attached thereto, and the day of the week and the hour at which they regularly officiate. If henceforth, by your courtesy and eventually by cooperation or agreement of surgeons and the hospitals with which they are affiliated, such an announcement appeared in each weekly issue of your valued paper, the greatest publicity of the doings of our hospitals would be insured in a most readily available form. Surgeons and physicians contemplating a visit to hospitals would at a glance upon such a page be able to economically and advantageously plan the day. To such it would soon be apparent that in this metropolis the informal daily doings at our hospitals were more than an equivalent for the conventional exhibitions incident to a congress, nor are they of such an ephemeral and formal character.

I crave your earnest consideration and that of your readers toward the consummation of such a plan. The acceptance of this "open door" policy and the accomplishment thereof through your kind offices I trust will make for a betterment in the mutual relations of physicians at large toward the hospitals, and the latter in turn, from that hour on, will become far reaching educational factors. Conjointly by such new ties the solidarity of the medical profession is strengthened.

MARTIN W. WARE, M. D.

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

The Sources and Modes of Infection. By CHARLES V. CHAPIN, M. D., Sc. D., Superintendent of Health, Providence, R. I. First Edition. First Thousand. New York: John Wiley & Sons; London: Chapman & Hall, 1910. Pp. [illegible]

The reviewer is certain that a considerable reduction in mortality would be effected if physicians generally and health officers in particular would put into practice the good counsels crowded into this book. For, after all, it is not only much more logical to control disease by prevention, but in most instances it is also far easier. The work before us is divided into eight chapters, dealing respectively with the life of disease germs outside the body, carriers and missed cases, the limitations to the value of isolation, infection by contact, infection by fomites, infection by air, infection by food and drink, and infection by insects. The author knows his literature thoroughly, and, what is still more important, knows how to criticise the work of others judiciously. The book is one which should be carefully studied by all physicians.

Modern Treatment. The Management of Disease with Medicinal and Nonmedicinal Remedies. In Contributions by American and Foreign Authorities. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia, Physician to the Jefferson College Hospital. Assisted by H. R. M. LANDIS, M. D., Director of the Clinical Department of the Phipps Institute (University of Pennsylvania), Visiting Physician to the White Haven Sanatorium. In Two Volumes. Volume I. Illustrated. Philadelphia and New York: Lea & Febiger, 1910. Pp. xii–930.

The subject matter of the present volume is divided into three parts. The first, general considerations, includes a chapter by Dr. Horatio C. Wood, Jr., on modern pharmacology and its bearing on practical therapeutics; one on the combination of drugs and prescription writing, by Ambrose Hunsberger, Ph.D.: and one on the untoward effects of drugs, by Dr. Robert Dawson Rudolf.

The second section comprises the treatment of disease by nonmedicinal measures. Dr. W. Jarvis Barlow is the author of the chapter on climatic therapeutics. While he follows the usual custom of recommending low altitudes for neurasthenics, many European neurologists advise these patients to go to altitudes even as high as St. Moritz. Dr. Thomas A. Storey has prepared an interesting chapter on general exercise. Dr. Guy Hinsdale has written a compact account of mineral springs that includes an alphabetical list of American and of foreign waters and their constituents. Dr. Simon Baruch and Dr. Arthur M. Shrady have written the chapter on hydrotherapy, and it gives a succinct account of the various methods of treatment. Dr. George E. Price, in his chapter on electrotherapeutics, including high frequency currents, gives a brief description of the use of various forms of electricity. We believe Dr. Frederick Peterson was the first to show that the most powerful magnet exercised no influence on the living organism. Dr. George E. Pfahler has written an interesting chapter on the treatment of diseases by the x rays and radioactive substances, though the latter are barely referred to. Dr. F. X. Dercum, in the chapter on the rest cure, very properly alludes to its value when a patient is also treated by psychotherapy and psychoanalysis, and to its applicability in organic as well as other functional nervous diseases than hysteria or neurasthenia.

The chapter on nutrition and food has been prepared by Dr. Julius Friedenwald and Dr. John Ruhräh, and is brief and practical. Dr. John W. Kerr is the author of a very excellent account of the measures for the management of epidemics and disinfection. The chapter on serum therapy is by Dr. William H. Park; in it he makes no reference to the use of the serum of thyreoidectomized animals in hyperthyreoidism. Dr. Nathaniel B. Potter and Dr. Oswald T. Avery are the authors of the

chapter on opsonius and vaccine therapy. Dr. S. P. Beebee has written the chapter on glandular therapy, and it gives an excellent review of this important method, though he omits mention of the mammary gland and its very useful application. Dr. Francis M. Pottenger describes the use of tuberculin as a therapeutic and diagnostic agent.

The third part of the volume is devoted to the treatment of the infectious diseases, and the several chapters present contemporary methods.

Mental Medicine. Some Practical Suggestions from a Spiritual Standpoint. Five Conferences with Students at the Johns Hopkins Medical School. By Oliver Huckel, S. T. D., Pastor, Associate Congregational Church, Baltimore. With an Introduction by Lewellys F. Barker, M. D., Professor of Medicine in Johns Hopkins University. New York: Thomas Y. Crowell & Co., 1909. Pp. xxxii-214.

The reviewer has been disappointed in this book. The material is that used by the author, who is the pastor of the Associate Congregational Church of Baltimore, in a series of five conferences with the students at the Johns Hopkins Medical School. When he started on the task of reading the book, the reviewer expected at last to find directions for the accomplishment of that most difficult task, the arousing of interest in a brain devoid of interest, the awakening of hope in a brain from which hope has fled, the creation of an optimistic outlook in a brain that can see only the black side of every cloud. Every practitioner of experience knows of the value of a calm attitude in his patients toward their serious misfortunes. Every practitioner knows the evils of apprehensiveness, of lack of fortitude, and of pessimism. He also knows how well nigh impossible it is to change the attitude of a patient who has always taken the most alarming view of every symptom, or of one who has, through an introspective disposition, magnified unimportant sensations into indications of serious disease.

It is a mistake to believe that much can be done by a physician to alter the mental attitude of an individual of fifty toward the various means of spiritual advancement and cheerfulness that have been neglected during the formative period of that individual's life. It is an injustice to expect a medical man to correct the neglect of the clergymen during those years when the outlook of the individual was developing and becoming fixed. As well might the physician expect to put a cardiovascular system that has been subject to the deleterious influence of alcohol for thirty years back to the condition in which it was before the use of alcohol was begun. Then, too, how shall a physician induce a man past fifty, who has never been interested in anything except his club, his neckties, and his check book, to become interested in "photography, astronomy, music, history, old books, old prints, . . . collecting coins," etc.? The interest in such things must be started early in life, not late; before an individual can see no advantage in a pursuit that does not pay, not after. In other words, the family life must be reorganized and the parents must take more pains with the mental attitude of the child. The child's mind must be led toward a philosophic attitude concerning the serious side of existence, rather than that all instruction should concern the material phases of his life. Nor should this important function be intrusted to school teachers and clergymen. The fathers and the mothers, we believe, have neglected a duty which is rightly theirs, and by creating an atmosphere of emotionalism, sentimentalism, and materialism in their homes have passed along a condition which those of the profession who deal much with chronic diseases have recognized as alarming. The endeavor to apply hypnotism, mental suggestion, Christian Science, and the Emmanuel Movement for the relief of these symptoms may be productive of good results in isolated instances; but it is superficial and palliative, not curative. To cure the condition the trouble must be attacked at its root and the individual must be educated in the meaning of life and its hardships, difficulties, and disappointments from childhood.

The first conference deals with The New Outlook for Health, The Unique Powers of Mind, and The Spiritual Mastery of the Body; the second conference with Faith as a Vital Force and The Healing Value of Prayer; the third with Glimpses of the Subconscious Self and The Training of Hidden Energies; the fourth with The Casting Out of Fear, The Control of the Imagination, and The Cause and Cure of the Worry Habit; and the fifth with the Gospel of Relaxation, Work as a Factor in Health, and The Inspiration of the Mental Outlook. We believe that the thoughtful physician will agree to all of the theses set forth in the book; but we should like to see these propositions dealt with from the viewpoint of the accomplishment of the desired results rather than to have more examples of the categorical statement of the results desirable of accomplishment.

We are reminded of a physician who recognized the necessity of helping one of his patients to take a more cheerful attitude toward a chronic disease from which she was suffering. Realizing his own inability to deal with the mental attitude of his patient and recalling the great amount of discussion that has gone on in recent years concerning the influence of a Christian clergyman on such attitudes, he asked his patient if she were a church member and whether she would not like to have her pastor come to talk with her. The patient immediately thought her physician considered her case to be hopeless and decided that she was about to die. As a result of the suggestion she was much worse than before the attempt was made.

Phases of Evolution and Heredity. By David Berry Hart, M. D., F. R. C. P. E., Lecturer on Midwifery and Diseases of Women, School of the Royal Colleges, Edinburgh, etc. New York: Rebman Company, 1910. Pp. xi-259. (Price, $2.)

Darwin and Weismann, Mendelism, Mendel, Biometry and Mnemism, Mutation, Heredity, Heredity in Diseases, The Community of Bees, A Modern Observation Hive, Evolution of the Honey Bee, Evolution and Controversy, Handicap of Sex, Evolution in Religious Belief, Men who have Revealed Themselves; these are the chapter headings of this small work.

It consists of a series of essays, not very well worked into one another, but readable and pleasantly put. For the most part accurate, it stands in pleasing contrast to many ill digested efforts along the same line.

Taschenbuch der Therapie mit besonderer Berücksichtigung der Therapie an den Berliner, Wiener u. a. deutschen Kliniken. Herausgegeben von Dr. M. T. SCHNIRER, Redakteur der *Klinisch therapeutischen Wochenschrift*. Siebente, vermehrte und verbesserte Ausgabe. Würzburg: Curt Kabitzsch, 1911. Pp. x-450.

This little guide appears in a new edition every year, and in this way it is always up to date. In the present edition the author has added a chapter on new therapeutical recommendations which contains alphabetically a list of the more important new remedies which have appeared from June, 1909, to June, 1910, with literary references.

Anæmia. By PAUL EHRLICH and Dr. A. LAZARUS. Normal and Pathological Histology of the Blood. Second Edition, Enlarged and to a Great Extent, Rewritten. By Dr. A. LAZARUS and Dr. O. NAEGELI. Translated from the German by H. W. ARMIT, M. R. C. S., L. R. C. P. (Lond.). With 5 illustrations and 5 colored plates. New York: Rebman Company, 1910. 4to. Pp. 218. (Price, cloth, $4.)

Ueber die verschiedenen Lymphoiden Zellformen des normalen u. pathologischen Blutes. Von A. PAPPENHEIM in Gemeinschaft und Mitarbeit mit A. FERRATA. Mit 4 lithographischen Tafeln. Leipzig: Verlag von Dr. Werner Klinkhardt, 4to. Pp. 132.

These two books present in the clearest possible manner the two sides concerning the question as to whether a sharp division should be drawn between the lymphatic and myeloid systems and between cells which are derived from these two tissues. Ehrlich and his followers, as is well known, uphold the dualistic doctrine, while Pappenheim opposes it. Both sides marshal a strong array of facts, and the question is not by any means settled. We are sure that all interested in histological problems and certainly all workers in hæmatology will find these books of the greatest interest.

The Racial Anatomy of the Philippine Islanders. Introducing New Methods of Anthropology and Showing Their Application to the Filipinos, with a Classification of Human Ears and a Scheme for the Heredity of Anatomical Characters in Man. By ROBERT BENNETT BEAN, B. S., M. D., Associate Professor of Anatomy, Tulane University, New Orleans; Formerly Associate Professor of Anatomy, Philippine Medical School, Manila, P. I. With Nineteen Illustrations Reproduced from Original Photographs. Seven Figures. Philadelphia and London: J. B. Lippincott Company, 1910. Pp. 236.

The author states that this book represents studies of the human form rather than the skeleton, and embodies the results of three years' investigation of the Filipinos. His object is to establish definite types of man that may be recognized by ear form, cephalic index, nasal index, and other factors, and that may be studied in families through several generations to establish their hereditary characteristics. In this study he made the cephalic index the basis of the classification, the nasal index secondary, and the stature subsidiary.

The natives examined were segregated into certain types; tall, wide nosed, wide headed people called Adriatic because like residents on the northern shores of the Adriatic Sea so designated by Deniker; the small wide nosed, wide headed are called Primitive; the tall, narrow nosed, and wide headed are designated B. B. B. (big cerebellumed, box headed Bavarian); the small; narrow nosed and wide headed are called Alpine; the small, narrow headed and narrow nosed are called Iberian; the tall, wide nosed, narrow headed are called Cro-Magnon; the small, wide nosed, narrow headed are called Australoid.

His study of the natives shows that a large proportion of the population is Iberian, and that this is due to Spanish interbreeding and to earlier invasions from India; indeed, at Cainta the majority of the individuals are apparently pure Indians. The primitive type, original in the Orient, may be due to Chinese and Japanese intermingling. He finds that continual intermingling has failed to eradicate, fuse, or blend the three fundamental types, Iberian, primitive, and Australoid, which continue in comparative purity throughout the Philippine Islands. In addition, he observed a type, *Homo philippinensis,* which corresponds to the *Homo heidelbergensis* and *monstericnsis* of palæolithic Europe. This type may have inhabited the islands with the Negritas or have come with the Malays.

The author's establishment of the ear form as a distinctive feature in racial anatomy is an important contribution to anthropology, and the work is a valuable evidence of the important and useful results of the American occupation of these islands.

MEDICOLITERARY NOTES

The *Evening Sun* recently discussed at length the case of Robert Caple, a horse trader who grew rich till he attained the age of about fifty years, and then spent the remainder of a long life in restoring the money he had filched from his victims. A complete revolution in moral character is not a rare phenomenon at the climacteric. We may cite the cases of Augustine and Ignatius Loyola. Every practising physician has seen many cases of men quitting a life of idle dissipation between the ages of forty and fifty years and passing the rest of their days in a rigidly narrow path. So common, in fact, is the circumstance that it has crystallized into a popular proverb concerning the moral dilemma of a man at forty years. Some become violent antis to cakes and ale; others, fortunately, retain kindly memories of their youth.

Miss Valerie West, of The Common Law, by Robert W. Chambers, is ready in the March *Cosmopolitan* to do anything for the hero except marry him; the hero naturally wishes to be made an honest man of. We yield admiration gladly to the art and good taste of the author as developed in Chapter VII, in which this tense situation occurs. Dr. Woods Hutchinson makes commonplaces of physician and nurse clear and interesting to the laity in Nursery Danger Signals. The Viper on the Hearth is an article on the Mormons in Alfred Henry Lewis's sledgehammer style. Arthur B. Reeve has a detective story, The Deadly Tube, which utilizes radium and x rays as telling scenic properties.

* * *

We owe a therapeutical hint of value to our ancient colleague the barber. A towel wrung out of hot water, folded irregularly and placed over the face, is an admirable sedative to the shaky nerves and tired eyes brought on by overwork, either professional or in excessive writing or reading. The water should be as hot as can be borne, and several towels should be used. The effect is

sometimes so great as to overcome insomnia, while the harmlessness of the application is obvious. It might be interesting to try the result of adding a few drops of one or other of such sedatives as the tincture of hyoscyamus or stramonium. The application of dry heat does not have the same effect.

* * *

Among countries where smallpox has always been the greatest of scourges is Guatemala. Here, as elsewhere, superstition has been the greatest bar to successful treatment by vaccination. It is important and interesting to be able to record that Guatemala is now absolutely free from smallpox for the first time in its history, and that this result is due to the wholesale vaccination of the Indians by a Presidential order carried out by the assistance of the army. Dr. Juan A. Padilla, surgeon general of the marine hospital and quarantine service of Guatemala, who superintended this remarkable and historical battle, is resting in Washington as the guest of his friend, Surgeon General Wyman. This seems to be one authenticated case where the antis will not be able to attribute the result to ordinary sanitation, something quite unknown to the average Central American Indian.

* * *

La Gynécologie opératoire, by Professor Hartmann, which we reviewed some weeks ago, is, we learn, in process of translation into English under the direct supervision of the author by Dr. Douglas W. Sibbald, of the Hertford British Hospital, of Paris. This excellent work, with its many ingenious and novel methods of procedure, will be welcomed by English speaking surgeons.

* * *

From every point of view, humorous, sensational, or artistic, the general run of American magazine stories is greatly superior to the English. The English have, however, a few writers of the first rank, not easily rivalled among us. Prominent amid these is W. W. Jacobs, who has a story, The Bequest, typical of his original humor, in the March *Strand*. As Cruikshank was to Dickens, so is Will Owen to Jacobs; the combination is irresistible. Card, Autograph, and Wall Squiggles is interesting as showing what can be done by clever artists, but the results are far beyond the attainment of the average amateur. Another original English writer is E. Nesbit, a woman who has devised a land of faerie and magic all her own; her serial, The Wonderful Garden, is continued in the March issue.

* * *

Mr. Maxim writes to the March *Strand* to complain that Mr. Maskelyne has not fully explained the tests he professes to have seen performed by a spiritualist many years ago. Mr. Maskelyne's rejoinder is interesting and important in its emphasis on the uncertain memory of those who witness illusions of any kind and their uncontrollable impulse to exaggerate the conditions under which they were produced. The memory of witnesses to actual facts is very untrustworthy, as lawyers know; that of spectators of a trick, the *modus operandi* of which is intentionally concealed from them, is quite worthless. Physicians taking a personal history learn to discount heavily the statements of the most conscientious patient regarding events of a decade or more ago.

* * *

Physicians and others who have done much reading in the old Astor Library on Lafayette Street will heave a sigh of regret at having to move to the new palace at Forty-second Street and Fifth Avenue, to pursue their investigations under what are undoubtedly beautiful but most unhomelike surroundings. There was a cosiness and intimacy in the old bookery that recalled one's own private snuggery, where a reader can reach nearly all his favorites without rising from his chair. We have not seen the interior of the new building, but we hope there are plenty of small rooms in it, or that the effect of friendliness is otherwise conveyed.

* * *

An article, Adulterated Clothing, by Mary and Lewis Theiss, in the March *Pearson's*, shows that "cotton often masquerades in sheep's clothing." It appears that the only unadulterated fabric is cotton, exempt so far on account of its cheapness, just as almost the only unadulterated food is oatmeal. The article gives simple tests for silk, wool, and artificial silk by which the purchaser may protect himself somewhat. Why Women Are Paid Less than Men is by Richard Barry, *persona* extremely *non grata* to equal rights associations, but whose investigations and conclusions deserve the attention of all thoughtful and logical people of both sexes. A woman should have at least ten per cent. of her time for rest, a fact generally ignored by employers and others.

* * *

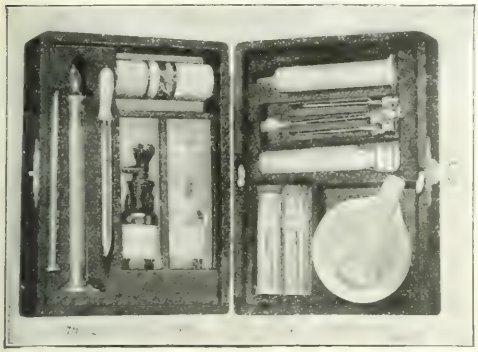
"In reply to a letter from a young German friend," remarked Dr. Ben Trovato, "who desires to know something about our laws regulating the practice of medicine, in order that he may decide whether or no to come here to make his living, I have written that in a majority of the States almost anybody may practise without a license except a regular graduate in medicine."

Miscellany.

Methods of Administering Salvarsan Intravenously.—Dr. John A. Fordyce described the method of the intravenous injection of salvarsan in a paper read at the quarterly meeting of the New York College of Pharmacy (*American Druggist and Pharmaceutical Record*, January 23, 1911).

The ampoule containing the remedy is opened, the contents emptied into the cylinder, 150 c.c. of water warmed to about 180° F. added, solution effected by agitation, a 15 per cent. sodium hydroxide solution added, drop by drop, until the precipitate which forms at first is redissolved, about fifteen to eighteen drops being required, and the solution diluted to about 150 c.c. This is kept at a temperature of 105° F. by placing it in a water bath until needed. A strap is tied around the biceps of the patient, the needle inserted into the lumen of any vein which stands out prominently, generally either the median cephalic or the median basilic vein. When the exudation of blood from the needle shows that it is properly inserted in the vein, the three way cock is attached. One of the tubes connected with this is then attached to the barrel of the syringe, previously filled with a normal saline solution. A trial is made with this to see if the point of the needle is within

the lumen. In case it is not, the injection of the saline solution will not be harmful, whereas the injection of salvarsan solution might under such circumstances prove hurtful. This being determined, the saline solution is emptied, one tube from the three way cock placed in the needle [illegible]

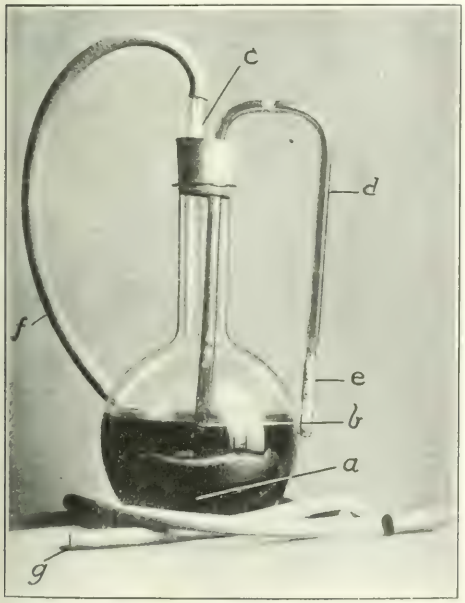


[illegible] of salvarsan

cylinder containing the solution of salvarsan, and the solution is then slowly pumped into the vein, the three way cock being operated by the physician, and the syringe by the assistant.

In our issues of February 11th (p. 294) and 18th (p. 347) Dr. Edward F. Kilbane described an apparatus for using salvarsan intravenously. He says:

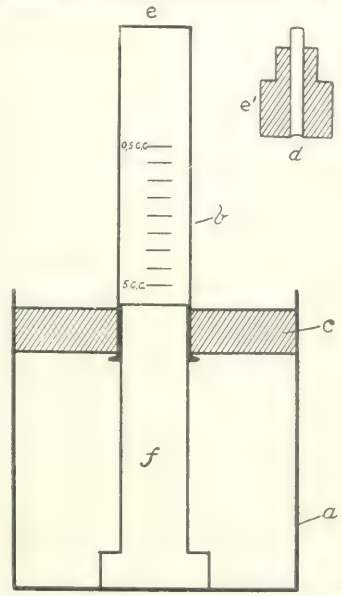
The apparatus consists of a 300 c.c. flask graduated at 250 c.c. and at 25[illegible] and a tight fitting rubber stopper



A, 250 c.c. mark. *B*, 250 c.c. mark. *C*, Short g[illegible] end flanged. *D*, Long curved glass tube with cotton filter *E*. *F*, Rubber tubing, to the free end *G* of [illegible]

with two holes. Into one hole is placed a short glass tube projecting two inches above the stopper. The lower end of this tube is flanged to prevent the tube from dropping from the stopper when the flask is inverted. Into the other hole is placed the long curved tube with the outer end plugged with cotton, the cotton acting as a filter. The inner end of this tube extends almost to the bottom of the flask. This tube is intended to act as a vent. To the shorter tube is attached one end of a three foot length of rubber tubing, and to the other end of the rubber tubing is attached the needle preferred by the individual operator.

Preparation. Into the flask place more than 20 c.c. of filtered distilled water. Sterilize. Pour off the excess of water down to the 20 c.c. mark. Add the salvarsan. Shake until dissolved. When the salvarsan has dissolved to a clear acid solution, add from five to ten drops of normal sodium hydroxide solution. The precipitate caused by this should be redissolved by the careful addition, drop by drop, of more sodium hydroxide solution, accompanied by vig[illegible] shaking. If [illegible]



[illegible]

beads are unnecessary to aid solution. Now add hot sterile normal saline solution to the 250 c.c. mark. If to be used at a place distant from the place of preparation heat the flasks containing the distilled water and the saline solution in water bath just before mixing. This insures the use of a freshly prepared solution.

Use. After mixing as described, insert stopper in flask, attach one end of the rubber tubing to the short glass tube, arm the free end of the rubber tubing with the needle of choice, invert the bottle, expel the air from the tubing and needle, and the needle is ready for insertion into the vein. The rapidity of flow is regulated by the height of the flask above the patient's arm. The simplicity of preparation insures asepsis with a minimum of precaution. The administration is so readily accomplished that a person to hold the inverted flask is all the assistance required.

[illegible] *Journal*, February 18th, p. 322):

The method which I employ involves the use of only the sterile syringe, to be used to inject the salvarsan, and a sterile, thin, glass stirring rod. The stand I use is made from a sixty gramme ointment pot or a sixty gramme bi[illegible]

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entirely of glass.

The cork is hollowed out in the centre to fit around the barrel (*b*). The piston (*f*) is slipped into the barrel to the 5 c.c. mark, and the whole combination fits snugly into the container (*a*), the piston head impinging on the bottom of the container (*a*). Two cubic centimetres of warm sterile liquid petrolatum or iodipin are poured into the barrel (*b*), which is thus made to serve as a graduate. The salvarsan (six decigrammes) is now added, a little at a time, from its original container and thoroughly mixed in the oil, with the sterile glass stirring rod. From time to time a few drops of oil are added until the total amount in the cylinder is about four cubic centimetres. The last few drops of oil are used to wash off the few particles of salvarsan left sticking to the rod. The tip of the syringe (*d*) is fitted into the barrel (*b* at *c*); the whole apparatus is then inverted and the point dipped momentarily in sterile molten paraffin, which effectually seals the syringe. The cork and the syringe are then pulled from the container, while it is still in the inverted position, the cork to act later as the grip when the syringe is used.

A rubber band passed over the tip and over the plunger end, after the manner of carrying a filled blood counting pipette, allows the filled syringe to be transported easily and safely.

If only half the dose (2 c.c. or 0.3 of salvarsan) is used, the piston is pulled back a little, drawing the drop of salvarsan back from the tip, and the point is resealed with paraffin.

The paraffin seal is easily removed by slight heat to the syringe tip, followed by pushing the piston down slightly, the bubble of air descending forcing out the drop of paraffin in the lumen.

For more than two patients for injection a ten cubic centimetre syringe is used and a larger amount prepared.

The advantages of this technique are readily seen:

1. Every bit of salvarsan is utilized.

2. The syringe used to administer the drug being used also as the triturating graduate allows of accurate measurement and therefore accurate dosage.

3. The small number of sterilized parts, i. e., the syringe and a stirring rod, insures perfect sterilization.

4. A minimum amount of exposure of salvarsan to the air is obtained.

A precaution for administration: Warm the syringe slightly and shake well before using.

Dr. S. Pollitzer describes his method of intramuscular injection of oily suspension of salvarsan [illegible] this issue on [illegible].

Official News.

Army Intelligence:

[illegible] cers serving in the Medical Corps of the United States [illegible]

Allen, William H., Lieutenant, Medical Corps. Left Fort Slocum, N. Y., on February 22d, with recruits en route to Fort McDowell, California.

Dickenson, C. F., Lieutenant, Medical Reserve Corps. Left Fort Barry, California, on February 15th, on ten days' leave of absence.

Farrow, Edgar J., Lieutenant, Medical Reserve Corps. Left Fort Morgan, Alabama, on February 18th, en route to Fort Sam Houston, Texas, for temporary duty.

Ferenbaugh, Thomas L., Lieutenant, Medical Corps. Left Fort Des Moines, Iowa, on February 17th, for temporary duty in the field in Texas.

Freeman, Paul L., Captain, Medical Corps. Left Fort Riley, Kansas, on February 18th, for temporary field duty in Texas.

Johnson, Thomas H., Lieutenant, Medical Corps. Left Fort Baker, California, on February 16th, en route to Fort Barry, California, for temporary duty.

Lynch, Charles, Major, Medical Corps. Orders directing him to proceed to the Philippine Islands for duty, are revoked.

Norman, Seaton, Lieutenant, Medical Reserve Corps. Upon relief from temporary duty at Fort Wingate, N. M., ordered to Fort Bliss, Texas, for temporary duty.

Patterson, Edwin W., Lieutenant, Medical Reserve Corps. Granted leave of absence for three months, with permission to go beyond the seas, to take effect upon his relief from duty in the Philippines Division.

Phalen, James M., Captain, Medical Corps. Left Columbus Barracks, Ohio, with recruits to Fort McDowell, California.

Pillsbury, Henry C., Captain, Medical Corps. Left Jefferson Barracks, Missouri, with recruits en route to Fort McDowell, California.

Powell, William A., Captain, Medical Corps. Ordered to the Presidio of San Francisco, California, for duty.

Schlanser, A. E., Lieutenant, Medical Corps. Left Walter Reed General Hospital, Takoma Park, D. C., en route to West Point, N. Y., for temporary duty.

Thomason, Harry D., Captain, Medical Corps. Ordered to proceed at the proper time to Frankfort, Ky., for conference about February 26, 1911, with the Adjutant of Kentucky in connection with the reorganization of the sanitary troops of that State.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending February 18, 1911:

Cecil, A. B., Assistant Surgeon. Detached from the *Nebraska* and ordered to the naval station, Guantanamo, Cuba.

Births, Marriages, and Deaths.

Born.

Reynolds.—In Fort Monroe, Virginia, on Monday, February 20th, to Major Frederick P. Reynolds, Medical Corps, United States Army, and Mrs. Reynolds, a son.

Married.

Abernathy—Chapin.—In New York, on Thursday, February 23d, Mr. Alfred C. Abernathy and Miss Madeline Bigelow Chapin, daughter of Dr. and Mrs. Warren Blanchard Chapin.

Chamberlin—Stidd.—In New York, on Thursday, February 23d, Dr. Frank W. Chamberlin and Miss Irene Stidd.

Raymond—Hammond.—In New York, on Wednesday, February 22d, Mr. Edward Raymond and Miss Louise Elsworth Hammond, daughter of Dr. and Mrs. Graeme Hammond.

Wiley—Kelton.—In Washington, D. C., on Monday, February 27th, Dr. Harvey W. Wiley and Miss Anna Campbell Kelton.

Died.

Abe.—Near Westdale, New York, on Wednesday, February 15th, Dr. Hana Abe, aged thirty-nine years.

Buell.—In Rochester, New York, on Friday, February 17th, Dr. Jesse W. Buell, aged fifty-nine years.

Camp.—In Wyalusing, Pennsylvania, on Tuesday, February 7th, Dr. D. W. Camp, aged sixty-eight years.

Craig.—In Oakland, California, on Tuesday, February 14th, Dr. Lloyd A. Craig, aged twenty-six years.

Frazer.—In Saratoga Springs, New York, on Friday, February 24th, Dr. Samuel H. Frazer, aged sixty-eight years.

Greene.—In Lexington, Kentucky, on Sunday, February 19th, Dr. Francis M. Greene, aged seventy-seven years.

Kelly.—In Philadelphia, on Thursday, February 23d, Dr. Aloysius O. J. Kelly, aged forty years.

Mahle.—In Baltimore, Maryland, on Monday, February 20th, Dr. George W. Mahle, aged twenty-nine years.

Powell.—In Maryville, Missouri, on Monday, February 13th, Dr. Edwin Powell, aged seventy-seven years.

Ritter.—In Loysville, Pennsylvania, on Friday, February 10th, Dr. Albertus T. Ritter, aged forty years.

Stephens.—In Herrickville, Pennsylvania, on Friday, February 10th, Dr. Alonzo R. Stephens, aged seventy-five years.

[illegible]

15th, Dr. Thomas M. Trego, aged sixty-four years.

Williams.—In Pearisburg, Virginia, on Tuesday, February 21st, Dr. George E. Williams, aged thirty-five years.

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Original Communications.

CLINICAL RESULTS FROM THE USE OF SALVARSAN.*

BY HOWARD FOX, M.D.,
New York,

AND WILLIAM B. TRIMBLE, M.D.,
New York

The intense interest in salvarsan that has been shown by the medical profession is only comparable to the enthusiasm created by the introduction of Koch's tuberculin. No new remedy has ever been given such an extensive preliminary trial in hospitals before being put upon the market. In all fairness to Ehrlich's preparation it must be said that most of the numerous communications upon the subject deal with the result of a single injection. It is not impossible that repeated doses with new or combined methods of technique may add to the efficacy of the remedy. More than enough investigation, however, has already been devoted to salvarsan to show its probable field of usefulness as well as its limitations and its dangers.

In discussing the clinical results from the use of salvarsan in syphilis the following important questions are suggested: How rapidly do the symptoms subside after the injection and how permanent is the action of the new drug? How do the results compare with those obtained by the use of mercury and potassium iodide? What are its unpleasant or dangerous effects, and what is the most efficacious method of its administration? In attempting to answer these questions we are depending as far as possible upon our experience with fifty cases (most of them treated in the service of Dr. George Henry Fox at the New York Skin and Cancer Hospital), upon numerous other cases that we have seen in New York, and to a less extent upon the literature of the subject.

Every observer who has had a moderate experience with salvarsan must admit that in certain cases at least the new remedy has a powerful action in causing the disappearance of syphilitic manifestations. This symptomatic action is often strikingly shown in lesions of the mucous membranes, mucous patches, for instance, disappearing at times in from twelve to twenty-four hours. Since the drug, furthermore, causes a rapid covering of the chancre with epithelium, its employment should prove of great value where it is desired to lessen as quickly as possible the danger of infecting others. Its action in causing the disappearance of the induration in the chancre and lymphatic glands is slow and unsatisfactory.

The effect of salvarsan upon early cutaneous syphilides is only moderately rapid. In the case of the large, flat, papular syphilides it is generally admitted to be slow, a fact that certainly coincides with our own observations. Its effect upon the macular and upon the small, flat, and miliary papular syphilides is generally conceded to be somewhat quicker. Even in these forms of cutaneous syphilis we would certainly not call its action very brilliant. In the later cutaneous manifestations we have seen some excellent results comparable to those which have been reported by many other observers.

It is, perhaps, in the malignant precocious type of the disease that the most brilliant results have been obtained. The new remedy has also shown its value in severe cases of syphilis that have proved refractory to mercury. A marked example of such a case (reported by Kakels) was a patient that one of us had formerly treated at the German Hospital. Previous to treatment with salvarsan he had been given vigorous inunctions of mercury and injections of atoxyl with little or no benefit.

The action of salvarsan is furthermore of value in the cases, actually very few in number, in which mercury cannot be tolerated. Such a case was reported by us in the *Journal of the American Medical Association* of March 4, 1911, p. 650, in which the patient who had previously been treated by an experienced syphilologist had found it impossible to take mercury by mouth, injection, or inunction. Indeed, under the administration of mercury he had suffered from necrosis and loss of a considerable portion of his gums. After two injections of salvarsan the lesions had practically healed.

Good results are reported from the use of salvarsan in congenital syphilis, our own experience in these cases, however, being very limited. Certainly no better results could be desired than that reported by Samuel W. Lambert in a case of infantile syphilis. The child who presented extensive macular and bullous lesions, hoarse voice, coryza, and enlargement of the liver and spleen, was given an injection of twenty-five milligrammes. At the end of three weeks the symptoms had entirely disappeared. In cases of parenchymatous keratitis in older children, the results, according to foreign observers, have been very unsatisfactory. While it is true that syphilitic sucklings have been benefited by the treatment of the mother alone, it would seem

to be advisable to follow Ehrlich's suggestion to treat both mother and child independently.

Satisfactory results have been obtained in the treatment of active syphilis of the nervous system, while in the parasyphilitic affections, such as tabes and paresis, its effects have been found to be of little or no value. Fordyce has treated eighteen cases of tabes and considers the results to be discouraging. In several of the cases there was, however, marked improvement in the pains, which had previously been very distressing.

The action upon the Wassermann reaction should be included among the clinical symptoms, and be considered as a means of the greatest importance in determining the ultimate value of the new remedy. As the subject is, however, specially discussed by two other speakers it will be omitted in this paper.

The action of salvarsan upon the *Spirochæta pallida* has been found by a large number of observers to be very energetic. In the majority of cases the organisms disappear from the various lesions in from twelve to twenty-four hours. In one of our cases the spirochætæ disappeared at the end of seventy-two hours, in four others at the end of forty-eight hours. The powerful action upon the spirochætæ is well illustrated in two hopeless cases of infantile syphilis reported by Herxheimer and Reinke. One of these infants died at the end of two days, the other at the end of four days after injection. At the autopsy no spirochætæ could be found in any of the internal organs except the lungs, where they were present in agglutinated and degenerated forms.

Enough has been said to show that in causing the disappearance of syphilitic manifestations salvarsan has a marked and often brilliant action. The question as to the permanence of its action is one that is more difficult to answer. The number of relapses that are reported in increasing numbers as more time elapses have largely destroyed the hope that syphilis might be cured by a single injection. A letter recently sent out by the *Medizinische Klinik*, requesting information upon the number of relapses that were being obtained, elicited the information from various observers, based upon 4,766 cases, that only 207 relapses had occurred. Judging from our own experience and from the cases of others that we have seen, this number would appear to be rather low. We feel confident that as these cases are further followed a much larger proportion of relapses will have to be recorded. In order to obtain any true idea as to the permanent action of salvarsan in syphilis, it will be necessary to carefully follow the cases for a number of years. It is not sufficient that the Wassermann reaction should become negative, or even remain so for six months or more. It is well known that a negative Wassermann reaction obtained in the first year or two in cases of syphilis treated by mercury is of comparatively little value. Certainly no one at the present time would think of saying that such a result meant a cure of syphilis.

In judging of the value of salvarsan fairness demands that it should be rigidly compared with two other remedies, whose value is universally recognized, namely, mercury and potassium iodide. There seems to be little doubt that in the enthusiasm that has followed the introduction of salvarsan, some observers have forgotten that in many cases equally good or better results could have been obtained by mercury. We agree in the main with the opinion expressed by Fisher, who writes that "no one seems to appreciate how rapidly syphilis may subside under ordinary treatment. Clinicians are surprised by the rapidity of the action of '606,' when, if they should keep records of the cases in which it was used alone, they would find that syphilis disappears as fast or even faster under mercury." While this seems to be true of the majority of syphilitic manifestations, we feel convinced that in lesions of the mucous membranes at least the action of salvarsan is much more rapid than that of mercury. Furthermore, we do not agree with Fisher that the new remedy should be solely reserved for cases that are refractory to mercury.

A comparison of the permanence of the action of salvarsan and mercury, judged by the occurrence of relapses, has certainly given us the impression that a thorough course of mercurial treatment gives much more lasting results than one or perhaps two injections of salvarsan. The relapses that we have noted after injections of salvarsan have occurred at a discouragingly early period, e. g., three and four weeks. It must be admitted that mercury cannot abort syphilis (after the first few hours), cannot prevent the chronic intermittent tendency to relapses, and cannot with certainty prevent the later occurrences of parasyphilitic affections. Whether salvarsan will be able to accomplish any of these greatly to be desired results is a problem for the future to decide.

The question of the danger and possible ill effects from the use of salvarsan is fully as important as the question of the good that it may accomplish. It is true that deaths have been reported, and that other deaths have occurred which have not been reported. It is also true that in most of these fatal results the injections were given in cases in which the drug was, according to our present knowledge, contraindicated. In the very large number of injections that have been given with this new remedy, the serious effects are proportionately small. It cannot, however, be said that the use of salvarsan is entirely devoid of danger.

In regard to the possibility of causing blindness from optic atrophy such as that which formerly occurred from the use of atoxyl and arsacetin it must be admitted that the results have shown an agreeable disappointment. Finger's case of optic atrophy appears to have been the only one that has followed the use of salvarsan, and in this instance the patient had previously been given thirty injections of arsacetin and eighteen of enesol, e. g. preparations containing arsenic. It is true, however, that injections of salvarsan have been followed in a number of cases by various lesions of the eye and by nerve deafness. As to whether these lesions should be considered as relapses occurring in the course of the disease, or whether they are directly caused by the action of the drug, is difficult to decide.

The undesirable effects of the injection vary ac-

cording to the method employed. The subcutaneous injections of a neutral suspension have now been practically given up owing to the possibility of necrosis. The effect of an intramuscular injection of an alkaline solution is also at times very painful





and frequently followed for days or even weeks by distressing induration. The local effect of an oily suspension given in the buttocks, is, as a rule, well borne, especially when the injection is followed immediately by vigorous massage. A properly given intravenous injection should not be followed by any unpleasant local disturbances.

The general bye effects that follow the use of salvarsan are varied and include some of the following symptoms: Rise of temperature, increase of pulse rate, general malaise, headache, dizziness, sleeplessness or somnolence, epileptiform attacks, disturbance of vision, abdominal pains, vomiting, jaundice, excessive sweating, albuminuria, retention of urine, obstinate constipation, dim-





inution or absence of skin and deep reflexes, paralyses, and herpes zoster. Formidable as these symptoms may appear they are as a matter of fact mostly of a very transitory nature and seldom at all alarming. Many of them have been observed in our cases. In one of our patients an abdominal herpes zoster developed forty-four days after injection. In only one case did we note the occurrence of the so called Herxheimer reaction in which the eruption appeared



darker and more extensive on the day following the injection.

As an offset to some of the disagreeable bye effects of salvarsan may be mentioned its powerful tonic action in many cases of syphilis. We have repeatedly seen a marked improvement in the patient's general appearance, color, appetite, and mental attitude, following an injection of salvarsan. An increase in weight is also frequently observed, one of our patients having gained ten pounds in a month after treatment. The tonic action of the new remedy contrasts favorably with the depressing effects of mercury that are so often observed.

The question as to the most efficient method of administration of salvarsan has not as yet been settled. We would feel entirely satisfied with the intramuscular injection of an alkaline solution if it were not for the pain and induration that so often follows this method. We are convinced that the injection of oily suspensions are too slow in their action and are inclined to think that the effect of the intravenous injection is too ephemeral. Theoretically the best plan would seem to be to give an intravenous injection, followed in a few days by an intramuscular injection of an oily suspension. We have therefore recently adopted this plan and intend for the present at least to treat our patients in this manner.

CONCLUSIONS.

1. Salvarsan is unquestionably a remedy of great power in causing certain manifestations of syphilis to disappear.

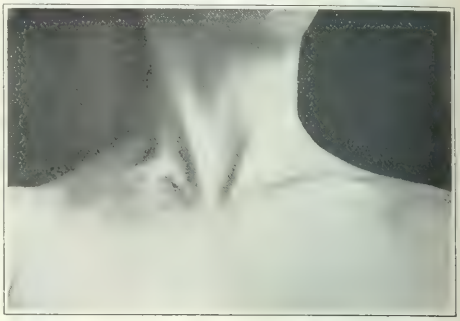
2. Its symptomatic effect is perhaps most strikingly shown in lesions of the mucous membranes.

3. It seems to be of particular value in malignant precocious syphilis, in threatening destructive processes, and in cases that are refractory to mercury.

4. A final opinion as to the permanence of its action can only be given after a lapse of several years during which time both clinical manifestations and Wassermann reaction must be carefully observed.

5. Relapses are frequent and seem to occur more frequently than after treatment with mercury.

6. Except in certain selected cases we do not think that salvarsan will replace the use of mercury.



7. The disagreeable bye effects from its use have in our experience been generally transitory and of little importance.

8. According to our present knowledge the most efficacious form of administration appears to be an intravenous injection followed in four days or later by an intramuscular injection of an oily suspension.

A SIMPLE APPARATUS FOR THE INTRAMUSCULAR ADMINISTRATION OF SALVARSAN AT THE BEDSIDE, WITH SPECIAL REFERENCE TO THE MAINTENANCE OF ASEPSIS.

By Abr. L. Wolbarst, M. D.,
New York.

In order to facilitate the intramuscular administration of Ehrlich's salvarsan at the bedside of the patient with special reference to simplicity of technique and asepsis, I have devised a set of apparatus, which I believe will commend itself to those who prefer the intramuscular method of administration of the new remedy.

Salvarsan has been on the market, within reach of everybody, for two months, but it is already evident that it is being administered, in certain quarters, without the great care and attention to detail, that characterized the work of the early experimenters.

It certainly goes without saying, that the most scrupulous asepsis is a *sine qua non* in the new treatment, and particularly so with the intravenous method of injection. The danger of introducing septic material directly into the blood stream is undeniably a very grave one. On the other hand, septic infection following the intramuscular method, means the development of abscess and extensive

necrosis at the site of injection, with perhaps even more serious consequences.

Nevertheless, it is a fact that competent surgeons, who would not for a moment think of performing a surgical operation without assuring themselves that their instruments were perfectly aseptic, have been known to give an intramuscular injection of salvarsan, without even sterilizing their instruments. Such laxity on the part of physicians is sure to cause serious complications to the patient, and bring undeserved criticism to this really invaluable method of treatment. We should constantly bear in mind, that whatever ideas we may have concerning the value of the new treatment, it should only be administered under the same conditions that we would employ in a capital surgical operation. There cannot be more than one opinion on this point.

It is true that while asepsis is possible when the remedy is being given in a well appointed hospital, it is equally true that in the home, where many of these injections are being given, asepsis is well nigh impossible in a vast majority of cases.

The apparatus here described is intended to furnish perfectly aseptic instruments whether the treatment is to be given in the hospital or in the most humble home. It consists of the following:

1. A copper, tin lined sterilizer, twenty-nine centimetres long, nine centimetres wide, and five centimetres deep (11½ × 3½ × 2½ inches), with two handles that can be used as a lock to hold the cover in place when not in use (Fig. 1).

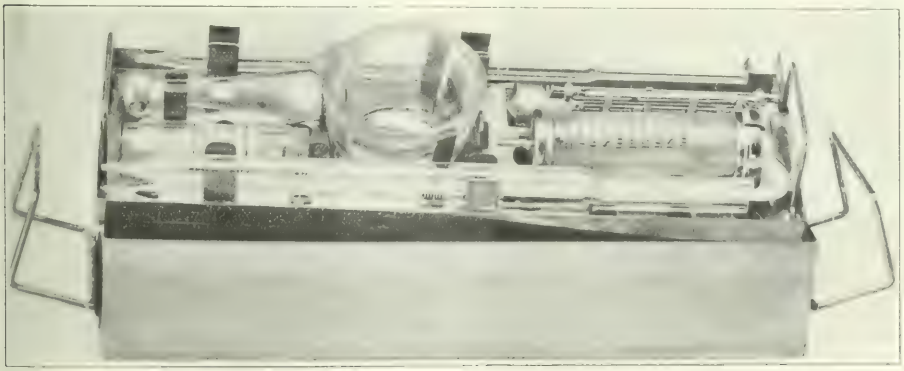
2. The sterilizer contains a perforated tray with handles, which can be easily withdrawn from the box when the instruments are ready.

3. The tray is fitted with a ten or twenty cubic centimetres syringe, record or glass model; with two needles; also three pipettes, two graduated 10 c.c., and one 5 c.c.; and a glass mortar and pestle, the mortar being six centimetres in diameter and having a capacity of sixty cubic centimetres.



The entire outfit weighs less than two and one half pounds, and can easily be carried in the physician's bag or in the pocket, if desired.

Technique: The sterilizer is filled with water, preferably distilled, the apparatus being intact, and it is placed over a gas flame. This may be done in the physician's office before going to the patient's home, or at the patient's home. After the water has boiled for some time, the cover is removed, the water poured out, and the instruments are ready for use (Fig. 2). Each separate piece of apparatus



breakage. In this way a perfectly sterile set of instruments may be brought to any distant point, ready for use.

I have used this apparatus in over fifty cases thus far, with complete satisfaction. The outfit is put up by the firm of Eimer & Amend, of this city, whom I desire to thank for their courteous cooperation.

105 East Nineteenth Street.

A LANOLIN AND OIL EMULSION OF SALVARSAN FOR INTRAMUSCULAR INJECTION.

By John G. Burke, M. D.,
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In reading of the different methods of preparing Ehrlich's salvarsan for intramuscular injection, all except one require such an array of buretts, pipetts, triturating solutions, neutralizing tests, etc., that one is impressed with the many possibilities for errors, and also the difficulty of observing strict asepsis where so many solutions and implements are necessary. The one exception is the method of injecting the "606" unchanged in a lanolin or oil emulsion. The convenience, simplicity, and painlessness claimed for this method stand out in such striking contrast to the other methods that a study of it may be of some advantage.

Kromayer (1) and Chrismar began by giving small doses, and finding that the small doses were well tolerated finally gave a six grain dose in liquid paraffin, and state that the pain was not greater than an injection of the salicylate of mercury. They then began to give it this way in all their cases, and, according to their last report, had given 250 injections without any severe pain or local reaction following. They assert that while theoretically it would be assumed that the absorption from the oil emulsion would be slower than from the solutions clinically they have not noticed any difference.

The elimination of the arsenic in the urine occurs as rapidly as after the other injections. They recovered 0.00112 gramme in the first twelve hours, and 0.0127 gramme in the second twelve hours, which they think is a sure proof of the quick absorption.

Levy-Bing and Lafay (2) say that arsenic for injection is similar in a way to mercury, in that its salts form two types—one soluble and one insoluble in water. They cite the biniodite of mercury as a soluble salt that forms a coagulum in the tissue and is then absorbed as an insoluble salt. Salvarsan is insoluble in water, but is marketed as the dichlorhydrate, which is soluble in water, and they state that an injection forms a coagulum from which the drug is absorbed, that an injection of "606," on account of the arsenic it contains, plays a rôle similar to that played by gray oil or calomel, on account of the mercury they contain, and that it has the advantages and disadvantages of the insoluble preparations of mercury. They mix "606" similar to the preparations of gray oil, but on account of the difference in the density between salvarsan and mercury the proportions of lanolin is less. They first used one part of lanolin to nine parts liquid petrolatum, but later substituted oil of [illegible] for the petrolatum, as they found that a vege-table oil was better than the mineral for injections. They mix the dioxydiamidoarsenobenzol with 3 c.c. of the lanolin and oil mixture, and inject into the gluteal region similar to an injection of gray oil. They insist that the "606" is deposited in the tissue without any chemical change having taken place. They do not state how many injections they have made, but remark that the pain following the injection has been little or nothing, no local inconvenience or inflammatory reaction, and that the temperature never rose over 100° F., pulse over 90, even with the injections of twelve grains.

Schindler (3), working in Neisser's clinic, advocates a mixture of "606" with lanolin and iodipin—the latter a preparation of Merck's, containing iodine in oil of sesame. He states that this keeps well and can be used ten days after having been made. He worked it out by experimenting on animals, and says that it forms and is absorbed from the tissues as a fine emulsion. He does not give the proportions of his preparation, but states that it can be procured from a druggist in Berlin, who makes it and markets it under the name of "joha." He has used it in eighty cases, and makes the same statements as the others in regard to its effect and painlessness.

From my own experience with the gray oil and the other insoluble preparations of mercury, I would suggest a ten per cent. lanolin in olive oil emulsion, as this quantity of lanolin has been found sufficient to hold the "606" in suspension, and we know from clinical experience that olive oil is well tolerated by the tissues, while the mineral oils are more or less irritants.

The vessel containing this lanolin and oil mixture and a small mortar and pestle and the needle and syringe are all that is required. These should be sterilized and 2 c.c. of the oil placed in the mortar and then the salvarsan powder dropped into it from the vial in which it is marketed; this is stirred up into an emulsion and drawn up into a syringe; then 1 c.c. more of the oil is used to take up what is adhering to mortar and pestle; this is also drawn into a syringe and it is then ready for the injection. The total quantity injected is not much greater than that of an ordinary hypodermic syringe.

A simpler way suggested by Hart (4) is to mix the ingredients in the syringe instead of a mortar, using a small glass rod for a pestle. As the salvarsan is not dissolved, but is only held in suspension, and as salvarsan is a coarse, granular powder, it is advisable to use a needle slightly larger than those used for the insoluble mercurial injections, the injection is made much easier with a syringe with a leather or asbestos plunger than with a solid plunger, as the coarse granules get between the solid plunger and barrel of the syringe and make it very hard to force out the suspension.

The danger of producing an embolism by injecting the emulsion into a vein can be obviated by Lesser's suggestion to disconnect the syringe from the needle, and after making the puncture waiting a few moments to see if fluid appears. When blood shows we know that we have punctured a vessel, and the needle should be reinserted. This procedure answers very well if we are using an aqueous solution, but in using an oily solution or a lanolin emulsion I doubt if any blood would show, even

if we have penetrated a vein, as it would be impossible for the blood to flow through a needle that is filled with a thick oil. Recognizing this fact, and also the danger of injecting an insoluble preparation into a vein, for the last three years when making injections of gray oil, I have been using a procedure which I think overcomes this objection to the use of the insoluble preparations. I use one needle and two syringes, the first syringe is filled with sterile water and connected to the needle, and the puncture made, part of the sterile water is then forced into the tissues, and after waiting a minute the plunger is withdrawn. This draws the water that has been injected back into the syringe, and if a vessel has been punctured the aspirated fluid is blood stained and the emulsion is not injected. If the aspirated fluid shows clear the first syringe is disconnected, leaving the needle in place, and the second syringe containing the insoluble drug connected to the needle and the injection then made. This is the technique used by Gersuny, of Vienna, in making injections of paraffin in correcting saddle nose and other deformities, and its use in thousands of cases in his hands has prevented any cases of embolism following the injections.

The number of cases reported in which this method of injecting salvarsan has been used has been sufficient to prove the assertions made by its advocates that it causes little or no pain, is well tolerated by the tissues, and the clinical results are as good as the other methods, and its use requires no elaborate apparatus. And as the latest recommendation from Ehrlich is to follow the intravenous injections with an intramuscular one, it will likely be the injection used in a large number of cases. By using the Gersuny technique which I have suggested the danger from embolism is practically nil.

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1. [illegible] Ehrlich-Hata Injection. *Berliner klinische Wochenschrift*, [illegible] Praxis. *Ibidem*, September 26, 1910.

2. Levy-Bing et Lafay. "Sur un mode d'injection pra[illegible] 29, 1910.

3. Schindler. Ueber ein 40 proz. Dioxydiamidoarsenobenzol Oel. *Berliner klinische Wochenschrift*, December 26, 1910.

4. Hart. A Simple Technique for Preparing Salvarsan [illegible]

[illegible]

TECHNIQUE IN ADENOID AND TONSIL OPERATIONS.

By L. D. Alexander, M. D.,

New York.

[illegible]

New York.

Anæsthetist to St. Bartholomew's Clinic and to the New York Skin and Cancer Hospital

The operative procedures for the removal of adenoids and hypertrophied tonsils as practised in the United States at the present time are probably superior to those employed elsewhere. These measures vary from clean surgical dissection, as practised by [illegible] and others, to the simple [illegible] pillar separation and snare removal, as done by the majority of operators.

It is not the purpose of this paper to discuss the pros and cons of the different methods, except to agree with the majority of American rhinologists in condemning the use of tonsillotomes of all varieties such as have been previously employed.

The ideals for which one strives may be divided as follows: 1. Preparation of patient; 2. good anæsthesia; 3. good technique; and, 4, after treatment.

PREPARATION OF PATIENT.

The night previous to the operation the patient is given a cathartic; to adults, some cathartic pill; to children, castor oil or calomel. The next morning, if the result is not satisfactory, a simple enema should be given, at least two hours before the operation. The temperature is then taken. No food is allowed for six hours before the time of operation. If the operation is early in the morning, no food whatever should be given. The last meal should consist of a plate of clear soup or bouillon with two crackers. Cases are on record of children vomiting a bolus of food or a small piece of undigested meat, which, getting into the trachea, caused serious disturbances, even septic pneumonia. Milk is especially prohibited. From nervousness or other causes, this coagulates, and the vomited curds are as much of a menace as particles of any other article of food.

For nervous children over six years of age, five grains of chloretone, given one hour before operation, is valuable. From fifteen years upward, one eighth or one sixteenth of morphine, and one hundredth and fiftieth of atropine should be given, or ten grains of chloretone one hour before operation.

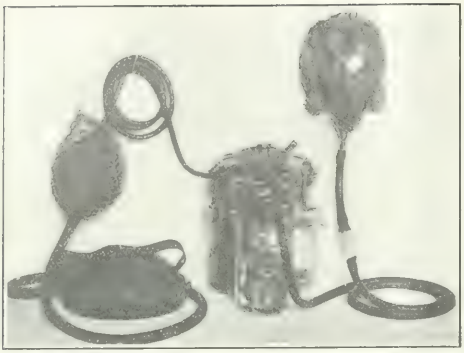
Immediately before the operation the upper air passages should be sprayed with some antiseptic solution. Liquid petrolatum with menthol is especially recommended, as it lubricates the passages, facilitating the passing of the catheters. This procedure has quite a psychic effect, in addition to the physical, that is most beneficial.

In addition to the preliminary treatment, mental suggestion is here of the utmost importance, and varies with the characteristics of different patients.

On the table, the patient wears a loose, warm gown or robe, thick woolen socks, and is covered by a blanket, over which is placed a rubber sheet, fitting closely around the neck. Care should be taken to prevent any constriction at the neck or waist. The hair is covered with a sterile towel, as is also the rubber sheet.

[illegible]

The ideal anæsthetic for this particular operation must be safe; deep enough to abolish all reflexes, including the cough, swallowing, and tongue reflexes; and continuous, so that there will be no necessity for the reapplication of the anæsthetic or for the delay caused by the removal of blood from the operative field. Furthermore, the patient should come out of the anæsthetic within fifteen minutes, in a natural way, without delirium or nausea. Vomiting is reduced to a minimum if no blood is allowed to enter the stomach during the operation.



attached.

enced previous fright from any cause, the time of operation should be in the early morning, say, one hour before the usual time for the child to awaken, or during the noonday nap.

The patient should be anæsthetized while asleep. This has been done many hundreds of times, and is much safer with children than any other method. To successfully anæsthetize a sleeping child, the mask or gauze should never touch the face. The anæsthetic is begun with chloroform, a few drops at a time, and gradually increased until rhythmical and automatic respiration indicates the commencement of surgical anæsthesia. A change to ether by the vapor or drop method is then made.

On account of the undeveloped muscles of children under six years of age, these patients should be anæsthetized by the vapor or drop method of ether or chloroform. Any closed method puts too severe a strain upon the chest walls. The usual procedure is as follows: From three to six drops of chloroform, followed by as many of ether; then alternating, and changing entirely to ether as surgical anæsthesia is reached. This procedure gets the patient under in from three to five minutes, and without any struggling.

One should always bear in mind that many of these little patients have the lymphatic temperament, in which chloroform is absolutely contraindicated. Whenever this is suspected, the drop method of ether, carefully and slowly given at first, and increased rapidly as the stage of surgical anæsthesia approaches, will bridge over the disagreeable features which sometimes occur with this method of anæsthesia.

In all cases in which the drop or vapor method is used, a few drops of cologne upon the mask, just before the anæsthetic is started, will allay fear, and increase confidence in the anæsthetist.

From six years of age upward, decidedly the best technique is the gas-ether sequence, followed by the vapor method. The ether or chloroform is passed through a tube attached to the mouth gag.

If a patient has bronchitis or a catarrhal condition of the upper air passages, ether is absolutely contraindicated. Warm chloroform and oxygen is the safest anæsthetic for this condition.

The tube on the suction apparatus in the mouth, found to be more or less in the way, and to obviate this, we have adopted the plan of placing the catheters attached to the suction apparatus in the nares, so that the ends are just visible when the tongue is depressed. This compels the patient to breath through the mouth, and the anæsthesia is more easily maintained in this way than by any other method. (Fig. 3.) The patient thus receives all the vapor, and the blood is not in the way of the operator. Surgical anæsthesia is as easily maintained in this way with ether as with chloroform.

Hewitt uses the gas-ether-chloroform sequence for this operation, as do also others who make a specialty of anæsthetizing for nose and throat operations.

With the bent tube in the ether chamber we are enabled to get a more saturated ether vapor than ever before, thereby rendering the use of the chloroform unnecessary in a large majority of cases.

Before reaching our present method of anæsthetizing, and removing the blood, we attempted to reduce the anæsthetic and the effusion of blood by the sequestration method. This consists, briefly, of anæsthetizing the patient with any anæsthetic in common use, then cording the thighs and arms, thus cutting off this amount of blood from the brain, and continuing the operation with very small amounts of the anæsthetic, or none at all. This method seemed to work well in one or two cases, but was not a complete success, so we finally abandoned it and developed the present method.

So far, the nasal tubes have acted perfectly in taking up the blood, and no trouble is experienced in keeping a clear field for the operator. A tube was formerly attached to the tongue depressor, but



it was found that the tongue depressor had to be removed occasionally, during which time the patient might regain the lost reflexes and thus cause the surgeon embarrassment. With the vapor apparatus as now perfected by us, we are able to give a continuous anæsthesia after the mouth gag has been placed in position, with the patient in any posture desired by the surgeon.

If the operator prefers the patient in a dorsal position, it is unnecessary to turn the head to either the right or left, to stop the operation for the reapplication of the anæsthetic mask, or to remove the blood from the oral or nasal cavities.

By means of this continuous narcosis, together with the use of the blood suction apparatus, the time of operation is reduced from one third to one half. The surgeon is also enabled to do more thorough work, without the feeling of the necessity of hurrying lest the patient come out of the anæsthetic, as even a plane of anæsthesia can thus be maintained as for any other surgical procedure.

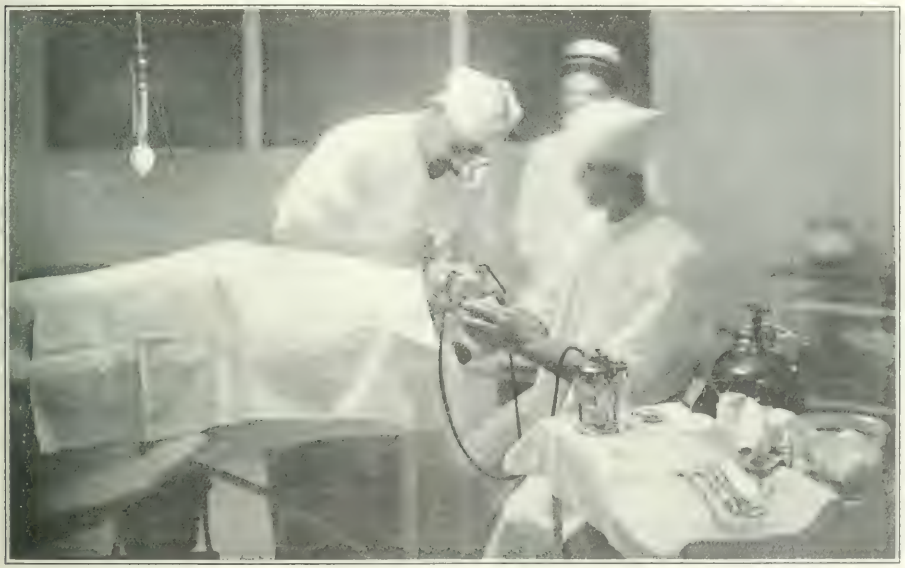
Deep chloroform narcosis, with great profusion of blood in this position, is more or less dangerous. For this reason the gas-ether sequence to get the patient deeply under the influence, followed by ether vapor anæsthesia, is as nearly ideal for this particular operation as it is possible to secure.

Description of apparatus. For the gas-ether sequence any closed inhaler is satisfactory. For the combination of the anæsthetics, a vapor apparatus of some kind is absolutely necessary. The apparatus (Fig. 1) consists of three bottles filled respectively with hot water, chloroform, and ether. [illegible] the vapor that ether or chloroform may be given separately or combined, as indicated by the degree of narcosis required. [illegible]

through the hot water before reaching the patient. A foot pump regulates the vapor, leaving the anæsthetist's hands free to assist the surgeon when necessary.

When ether is contraindicated, a tube from the oxygen tank replaces the foot pump. Warm oxygen alone, or oxygen with chloroform, may thus be given as indicated (Fig. 3).

Suction apparatus. This consists of a vacuum water pump (Fig. 2), which is attached to any spigot or tap by an adjustable connection (Fig. 4). The rush of water through this brass cylinder creates a vacuum which is carried to a Woulff bottle by connecting rubber hose. Another rubber hose leads from the Wolff bottle to the patient; to the free end of this hose are attached two rubber catheters, which, when placed in position, utilize the vacuum and complete the apparatus.



[illegible]

The desiderata in the matter of good technique are: 1. Good light; 2, bloodless field; and, 3, maximum speed.

Good light. After experimenting with various forms of reflected light, we find direct illumination of the operative field to be the most desirable. This [illegible] denser, supplied by a dry cell battery, or, better, by a current controller. Shielded lights on instrument and anæsthetic tables prevent interference with the operator's light.

By means of the brightly illumined field so provided, anomalies of formation are noted, and bleeding vessels may be seen and clamped, thereby avoiding much tissue laceration and bleeding.

Bloodless field. Our attempts at reaching this [illegible]

already been gained, however, that we feel justified in reporting our method. Our efforts were addressed to, firstly, the reducing of the blood lost; and, secondly, to the removal of that which was lost. We attempted, as detailed under anæsthesia, to decrease by sequestration the amount of blood volume in the operative area. Our experiments to date have convinced us that this procedure, when perfected, may be of positive value. Immediately after the enucleation, a pad of gauze, firmly pressed into the bleeding area, helps to reduce the hæmorrhage; however, the sum total of blood lost was not much affected, until after much experimenting we evolved the present method of blood removal. This consists of a graduated Wolff bottle, suction pump, and attachments (Figs. 2 and 4). A similar ap-



paratus has been used for years for other purposes, but to our knowledge not in this way.

Dr. Pynchon and others use vacuum bottles and hand pumps, such apparatus being manipulated by an assistant. This method we found cumbersome and unsatisfactory. For the direct removal of blood we tried the various forms of tips recommended, but found all of these impractical and in the way of the operator. To eliminate this latter feature, rubber catheters, with several additional holes made near their tips, are introduced through the nares as soon as surgical anæsthesia is present. They are allowed to lie alongside of each other in the pharynx, their ends about an inch above the epiglottis. The enlarged ends of the catheters are joined by a "Y" connection with the rest of the apparatus, the tube passing over the patient's head. With the patient's head thrown back, this region becomes a natural reservoir, which is thus readily drained. The catheters are not removed during adenectomy, as the curette or forceps readily slips under them.

As soon as we began using this method, we noticed a marked reduction in the amount of blood and mucus collected. Previous to using the catheters, our average of many cases was four ounces; now it is seldom over two. A study of the blood supply of the tonsillar area throws no light on the reason for the diminished hæmorrhage, yet it has occurred in too many cases to be a coincidence.

After complete removal of adenoids and tonsils, the patient is turned on one side, the catheters withdrawn, and the vault explored with the finger for shreds.

The vault is now wiped over with alcohol on gauze, and the nares douched with cold saline solution. This latter procedure washes out all clotted blood, and hastens the patient's return to consciousness.

Maximum speed. Maximum speed is obtained by simplicity of method in operating. A skilled anæsthetist and an assistant physician or nurse are essential. We are accustomed to using the following instruments: Tongue depressor; mouth gag; three sponge holders; one sharp, double edged, right angled knife; one sharp, spoon shaped separator; two tonsil holders; one snare (rapid threading); one pair long, curved, blunt ended scissors; adenoid forceps; and two sized Beckman curettes.

When surgical anæsthesia is complete, the patient's head is thrown back, catheters placed, gag and tongue depressor inserted. The tonsil is grasped and drawn forward; the superior attachment is cut with scissors; the knife is then passed behind the tonsil to its base, then in front similarly. The pillars are now separated with the separator; a fresh hold is caught with the other tonsil holder, the snare applied, and the tonsil removed. An occasional swab is employed to remove clotted blood not sucked up by the catheters. The adenoids are then removed in the usual way. The average time of operation is eight minutes.

AFTER TREATMENT.

The patients are kept in bed for twenty-four hours, and given liquid food. The throat is sprayed every two hours with mild liquid antiseptics and a hydrogen peroxide solution, alternately. When cervical stiffness is present, massage and hot applications are employed. Complications are met with appropriate remedies.

AN EXTRACEREBRAL TUMOR IN THE REGION OF THE HYPOPHYSIS.*

By Frederic J. Farnell, M. D.,
New York,
Manhattan State Hospital, Ward's Island; Assistant Physician, Department of Neurology, Cornell University.

The following case of extracerebral tumor in the region of the hypophysis seems remarkable enough in both the clinical features and the pathological anatomy to warrant publication:

Case: Et., forty-three; Sweden; a widow, temperate. Family history was negative.

*Read before the New York Neurological Society, December 6, 1910.

Personal history: There was nothing of interest regarding her early life. She married at the age of twenty-six a waiter of alcoholic habits. Matrimonial life was very unhappy because [illegible]. She had two children, but no miscarriages. Syphilis was denied by both patient and husband. At thirty-five years of age menstruation ceased and she was then examined, but no cause thereof could be found.

She enjoyed good health until 1904 (age, thirty-six), when she was seized with severe headaches, nausea, and vomiting. Soon she appeared delirious and was taken to a general hospital. She recovered in a few days and was able to walk home.

She was apparently well for five months when these same symptoms recurred. She was then obliged to remain in bed for six days. She did not recover from this attack as quickly as from the first one, therefore she was sent to the Psychopathic Pavillion at Bellevue.

here she was described as being dull, not manifesting any interest in her surroundings. Her memory appeared poor; she asked absurd questions and heard imaginary voices. When aroused she would answer questions fairly relevantly but soon lapsed into a sleepy state.

In June, 1904, she was transferred to Manhattan State Hospital. Upon arrival here she showed normal pupillary reaction; exaggerated knee jerks; tremors of the tongue and hands; reacted quickly to pin pricks; gait steady; no Romberg sign. Ophthalmoscopic examination by Dr. Holden showed discs to be pinkish and outlines blurred. The possibility of a beginning neuritis was suggested. There was no record of a complete neurological status.

Mentally, she was quiet, coherent, and mildly elated. Stated that she suffered from severe headaches, lacked ambition and gradually became incapacitated for her work. She declared that she suddenly became confused and gave an instance of going to call on a friend and forgot where the latter lived. She described periods of a semidelirious nature for which she was amnesic. At that time her speech was rather defective and elision of syllables were observed. Her writing was tremulous with omission of letters. She had no delusions or hallucinations. Her memory in general was fairly good.

Two weeks after her admission she was transferred to a private sanatorium where she remained six weeks and was discharged considerably improved, although at that time she showed slight sticking and elision in pronunciation of some words. She was [illegible]

and realized that she had passed through a transitory mental aberration for which she was partially amnesic.

Until the fall of 1905, she appeared to be quite well, mentally. However, she soon again became confused—she would not stir from the chair for hours; she did not know where she was, and her time orientation was poor.

Soon (the duration not definitely known) she cleared up partially, but lacked her former ambition and energy. She continued in this condition until 1908 when she began to sleep a great deal, became untidy and uncleanly. She would remain in bed for weeks, and when left alone would go into sleep.

On March 12, 1909, she suddenly fell to the floor; consciousness was not lost, she did not move her limbs, and she could answer questions. At this time a sore appeared on her left breast; her hair began to fall out and persisted to do so until the time of her death. An eruption appeared on her body, but when she came under the writer's care only a few blotches of brown pigmentation were observed. For one year her headaches were frequent, but not localized.



[illegible] ass in the hypophyseal region.

On April 11, 1909, she was readmitted to the Manhattan State Hospital in a somnolent condition out of which she could be easily aroused. At first she seemed indifferent, but on questioning she would become sad and her countenance would usually present a blank appearance. She frequently would remark that she would like to lie down; complained of her head and would, as a rule, place her hand on the parietal and occipital regions. She was coherent in her speech and answered questions to the point. No delusions or hallucinations could be elicited, however, she would frequently remark that she often wondered why God punished her and how unfortunate she was. She identified herself correctly but was hazy regarding place [illegible]

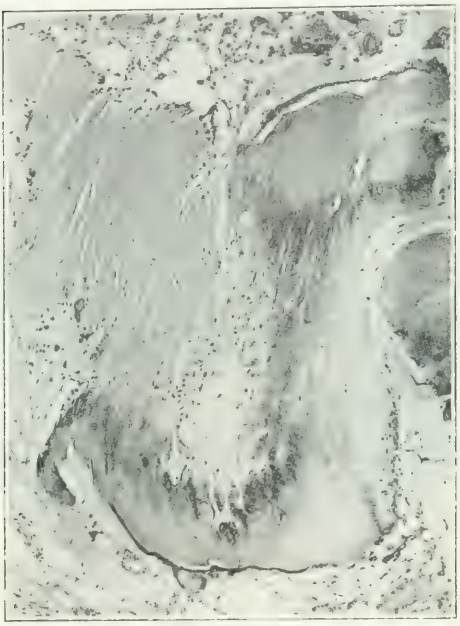
memory for her early life was also impaired; she made numerous discrepancies and contradictions which she did [illegible]

after great effort and several trials could she give the alphabet correctly. Her calculation was very poor; however, she admitted she could not think as well as formerly. In performing the writing tests her movements were slow and cramped, her characters were fully formed but crowded together without elision of syllables. A coarse tremor was apparent. She refused to attempt another test. There was nothing characteristic about her [illegible]

paired.

Physical examination: A well developed and well nourished woman, decidedly obese and weighing 207½ pounds.

Cranial nerves: Smell and taste were unimpaired. Her vision was very poor. Owing to lack of cooperation it was impossible to demonstrate hemianopsia. The examination of the eye grounds by Dr. Holden showed a choked disc in each eye; elevation of the disc appeared to be about four diopters; numerous hæmorrhages about each disc especially on the left side were noted. No nystagmus and no diplopia. Color sense normal as far as could be ascertained. Pupils unequal and irregular in outline, reacted to light and accommodation sluggishly and within limited range—possibly better reaction in the right pupil. There was a bilateral ptosis. The extrinsic eye muscles showed good mobility to the right, upward, and downward, but there appeared to be considerable difficulty in turning the eyes toward the left, without complete palsy. The corneal reflex was present, but the pharyngeal reflex was dimin-



undergone horny changes, but have become [illegible]

ished. The movements of the facial muscles were symmetrical, but in a state of passivity there was a flattening of the right side. The other cranial nerves were intact. Deep reflexes of the upper extremities were increased. Knee jerks and Achilles jerks were exaggerated, a quicker response on the right side, but the excursion appeared about equal on the two sides. No Babinski, Oppenheim, or Gordon reflex; on stroking the sole occasionally the great toe remained still while the smaller toes spread out and flexed with marked separation of the third and fourth toes. Her gait was staggering and swaying. Romberg sign was well marked. Muscle sense apparently intact. No hypotonia. Strength of flexors and extensors was fairly good. No sensory anomalies noted. No tenderness over the deep nerve trunks or muscles. Coarse tremor of the tongue and fingers on extension. Vertiginous attacks were frequent. Her abdominal and thoracic viscera showed no evidence of disease. No indication of polyuria or glycosuria.

[illegible] examination of the spinal fluid (stained by Ehrlich's triacid stain) showed a marked increase in lymphocytes, from twenty-five to thirty cells with an oil immersion lens. The fluid flowed under considerable pressure. Neither the Wassermann nor "Noguchi globulin" test was applied.

During the remaining part of April she grew more somnolent and could only be aroused with difficulty. When spoken to she would merely turn over and become somnolent again. Upon attempting to walk she would take only a few steps and then would express the wish to sit down and immediately fall off into somnolence. She then localized her headaches in the right parietal region.

On May 11th the nurse reported that the patient apparently ceased to breathe, she remained for about ten minutes perfectly relaxed, without the quiver of a muscle fibre. Then, a little flickering of the cheek muscles was noted. Her eyes were closed during the entire period. There was no change until May 23d when marked twitchings of the facial muscles, especially when she attempted to speak, were noted. At that time vasomotor disturbances—water blisters, pustules, small ulcerations, profuse perspiration—became manifest. She lost control of her rectal sphincter, but, at the same time, suffered from retention of urine and catherization was resorted to. There was considerable variation in her reaction to external stimuli especially to hearing and touch. She was totally blind in both eyes. Two days later it was noted that her eye balls were turned toward the right. When the various movements were tested with the patient's fair cooperation it was seen that she was unable to turn her eyes any further than the median line. The most constant position was a conjugate deviation to the right and slightly upward. She could rotate to half a circle in the right field. Tongue protruded straight and there was no further evidence of paralysis. Her pupils were markedly dilated and reacted slowly to light. Her voice was low, hardly audible, and she gave expression to a few indistinct utterances which could not be understood. She grew progressively weaker, lobular pneumonia set in, and death occurred on May 30, 1909, at 9:15 a. m. During the first three weeks of her hospital residence she received thorough antisyphilitic treatment, but without effect.

Dr. C. I. Lambert, pathologist to the Manhattan State Hospital, furnishes the following anatomopathological report.

A well nourished adult female; autopsy two hours post mortem. Except for a low grade pneumonia the thoracic and abdominal viscera were not remarkable. The right eye was removed and showed swelling of the optic nerve, elevation of the papilla and choking of the disc.

The brain was of moderate size, the pia was clear over the convexity, slightly hazy over the base. The convolutions were not flattened and the cortex was intact except over the temporal tips where numerous small cortical herniæ penetrated the pia. Numerous lymphoid cells but no plasma cells were present in the pia of the medulla oblongata.

A semicystic tumor mass continuous with the hypophysis, three centimetres in diameter and somewhat resembling a dimple golf ball externally, was imbedded in the base of the brain just behind the optic chiasm, which was considerably stretched; posteriorly the tumor overrode the anterior border of the pons compressing the third (?) and sixth pair of nerves in their course forward. The local cranial bones were considerably eroded by the tumor growth. Vertically, the tumor extended upward five centimetres, pressing upon the under surface of the third ventricle, partially obliterating the foramen of Munroe on the left—both lateral ventricles were considerably dilated. On making a sagittal section through the tumor a gritty granular material was encountered in the tumor mass, occasional small hæmorrhages were seen, and numerous small cysts, some of them confluent and containing a colloidal calcareous material were present. Numerous granulations were present on the floor of the fourth ventricle.

Microscopically: A sagittal section through the tumor showed it to have an adenopapillomatous structure. In the margin of growth small papilliform nests of epithelial cells the unit of growth, were seen. The external layer of cells was palisade in type, the internal cells were polygonal. These papilliform cell nests lay in a neuroglia nervous (?) matrix which, in turn, carried a light vascular connective tissue stroma. The older portions of growth

showed [illegible] alveoli [illegible] one another. These alveoli were usually lined with pavement epithelium unless the degeneration extended to the periphery of the papilla when the palisade layer of cells formed the wall and lining. The internal cells showed a marked tendency to a horny calcareous transformation roughly comparable to the enamel prisms of a developing tooth. The median position and the nodal relation of the tumor to the neuroenteric canal, its continuity with the hypophysis and the comparable structure with that of the pars intermedia of the hypophysis as well as the plan and product of growth, strongly suggest its histogenic relation not only to the buccal epithelium but to the mandibular type of epithelium composing the enamel forming organ of the tooth, hence the designation of the tumor [illegible]

Mentally, she showed a progressive decline intellectually without psychotic manifestations.

The clinical features not being either those suggestive of involvement of the anterior lobe of the pituitary nor those indicative of disturbance of the posterior lobe, and, at the same time, the structure comparable with that of the pars intermedia, suggesting its relation to the epithelium of the mandibular type, the tumor has been considered extracerebral and of an adomantomatous structure.

Such forms of tumors appear comparatively rare, but reference is made to papers by Bruce and Mc[illegible] [illegible] vii. 7.



1 [illegible] cyst formation.

as a hypophyseal cholesteatoma but also as an adomanttoma comparable to those tumors developing in the jaw from the dental epithelium.

To sum up briefly: It is evident that the patient's first symptom of the neurological disorder, cessation of menstruation, appeared at the age of thirty-five. Three years later she experienced definite cerebral attacks, transitory in nature. An interval of normal health lasted five months. This was soon followed by a repetition of cerebral symptoms which were more or less of prolonged duration and at that time were suggestive of a paretic process. She remained fairly well for one year; then she grew confused. The ensuing three years found her without ambition or energy. In 1908 [illegible] was one of the most striking [illegible] of the disease picture. From that time [illegible] periods of suspended animation, progressive loss of vision, third and sixth nerve palsies, staggering gait, and marked Romberg sign were in evidence. Toward the terminal stage of the disease vasomotor disturbances were manifest.

Erdheim (*Sitzungsberichte der kaiserlichen Akademie der Wissenschaften, mathematisch-naturwissenschaftliche Klasse*, cxiii, 10, December, 1904, Abt. 3), and Cushing (*Journal of the American* [illegible]

[illegible] COLON BACILLI [illegible]

YEAR OLD GIRL.*

By James Pedersen, M.D.,
New York.

The following brief history was given by the physician who brought the child in consultation in October, 1909:

Case. The patient's mother had had pulmonary tuberculosis. She recovered, apparently completely, under sanatorium treatment in the mountains.

[illegible] began to have attacks of dull pain in the right loin, asso-

ciated with gastrointestinal symptoms. With what frequency these attacks recurred was not stated. The immediate history dated from June 30, 1909, when an aching pain developed in the usual region (that of the right kidney) and some urethrovesical pain at the close of micturition. There was a scanty discharge of blood during one night, thought possibly to be the beginning of the menstrual function; as it did not recur, it probably was urethral. By the end of two days all the symptoms had considerably ameliorated. The physical examination showed neither tenderness nor tumefaction anywhere in the abdomen. The temperature was 100° F. No blood was found in the urine which was acid and contained much albumin, many pus cells, and a few epithelia. Four days after the onset of the attack, the patient felt so well, notwithstanding twinges of pain in the loin and an occasional painful urination, that she was allowed to go to the country for the summer. The morning after the long railroad journey, she had an increase in the pain and the urine was "thick mahogany colored." It cleared up in a few days under hexamethylenamine. In the course of the next two months, three or four mild attacks recurred. At this time, an examination of the urine for tubercle bacilli was made with negative result.

Early in September she returned to her home and promptly had a sharp attack, similar to the one described, but with more febrile disturbance than usual. The urine again cleared up, but she continued to have brief attacks of loin pain—as often as once or twice a week—accompanied by fever, nausea, and vomiting. These brief, febrile attacks had become so frequent that a physician who saw her early in October made a tentative diagnosis of pus kidney, put her on a much restricted diet, and thought the kidney might have to be removed.

When brought to my office in consultation on October 19, 1909, she was pallid, somewhat emaciated, and altogether sickly in appearance. Palpation of the abdomen was negative. In appearance the urine was pale amber and cloudy.

Suspecting tuberculosis, I catheterized both ureters under local anæsthesia and drained the kidneys for thirty minutes. The left kidney yielded 12 c.c., light amber in color, acid, specific gravity, 1.016, offensive, with a moderately heavy sediment. There was a marked trace of albumin, no sugar, urea practically one per cent. by weight. The sediment contained a small amount of blood, some leucocytes, no pus, no casts, a few round epithelia (presumably from the ureter), no crystalline material. The right kidney yielded 15 c.c. very pale in color, acid, specific gravity 1.007, offensive, a very moderate, but heavy, sediment. Albumin was present, no sugar, urea practically 0.5 of one per cent. by weight. The sediment contained a few blood cells, many pus cells, a very few hyaline casts, some epithelia, no crystalline material. Instead of tubercle bacilli, both kidneys were delivering numerous colon bacilli.

As a result of these findings, the patient's physician was advised to increase her diet considerably, though judiciously; to give special attention to the gastrointestinal tract; to prescribe some one of the formalin urinary antiseptics, and to have both kidneys radiographed for possible calculus should no improvement be apparent within three weeks on this regimen.

A recent report from her physician says that she began to improve at once and to gain weight and strength; she had had no return of her symptoms whatever, and had been able to go about and to attend school like any healthy child.

20 East Forty-sixth Street.

THE EFFERVESCENCE TEST FOR GASTRIC ACIDITY.

By A. L. Benedict, A. M., M. D.,
Buffalo,
[illegible]
Visiting Physician, Buffalo General Hospital.

This test was first described by me in the Merrit H. Cash prize essay submitted to the Medical Society of the State of New York, in 1896, and published in the next *Transactions*, as well as in *The Philadelphia Medical and Surgical Reporter* (defunct), of March 6, 1897. Allusion was made to the test in several subsequent articles, and the result of some years' experience was summed up in an article under the same title as the present, published in the *International Medical Magazine* of June, 1903. Following this, was an article by the editor, Dr. Boardman Reed, entitled A Further Development of the Benedict Effervescence Test for Gastric Acidity. This article approves my findings, after a considerable experience with it, and makes the very valuable addition of noting the increase of gastric area after the distention of the stomach by the carbon dioxide produced.

My attention has been again called to the subject by the appearance of an article in the *Berliner klinische Wochenschrift* of October 31, 1910, by Dr. E. Fuld, abstracted in the *Journal of the American Medical Association* of December 24, 1910, page 2274. Dr. Fuld's description is practically the same as mine, except that he notes also the change in the stomach area when immediately examined by x rays. He had failed to find references to the matter in the literature, which is not at all surprising, as it is comparatively recently that European journals have paid much attention to American literature.

In this connection may be noted the independent invention of the bismuth method of locating the stomach by Roux, myself, Boas, and Dorn (1896, 1897, 1898), and its very general ascription to Rieder.

It is a very simple chemical experiment to produce effervescence by adding a fairly strong acid to an alkaline carbonate. As a student, I was taught by a fellow student to use this test on unknown powders, making it in the palm of the hand. Many years afterward, when the determination of gastric acidity became a subject of daily inquiry, and when the problem was continually recurring of throwing light on endogastric conditions in cases in which the passage of the tube was contraindicated or refused, it occurred to me that the development of carbon dioxide from a carbonate might possibly be used in a reversal of the old qualitative test for carbonates.

Sodium bicarbonate naturally suggested itself as the safest, and I have never found it expedient to employ a different carbonate. At first it was feared that the effervescence produced by a dilute acid would be inaudible. Fortunately, experiment with a glass dispelled this fear. Experiments were also made with dilutions of hydrochloric acid, actual stomach contents, etc., in rubber bags. While fairly strong solutions of sodium bicarbonate sufficed, it was found best to use a saturated solution, containing also as much of the undissolved bicarbonate as would remain in suspension. Both immediate and stethoscopic auscultation were employed. Any sceptic may easily convince himself of the practicability of the test, but the qualification must be made that minute quantities of acid solution will not give an audible effervescence, and that, unless quite large quantities are employed, say 100 or 250 c.c., the receptacle must be held to the ear and the alkali poured in by an assistant, as, otherwise, the reaction will take place before one is ready to listen.

In the clinical employment of the test, the patient stands with the gastric area well exposed, and he is warned not to make a noise in his throat, not to breathe unless ordered to do so, not to rustle his garments, to swallow the solution and suspension, about 30 or 50 c.c., quickly, at one gulp, instead of sipping it and allowing it to settle. The room should be perfectly quiet, and the physician should be sure that the stethoscope is properly placed, firmly in contact with the abdomen, and held without danger of slipping of the fingers. Usually, the best site for the stethoscope is about two inches to the left, in a line toward the axilla from the umbilicus, but care should be taken to get the stethoscope over the stomach and not merely where the stomach ought to be. If the stomach is much dilated and filled partly with liquid and partly with gas, the sound is heard best at the surface level of the liquid.

The method has been controlled by various experiments in glass and rubber, post mortem, and by almost daily use clinically for about fifteen years, the most valuable clinical control being afforded by patients with hyperchlorhydria subjected to frequent chemical tests and showing a fairly uniform degree of acidity, and by patients with achlorhydria, with marked organic fermentation. As a result of these tests the following conclusions are given, the very abundance of material used rendering it inadvisable, and, indeed, for the most part impossible, to cite particular cases.

So far as the writer's personal ability is concerned, it is quite impossible to distinguish between different forms of acidity, except by induction from other features of the case.

It is scarcely necessary to state that the test reacts positively only when the stomach actually contains acid material at the time, and that the test cannot be immediately repeated, although the stomach will often recuperate acid in half an hour or so.

It ought also to be unnecessary to state that a few preliminary failures are to be expected before the test can be employed satisfactorily in practice. It is well to make up about 200 c.c. of 1 in 500 hydrochloric acid, corresponding approximately to fifty per cent. of a decinormal solution and to the normal gastric acidity, and listen to the effervescence produced.

The writer has never been able to reduce the test to anything like quantitative accuracy. However, the following approximate statements may be made: Stomach contents of from seventy to one hundred degrees, decinormal, give a very brisk effervescence, and, even with one hundred c.c. present, the effervescence is prolonged sufficiently for easy determination. The effervescence is still marked, but not prolonged unless the chyme is abundant, at from forty to fifty degrees. At from twenty-five to thirty degrees the effervescence is slight. Stomach contents, even in achylia, are seldom below five degrees decinormal, usually about ten. When ferments—or the ferment?—are present, and there has presumably been a slight secretion of hydrochloric acid, but none is present uncombined or [illegible] there has been little organic fermentation, the total acidity is about from fifteen to twenty degrees. Such content give an almost [illegible]

All of the preceding statements as to the relation of effervescence to degrees of acidity depend upon the personal acuteness of hearing, the conductivity of the stethoscope, etc.

It should be distinctly understood that the conclusions warranted are only such as may be drawn from the fact that there is or is not present, at a certain time, acid contents of unspecified nature, and of a degree which may be approximately and untechnically designated as high, moderate, low, or inappreciable.

For instance, in a case giving the typic history of hyperchlorhydria (in the writer's experience, hyperchlorhydria and the textbook description of symptoms are more often disconnected than connected) with a small stomach, an hour after an ordinary meal, and no gaseous distention or history of belching, a brisk effervescence is strongly presumptive of a true hyperchlorhydria, amounting to about from thirty-five to fifty degrees of hydrochloric acid (read to the orange point with dimethyl), and with a total acidity of about from sixty to eighty.

In a demonstrated case of hyperchlorhydria under treatment the effervescence affords a convenient way of watching the progress of the case, not only in the sense that one can determine when the superacidity is abating, or has been reduced below the normal, but that by repeated tests at intervals of one, one and a half, two, three hours after a meal, one can judge somewhat of the dose of alkali needed, the degree of ischochymia, etc.

In a case of gastric dilatation or distention, with an upper resonant zone and much belching, brisk effervescence probably indicates organic fermentation, with little or no hydrochloric acid.

While it is impossible to draw the line between normal and excessive degrees of hydrochloric acidity, there are many cases, especially in general practice, and even in the writer's specialty, in which it is desirable to have some general information with regard to the stomach and in which the gastric symptoms are not marked. In such cases, brisk effervescence, from one to two hours after a moderate meal, probably indicates euchlorhydria. At any rate, hypochlorhydria, which is about ten times as frequent as hyperchlorhydria, can be eliminated, unless there is marked organic acidity, and this practically never occurs without concomitant gas production. Many men begin to diagnosticate hyperchlorhydria at about the point at which hypochlorhydria ceases.

Believing, as the writer does, that gastric ulcer is by no means regularly associated with hyperchlorhydria, and that even in elderly persons hypochlorhydria is much more often due to various general depressing conditions, local and general, than to malignancy, he would not ascribe any definite differential diagnostic value to the effervescence test in regard to these conditions.

Contrary to what might at first appear, the effervescence test is by no means limited to the determination of acidity, though, as it depends upon acid, it does not work both ways. For example, in one case the test aided in the diagnosis of visceral transposition. The heart and liver were plainly transposed. There were resonant areas, correspond-

ing to the putative location of the stomach, on either side. That on the right was a trifle larger, but the difference was not sufficient to be relied on. However, on applying this test, effervescence was heard on the right and not, except faintly, on the left side. Hence it was inferred that the stomach also was transposed. Extreme gastroptosis, with banana-shaped stomach in the umbilic equator, has also been diagnosticated by this method, though, obviously, the lack of effervescence would not be dependable, since so abnormal an organ might also be lacking in acid. Conversely, the very similar appearance of a dilated transverse colon has been differentiated because effervescence was heard in the usual location of the stomach.

As intimated, under the head of hyperchlorhydria, the effervescence test may throw light on the time at which the stomach empties itself. The regular absence of effervescence, an hour after a light test meal, strongly suggests too rapid passage of contents into the intestine. True, there may be more or less absolute achlorhydria or achylia, without much organic fermentation, when effervescence would be lacking, but these cases are precisely the ones in which the stomach contents are apt to slip quickly through the pylorus. It is a curious fact that while Cannon has proved physiologically that it is hydrochloric acid which causes the pylorus to relax, clinically, just the reverse is the case.

The effervescence test even throws light on the function of the œsophagus and cardia. For instance, it often happens that absolute silence reigns after the patient has swallowed the soda. Then, after he has taken one or more long breaths, the œsophageal swish is heard, followed by effervescence. Sometimes the liquid swallowed can be heard to enter the stomach in two, three, or four spurts, each followed by effervescence. I have never encountered such a case in which there was organic stricture of the œsophagus or actual tumor of the cardia, for several reasons. In the first case, such cases are quite rare; secondly, they are very apt, especially if malignant, both by their general systemic effect and by their obvious influence on the diet, to discourage gastric acidity. However, there may be mentioned a case of almost complete cancerous closure of the œsophagus, with dilatation to the capacity of nearly 200 c.c., in which the negative result of the attempt to secure effervescence helped to put me on the right track.

Credit should be given to Dr. Boardman Reed for his extension of my test by investigation of the gastric area before and after the administration of sodium bicarbonate. I have further modified his method by using auscultatory percussion or auscultation of tuning fork vibrations, etc., to determine the area and, as Fuld suggests, the x rays would assist somewhat. Unless the stomach immediately expels the carbon dioxide by an audible belching through the cardia or—stethoscopically—audible passage through the pylorus, I have never noted the failure of the stomach to enlarge after effervescence. Indeed, it may do so when the effervescence is too slight and gradual to be audible.

I have never been able to make the definite diagnosis of continuous, superacid secretion on the part of the stomach—a condition known also by the abominably mixed term gastrosuccorrhœa and quite generally regarded as always indicative of gastric ulcer. My failure in cases which appeared quite typic may be due to the negative result of the effervescence test in the morning and at other times when the stomach should normally be empty. The soda could not conceivably produce enough acid, suddenly enough, to cause effervescence, whereas such an irritant as the stomach tube might do so even in a normal stomach, certainly in one irritated by the presence of such an abnormality as an ulcer. Hence, it may be pardonable to express some scepticism as to the existence, at least to any degree of frequency, of this condition. This statement should not be construed as the denial of states of extreme ischochymia, with acid contents comprising food remnants, also; nor even as an absolute denial of the possibility of secreted juice in an otherwise empty stomach.

354 FRANKLIN STREET.

THE ERADICATION OF PLAGUE FROM LARGE CITIES.

By CHARLES W VOGEL, M. D.,
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On account of the prevalence of plague in epidemic form in Manchuria at the present time, it occurred to the writer that a short article anent the title of this paper might be of interest.

The bacteriological and clinical aspects of plague may be dismissed with a reference to the various textbooks on medicine and bacteriology.

The eradication of plague from urban communities may be succinctly stated to be dependent upon two main factors, the destruction of the rat population and the rat proofing of all buildings of every description.

This statement is quite simple, but the practical application of the measures designed toward rat destruction is a very difficult matter at times. The experience of the Public Health and Marine Hospital Service in its antiplague campaign in San Francisco in 1907 and 1908 demonstrated that a most potent factor in carrying out antiplague measures is an aroused, intelligent, public opinion. If the public understands thoroughly what plague is and why the various measures are instituted, there will be much less obstruction to the work of the sanitary officer. On this account it is a very good plan to have the sanitary officers deliver popular lectures to the various civic bodies, as a very important part of the campaign. In these lectures the nature and history of plague should be dwelt upon, laying especial emphasis upon the intimate relation which rat plague bears to the prevalence of human plague. The cooperation of the city government in all of its departments is absolutely necessary, in order to arrive at results. Special ordinances must be passed through councils from time to time as conditions may require. The measures directed toward the destruction or diminution of the rat population may be stated to be as follows, viz: 1. Trapping of rats; 2. poisoning of rats; 3. deprivation of food supply

of rats; 4, destruction of breeding places; [illegible]; 5, rat proofing of dwellings, outhouses, yards, etc.; 6, rat proofing of stables, markets, bakeries, etc.; 7, rat proofing of warehouses and docks; 8, rat proofing of all sewers.

The accomplishment of some of these measures must necessarily depend on the carrying out of different details under different conditions, but the principle of action remains always the same. It will be seen at a glance that the carrying into effect of some of these measures might offer almost insurmountable difficulties. The expenditure of time and money is necessary in order to properly rat proof buildings, etc., in a city, but this work can continue indefinitely as a settled policy after the more immediate work of fighting the plague epidemic has terminated.

So also the systematic destruction of rats should be prolonged indefinitely. Especially in seaports is the latter measure of the greatest importance. If a concerted effort could be made in all the principal seaport cities of the world toward a prolonged systematic destruction of rats, the danger of an epidemic of human plague in any of these cities would be reduced to a minimum. It was shown conclusively in the campaign in San Francisco that the cases of human plague decreased as the percentage of infected rats decreased, and the percentage of infected rats decreased as the number of rats trapped increased, showing that diminution of the rat population almost certainly causes a diminution in the percentage of infected rats. For trapping of rats two forms of trap were mostly used, the large cage trap and the snap trap.

The rat is a very cunning animal, and it was found necessary to change the style of trap used at a certain location from time to time, as also the method of placing the trap and the bait used. Cheese, bacon, and grain seemed to be the best bait. Fish heads and occasionally cabbage leaves also acted well. The cage trap has the advantage of, at times, enticing a large number of rats into one trap, as the rat is a very gregarious animal when in health. The cage trap will act particularly well if the first rat trapped happens to be a female, thereby luring the males to their doom. The snap trap of course can only trap one rat at a time, but it is very useful at times, especially after the rats have become suspicious of the other form of trap. The rat has quite a large amount of curiosity, and on this account he sometimes is caught in the snap trap while he is examining the same. Smoking of traps from time to time is very important, as after a large number of rats have been trapped, the trap retains the odor of the rodent, thereby warning other rats away.

Our experience in San Francisco caused us to rely on the mineral poisons almost exclusively, as we found that the so called biological poisons were useless. Danyz virus, rattite, azoa, and a number of others of the biological poisons on the market were given a fair trial, but with very indifferent results. Danyz virus, if perfectly fresh, is probably active, but it would be impracticable to use it on a large scale, as it would require a large laboratory to produce the quantity required. Phosphorus and arsenic paste were used almost exclusively in the work in San Francisco. Any one of a number [illegible] pastes on the market may be used, but great care must be exercised to guard against the possible occurrence of fire. For this reason arsenic paste was mostly used in San Francisco. The paste contained about fifty per cent. white arsenic, with a base of corn meal and cheese made into a paste with some suitable menstruum. This was spread on cubes of bread and placed near rat holes and in rat runs.

Of course the estimation of the number of rats killed by poison is always more or less of a guess. In trapping one knows exactly how many rats are being caught, but then poisoning surely destroys a goodly number. So that it should always be employed in conjunction with the other measures of deratization.

The destruction of rat breeding places is very important. All piles of lumber, brick, or any similar material should be so placed that at least two feet of space remains between the lower surface of the pile and the ground. It should also have no interstices in the mass to offer hiding places for rats. All wooden areaways, boarded back yards, or boarded floors of basements should be torn up and replaced by concrete. In many instances in San Francisco nests containing litters of a half dozen or more of young rats were found in this way. So that we destroy the vermin in the easiest manner possible in this way and preclude the possibility of many new sources of increase in the rat population.

The deprivation of the food supply of the rat will depend almost solely on the efficiency with which street cleaning, garbage collection and disposal, and general sanitary supervision of vacant lots is conducted by the constituted authorities. All garbage receptacles should be made of metal with tight fitting metal covers and kept covered at all times. This should be rigidly enforced by stringent ordinances. The garbage should be removed frequently and disposed of by incineration. Garbage dumping grounds in the outskirts of the city are a relic of the past and should be eliminated as rapidly as possible. These dumping grounds furnish an ideal rat harbor and very largely nullify the work of deratization that may be going forward in the city proper. Strict regulations should be enforced with regard to the prevention of refuse being allowed to lie about in markets, bakeries, etc.

Rat proofing can best be carried out by making the basements of all new constructions of concrete, the floors and the walls to a height of one foot above the ground to be so constructed. All stables, markets, warehouses, etc., with wooden floors should have the same replaced by concrete. All docks should be built in such a manner that they are rat proof. The details of construction would have to be determined by the circumstances in each case.

At seaports all vessels from plague infected ports should be required to have rat guards or funnels on the hawsers at all times while moored to the wharf and to lay off from the wharf at night. The holds of such vessels should be treated with sulphur dioxide several times a year for the destruction of rats.

Now a word as to the danger from the rat flea and other varieties of fleas on the common domestic animals. To guard against possible danger from rat fleas on domestic animals, the fur of these ani-

mals should be frequently well treated with pyrethrum powder, when any fleas which may be present are stunned and they can then be collected from the fur and burned. It is the opinion of the writer that the rat flea is comparatively of little consequence provided the rat, its host, is vigorously exterminated. All flea nests should be thoroughly drenched with crude carbolic acid or kerosene.

Every case of human plague should be immediately isolated in a special plague hospital.

The measures discussed in this paper comprise, it is believed, all the measures which would ordinarily be instituted in a campaign of eradication of plague from a city.

PHRENOLOGY AND ITS FOUNDER: THE CLAIMS OF FRANZ JOSEPH GALL ON THE HOMAGE OF SCIENTIFIC POSTERITY.

By John Knott, A. M., M. D., Ch. B., and D. P. H. (Univ. Dub.); M. R. C. P. I., M. R. I. A.; etc.,
Dublin, Ireland.

It goes without saying that the significance of the evidence of human character and intellect supplied by the shape of the head did not escape the "critical dissection" of the "Father of Medicine" himself, and his views were adopted and expanded by his medical and philosophic apostle, Claudius Galen. Two groups of heads were made: *natural* and *unnatural*—or *monstrous*. Of the latter, four subdivisions were arranged, so that we have the following series of labels: *in sinciput cavum; in occiput cavum; in sinciput prominens; in occiput prominens; in temporibus tumens.* Aristotle taught the world's conqueror that: *"Qui tempora inflata habent, & genas plenas, sunt valde iracundi."* Then the famous Arab physician to whom we owe the original description of smallpox enunciated to the learned world the statement that: *"Caput vtrimque convexum, iracundum est."* And I may here observe that, as *anger* and *cruelty* are the mainsprings of *destructiveness*, this opinion of Rhases coincides pretty closely with the observation of Gall. The *caput acuminatum* attracted the special notice of the encyclopædic Stagirite, and we are informed by Baptista Porta that: *"Aristoteles hoc inuerecundos dicit, & ad curuos vngues habentes referri, intelligens per eiusmodi aues, coruos & coturnices, quæ impudentes sunt, & acuta capita habent. Ego simiæ assimilarem: nam protenso quoddam modo capite, vt homo prædita sunt, & impudentissimæ sunt. . . ."*

Descending to the spinal column, we have its conformation and "carriage"—so surely illustrative of many broad and important features of character, as to furnish it with a physiognomic importance but little inferior to those presented by the indications of the face and head. The haughty upright rigidity of innate and incurable pride—or insolence, the serpentine slouch of the sneaking mischief maker, the yielding bend of mental instability, and the droop of habitual melancholy,—are signs which can be instructively and profitably read by the keen observer, wherever they are found to "hang out" from the axial region of the human frame. And I am thus reminded of the now past generation of my student days, when the continuous cervicodorsolumbosacral curve of the back bone of a very active member of the profession was so uniquely suggestive of the rodent parasite, that it combined with certain noted features of his public and private life and general habit in furnishing him with the compound *sobriquet* of Sir Bully Ratty Potiphar, by which he was generally known to the imaginative and appreciative medical students of the period. And the spider thread pretensions of the Sir Sneakiam Nothingson of the same period was as clearly indicated in the uneasily—and very consciously, as well as continuously—guarded vertical dignity of his vertebral column; as, I may add, the slimy adhesiveness which enabled him to scale the equestrian pyramid of professional eminence was testified by his slightest touch. The cross between elephant and gorilla, which was always accused by our mischievously witty youngsters of having been originally responsible for the genesis of Sir Timothy Teague MacBlunderboar Bulephant, indicated very clearly on the respective parts of feature, trunk, and limb the unpruned qualities which constituted the moral equipment of that most amusing compound of man and beast. Even the earliest assumption of the professional tall hat of (unwonted) social respectability served to bring into marked relief the mongrel association of intelligent facial expression with the posterior exhibition, on departure, of the lowest conceivable animal type of outlined surface area exposed between hat brim and velvet coat collar—the posterocervical region which so well indicated the *quantum sufficit* of innate dignity with which Nature had originally leavened—when enlivening—the mud of the human specimen there presented to the eye of the observer. The general bearing and manners, as well as features, and movements, and language, of the unspeakable Sir Baboo Yahoo Malaprop, required no special experience or critical powers of discriminating observation; it was not possible to fancy a case which could be read more easily—even by the runner. Even the simian peculiarity, of preference of stealing to honest acquisition, was indelibly impressed on the mind of the present writer by the quickness with which the equestrian surgeon appropriated, in a ward of his hospital, a ten-guinea fee (balance for pupil's attendance), and took care that it was *paid again*—as he did not give a receipt, although he gave the requisite certificate at the time. That financial incident represented, of course, an instance of the pecuniary advantage of combining the equestrian dignity with that of a hospital secretary.

As already indicated in the course of the various references, the *physiognomia* of not only every segment of the human body—inclusive of head, neck, and every portion of every limb—but that of each of the "excremental" appendages of the surface of the same was studied and expounded by the enthusiastic Baptista Porta; and with a full display in his monumental work of the diagnostic indications derivable from examination of the *signatures* furnished by the various types of the members of the animal kingdom. The craniofacial segment of the micro-

cosm concentrated the special attentions of Franz Joseph Gall—who also studied it from another standpoint; and who made a gigantic stride in the direction of demonstrating the points of contact between mind and matter, between the unknown (and at present, at least, *unknowable*) and the (apparently well) known. And I must take the opportunity of making some—more or less illustrative or enlightening—remarks on the opinions of the founder of phrenology, and those of some of his more recent critics, as I proceed to a final summary of my own conclusions.

The fact that the boyish observation of Gall, that those of his schoolfellows who were habitually and conspicuously best at their lessons had all of them *large and prominent eyes* actually proved the starting point, as it afterwards was made the foundation stone, of his system of localization of cerebral functions, has recently been noticed by an eminent surgical critic in a tone of the loftiest conceivable contempt. When the schoolboy observer of craniofacial physiognomy had become an expert anatomist, and enthusiastic theoretical physiologist, he explained, to his own satisfaction, the nexus of cause and effect in regard to the functional activity of the corresponding area of cerebral *cortex*, by localizing the faculty of *memory* in the *supraorbital* region. And the critic to whom I have just referred volunteers the judicial comment: "It is doubtful whether any young man ever made a worse start." It will be admitted by all (I think I may safely say) that the observation is emphatic enough, in all conscience! And, being an eminent surgeon, and—presumably, as such—a skilled anatomist, he proceeds to observe: "Regardless of all other possible causes, as the orbital fat, the size of the eyeballs, and the width of space between the eyelids, he persuaded himself that the prominence of the eyes was due to the quantity of brain above the orbits; and forthwith he assigned this region of the brain to memory for its kingdom." The perusal of this item of criticism caused me, I must confess, a decidedly unpleasant shock at the time. And I feel it to be my duty, in justice to the honorable dead, and in the interest of scientific truth in our own generation, to point out to my readers that—as the discussion is concerned with *healthy* organs only—the amount of "orbital fat" *never* produces increased prominence of the eyeballs (fancy the position of those of our prominent aldermen if it did!); that the size of the eyeballs is one of the few approximations to constancy of magnitude in the macroscopic anatomy of the human body, and *never* influences their apparent prominence; and "the width of space between the eyelids" (meaning, of course, the vertical distance between) never modifies, even to the extent of a hair's breadth, the antero-posterior projection—that is to say, the "prominence"—of the eyeballs. That schoolboy observation of Franz Joseph Gall appeals with peculiar force to the writer of this article; from the fact that in the Western (County Roscommon) National School in which he received the rudiments of his own education, there was in his time one pupil who rapidly passed from class to class, and as rapidly rose from the foot to the head of the class to which he had been in turn promoted. He [illegible] his schoolfellows [illegible] the more bilious of them vented their vindictive spleen by application of the only detractory personal epithets which readily suggested themselves: "bullet eyes," and "saucer eyes." Since that—now, unhappily, remote—date, I have noted the features in question in students (inclusive of medical, of whom I have had opportunities of studying very many, indeed), and with the net result that, at the present moment, my experience is wholly corroborative of the boyish observations of Gall. And I would here embrace the opportunity of suggesting to the future (would-be) detractors of the "founder of phrenology" that, before ventilating their private opinions on the value of his views in this connection, they should obtain those of all available schoolmasters of large experience.

In connection with the interesting biographic item associated with the discovery of the "bump" of *veneration*, I took the opportunity of calling the reader's attention to the bregmatic elevations which were so distinctly characteristic of the respective cranial outlines of two of the most brilliant contributors to the science of *medicine* and the creation of *romance* known to the literature of each. And I will here add, as a suggestion intended to elicit the future criticism of intelligent observers, that I fully believe that the possessor of a well arched bregmatic region will—more than likely—be found to prove an aspirant to high ideals, and an eager pursuer of the same, so far as the restless influences of the loveless deities of "unspiritual *circumstance*," and of shifting *environment* are found to permit the exertion of *free will*, and the carrying out of its dictates. While, on the other hand, I will unhesitatingly risk an expression of the opinion that the owner of a cranium nearly as wide behind the ears as long from before backwards (*i. e., brachycephalic* with special improvements), and closed above by a roof of approximate flatness, will be found (after sufficient acquaintance) to furnish a test case of argumentative evidence in favor of the reliability of another of Gall's localizations;—in other words, that the owner thereof will duly prove to be a "born" scoundrel of the worst—the coolly calculating—type; the human specimen who, in certain localities and conditions of Oriental existence, would develop into a successful *Thug*—devoted to his sacred vocation; and who, in the communities of Western civilization, tends to grow, by a process of genuinely "natural selection," into an eminently respectable metropolitan *attorney*.

Even the hirsute appendages of the upper (and presiding) segment of the human microcosm will be found to have their "solid value" as items of evidence of the subjacent moral (or immoral) character, of the physical, mental, and *moral* disposition of the bearer. What observant human being does not feel his or her opinion (or prejudice) largely influenced by the tint of the (undyed) hair? While dyed scalp "excrements" are regarded by many experienced observers as placing all their wearers—and of both sexes—on the same (*moral*) level! The hot headed, melancholic, and various other characteristics which suggest the subjacent fire and explosive tendencies that so very usually distinguish the owners of jet *black hair*, contrast forcibly in the mind's eye of every observant person with the more

ers of *russet* or rufous colors. Then we have the traditional evidence of all the successive generations of the Christian Era regarding the calvarial tinct of Judas Iscariot confirmed by the Renaissance edition of infallibility displayed by our English William Shakespeare:

[illegible] kisses are Judas's own children.

"*Rosalind.* I'faith, his hair is of a good colour.

"*Celia.* An excellent colour; your *chestnut* was ever the

(*As You Like It,* Act III., Sc. 4.)

And it will, I venture to suggest, be usually found to be the experience of other observers, as well as of the present writer, that the ideal Iscariot type of *friend* and *disciple* bears (in his earlier years of manhood) the *chestnut,* or *light "sandy,"* tint of scalp hair, gradually brightening to a more foxy redness as it descends to, and with, the beard—which the wearer is often, too, characteristically (and, of course, quite unconsciously) disposed to preserve in approximately Oriental pattern of outline. It must be acknowledged that kind Nature has actually provided many an index of warning for the guidance of the members of her weak and erring human family; and thus the present writer was enabled, among the members of [illegible] generation, to make a moral diagnosis of the modern (medical) Sir Judas Major, without waiting to examine his initials—and he has since had many opportunities of verifying his opinion! Even when the hoariness of time seemed to try to veil that banner of sweetly smirking treachery, a watchful Providence took care to suggest the use of a hair lotion, of which the artificial tint proved even more highly distinctive of the subjacent moral code than the natural one had ever been.

The special significance of the absolute and relative lengths of the limbs, respectively, was keenly discussed, and copiously illustrated by Baptista Porta; and very many curious suggestions—and facts—may be gleaned from his vast Thesaurus, in this department of physiognomy. One of these would seem to have been almost, if not quite, rediscovered in our own generation—the significance of the disproportionate length of limb (which is attained in some cases by unusual tardiness in the ossification of the epiphysis. We know that as the lower epiphysis of the human femur is the last of all those of the long bones to unite, thereby closing and finally sealing the vertical growth of the individual, an increasingly disproportionate length of femur in early manhood is a sure indication of the debility of constitution, deficiency of vital resistance (of tissue and cell), and sluggishness of the extreme peripheral blood current (which some have been ingenious enough to dignify with the humorous nickname of *status lymphaticus*). This condition, accordingly, points also to the easy *vulnerability* of the system which readily yields to causes of inflammatory mischief, and as surely fails to rectify their results. Such is the essential feature, too, of the inherited tuberculous *"diathesis"* which seems to have devolved into an archæological asset since the discovery of the *Bacillus tuberculosis,* and the consequent invention of tuberculin—which so spasmodically elevated the record of the mortality of tuberculation of the predisposed victims of tuberculosis accounts for the slowness of the ossification of epiphysary cartilages; as it does for the abnormally rapid growth of hairs and nails, which produces the well known curving ("filbert shape") of the latter in victims of this *diathesis.* For all three tissues belong to the class of *"excrements"* of Elizabethan English; they have no vessels of their own, and derive their nutriment solely from the sedimentary *ooze* which settles lazily (and therefore copiously) down among the cells which it thus overmanures. And thus it is that the owner of a disproportionately long femur—as that of a strumous lip, or of a filbert shaped nail arched over a clubbed finger end—is sure to prove a constitutional victim to all the penetrating breezes of disease; the fact remaining unaltered, whatever modification of nomenclature may be (unwittingly, perhaps) adopted. One of the latest of these falls under the heading of so called "surface anatomy," the apostles of which, like those of Eddyism and Dowieism and Bodieism, announce the rediscovery of old established and elementary facts, with the manifold decorations furnished by suggestion, and nourished by ignorance.

If my readers have had their attention sufficiently engaged—without being actually overburdened—by the contents of the preceding paragraphs of this long drawn communication, they will, I incline to believe, now be prepared for a statement of which the veracity would seem to have been anything rather than familiar to the vast majority of even the better informed members of the medical profession in the present generation: it is that the researches and discoveries of Franz Joseph Gall meant as much for our knowledge of the central nervous system as did those of Isaac Newton for our knowledge of the solar system—and even a great deal more, proportionally. For it is well known to the initiated that all the most important fundamental facts connected with celestial phenomena had been thoroughly well known to the votaries of astronomy long before Newton had attempted to reduce them to an apparently satisfactory system by his application of the theory of gravitation; a theory which, as the enlightened expert well knows, may some day be shown to be as purely hypothetical as Gall's system of cerebral localization—and even a great deal more so.

To the present writer the fate of Franz Joseph Gall on his scientific pilgrimage—and after—has long seemed peculiarly reminiscent of that of Lemuel Gulliver in his Lilliputian sojourn. And the articles of "scientific" impeachment which have been so often copied, and so frequently revised—and expanded and reissued, with liberally supplied embroidery—*do* really bear so distressful a family likeness, of feature and of general outline, to the political ones which were drawn up by the courtiers and legal luminaries of the mighty Island Empire for the purpose of securing the destruction of their too highly developed visitor! And the key which (as I, at least, fully believe) will be found to fit the lock of the mystery of inspiration in each of the cases is to be discovered in the bitterly cynical aphorism (which I have already quoted) regarding the reception of every towering genius by the rank and file of every section of the human race—in every country, and in every generation. And, in conclusion, I

would suggest to the self satisfied (and, accordingly, so often feather headed) scientist of our own twentieth century that he may sometimes profitably utilize his leisure moments in glancing over some of the printed pages which were placed before the world by the "Founder of Phrenology," instead of peeping through the wrong end of his intellectual telescope at the second hand—possibly at the borrowed, or faked, or forged—records of the life work of that author which are so generally met with in popular literature, and in scientific "books of reference." Then, in the name of truth and of justice, let the consciousness of possession of his assured (or imagined) pride of place not prevent him from giving due credit to Franz Joseph Gall, who actually laid the foundations of our present knowledge of the nervous system—both physiological and pathological; and did so with immeasurably less relative assistance from the works of predecessors in his chosen domain of research than were obtainable (and very obviously utilized) by Newton, in the case of astronomy; by Lavoisier, in that of chemistry; or by Faraday in that of electricity;—or perhaps, indeed, by any comparable pioneer, discoverer, or inventor known to the annals of the dawn and twilight of our modern natural and physical science.

Our Readers' Discussions.

... readers ... [illegible] ... invited at frequent intervals. So far as they ... been decided upon, the further questions are as follows:

CVII.—How do you treat acute otitis media? (Closed January 15, 1911.)

CVIII.—How do you treat hiccough? (Answers due not later than March 15, 1911

CIX.—What are the best means of reducing infant mortality? (Answers due not later than April 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED [illegible] QUESTIONS.

The prize of $25 for the best essay submitted in answer to question CVI was awarded to Dr. Joseph di Rocco, of New York, whose article appeared on page 376

PRIZE QUESTION CVI

TREATMEN[illegible] OF [illegible]

[illegible] excluded from [illegible]

[illegible] Superintendent of [illegible] Maryland, writes:

Civilized, modern man not only objects to corpulence because it detracts from his personal beauty and diminishes his activity and usefulness but because it lessens his resistance to acute diseases and makes him much more liable to certain chronic degenerations. Since obesity as a malady so affects our health, comfort, and longevity it is highly important that we become familiar with the salient points in its treatment. The treatment, however, depends largely upon the cause in each individual case as there is no specific treatment which will apply to all cases.

If there is a history of gout or diabetes, treat these diseases. If it depends upon anæmia, correct the blood dyscrasia. If necessary look after faulty metabolism. But the keynote to safe and sane treatment, in the majority of cases, is a proper reduction in the amount of food and drink consumed, demanding abstinence from all alcoholics, and sufficient exercise to oxidize the food ingested and also some of the extra fat.

Diet: The entire diet should be restricted, especially the carbohydrates, since the great source of all fat is certainly the carbohydrates. It is best to not only restrict the starchy food and sugars, but to eliminate all alcoholics from the diet list, and rely chiefly (but not entirely) on proteids, green vegetables, and fresh fruits, in moderation. The decrease in food should depend largely upon the daily loss in weight which should be gradual, and upon the feelings of the individual. The food should be eaten as dry as possible, and if any drinks are used let them be hot, and sipped. Most all fat people are great water drinkers and the more they drink the more water accumulates in the system. Iced drinks are especially bad, as they set up considerable irritation of the throat and more or less benumb the muscular walls of the stomach, thus creating an inquenchable thirst.

The most salient point of treatment is increased oxidation, which is accomplished by muscular and respiratory exercises, Russian and Turkish baths, massage, etc., all of which should be regulated. It is best to choose pleasurable exercises, and to begin with mild exercises and gradually increase the number and varieties of exercises day by day. Direct the massage and exercises especially to the parts where fat abounds. Increase the exercises, if best, until they become strenuous, remembering that the more strenuous the exercise the more surplus of fat will be burned.

Medicinal treatment is only an adjunct in most cases. If thirst is excessive, when fluids are reduced, quassia will lessen it. The chewing of gum will keep the mouth moist and the act of chewing helps to oxidize tissue. If hunger is severe, when food is reduced, oil of orange peel will lessen the appetite. If the stomach is dilated, force of heart action weak, and muscles generally relaxed, "take up the slack" and tone up the muscles with such a tonic as strychnine.

Give just enough salts (best taken in water before meals) to keep the bowels open and thus promote necessary elimination. If gouty and constipated, too, colchicum is very helpful.

Because of its effects on the red corpuscles of the blood and increased metabolism thyreoid extract, in three grain tablets, three times a day, cautiously increased to ten grains, three times a day, is especially good in selected cases.

[illegible] ... [illegible] ... [illegible]

a steady reduction of weight will be noted, and your patient will increase in activity and happiness, and often years will be added to his life.

Dr. A. C. Matthews, of Earlville, N. Y., remarks:

In the treatment of obesity, I first consider the age and sex of the patient, whether the excess fat was taken on gradually or rapidly, the present weight, the desired weight, and the probable cause.

The ætiological factors of obesity are as follows: 1. Heredity; 2, faulty metabolism; 3, postclimacteric; 4, postoperative; 5, postnuptial (some women become stout after marriage); 6, postcerebral (as in many cerebral lesions); 7, amenorrhœa; 8, gout and rheumatism; 9, fibroid tumors; 10, anæmia or chlorosis; 11, amount of water taken; 12, amount of exercise taken; and, 13, simple laziness.

A quick method for obtaining an approximate idea of the correct weight for any given height is as follows: Multiply the height in inches by two for the minimum weight and by three for the maximum weight—the sum of these two divided by two gives a fair idea of the correct weight for any given height. Example: Patient, five feet, ten inches, or seventy inches in height. $70 \times 2 = 140$, minimum weight; $70 \times 3 = 210$, maximum weight. $210 + 140 = 350$, which, divided by two, equals 175, approximate correct average weight.

A certain amount of moral force is indispensable. I do everything in my power to strengthen the will and to stimulate the determination of the patient.

The excess fat should not be taken off too rapidly. A loss of two or three pounds weekly ought to be entirely satisfactory both to the physician and to the patient.

Detail treatment: If possible, ascertain the cause and try hard to remove it. In the obesity of anæmia and chlorosis, I administer iron, arsenic, and codliver oil. Rheumatism and gout receive their appropriate treatment. In myxœdema and mental sluggishness, I give small doses of thyreoid extract—about two grains, three times a day. Where the obesity is occasioned by the suppression of menstruation, I try lutein tablets, five grains each, three times a day. I leave no stone unturned to increase the oxidation of fat and to diminish the ingestion of more fat. This is really the keynote of all treatment with reference to the treatment of obesity cases.

Detail: As to diet, cut down to a great degree the fats and the starches, the albuminoids to a somewhat lesser degree. Some fat, however, is essential to a proper diet. Cut down fluids at meals to not more than five ounces. In place of sugar, I use saccharin. If the patient shows signs of failing strength, then be more liberal as to diet. I avoid extended diet lists. I make it my constant endeavor to stimulate oxidation and absorption and to open every channel of elimination. Now as to means to this end: 1. Hydrotherapy; Turkish bath twice a week with forcible cold followed by vigorous massage. 2. Systematic exercise in the open air, such as walking, running, and rowing a boat. Horseback riding is also a fine form of exercise. 3. As little liquid as possible. I have had patients do well on a diet of beefsteak alone; they will tire of it—when they do, change. 4. Have the patient retire rather late and rise early and take a cold bath and a vigorous rub down immediately on rising. 5. Keep the bowels running with salines to the point of weakness. Add potassii bitartras or potassii citras to the salines in the hope of stimulating the kidneys to more vigorous action. Occasionally give sodii sulphas in a full glass of hot water immediately on rising to stimulate the functions of the liver. Sodii phosphas often has a good effect for a time. The functions of the skin should be carefully attended to. As a rule, however, I use few drugs. They usually derange digestion and as soon as their administration is stopped, the fat is prone to return worse than ever.

As soon as the weight is brought down to what is normal for the age, size, and sex of the patient, the case may be pronounced cured, and not before.

Dr. M. Axelrad, of New York, states:

Adiposity is a disorder of the metabolic processes of the body characterized by an excessive accumulation of fat in all or some of the tissues of the body. It is important to regard the condition as a symptom rather than as a pathological entity, for the successful treatment of obesity depends on this fact.

Three great causes are responsible for the production of corpulence in the majority of cases, namely, heredity, lack of exercise, and overindulgence in food.

A few words about prophylaxis would not be amiss.

A child with an inherited tendency to obesity should not be nourished by its obese mother. Later on farinaceous foods should be withheld from its dietary and a careful regulation of the physical exercise instituted. Cool baths followed by dry friction are beneficial, as also suitable preparations of iron if anæmia is present. In later years, a systematically regulated diet, outdoor sports, and gymnastics should be insisted on.

The treatment of confirmed obesity is best divided in: 1. Dietetic treatment; 2, treatment by mechanical means; and, 3, treatment by medication. Whatever method of treatment we adopt, we should never forget that it must be suited to the individual case on hand, as variations occur not only in different individuals but in the same individual from day to day.

Dietetic treatment: It is the most important by far. The fat forming foodstuffs or carbohydrates are the ones most concerned in the production of corpulence. However, they must not be totally withdrawn from the diet, but only greatly reduced. The same is true of fats.

I am in the habit of ordering the following dietary, which suits most of the cases:

Breakfast: One cup of coffee or tea, without milk, and sweetened by ⅓ grain saccharine; three ounces of toast or white bread, with less than one ounce of butter; an orange or two peaches; a soft boiled egg.

Luncheon: One plate of thin soup or bouillon; from three to four ounces of cold boiled ham or fowl or lamb chops; lettuce with vinegar and a little olive oil, celery (stewed), stringbeans, spinach, cabbage, or asparagus; fruit (except bananas); bread (toast or white); water (half a tumblerful).

Supper: Fish (two ounces), roast or boiled beef, lamb, veal, or poultry, five ounces; one or two of the following vegetables, green peas, tomatoes, asparagus, stewed celery, stringbeans, spinach, two ounces; plain rice pudding without sugar; water, five ounces, or as much of a light white wine.

While this dietary will be found satisfactory for the majority of patients, it will have to be modified to suit individual cases.

Mechanical treatment: The beneficial results of exercise are due to the increase of oxidation. The nature and the amount of the physical exercise must be carefully adapted to the needs of the particular case on hand. The best results are obtained from walking out of doors on the level with gradual increase of the pace, followed later by climbing on gradually ranging inclines.

It is absolutely necessary to observe and study the effect of the muscular exercise on the cardiovascular system of the patient. Massage and Swedish movements may be advantageously combined with these measures. Salt water baths followed by dry rubbing may be advised. Constant attention to the function of the kidneys and bowels should not be omitted. Finally, any associated disease, like gout and rheumatism, should receive careful attention.

Medicinal treatment: The different spas, like Carlsbad and Marienbad, are serviceable when there is no anæmia or cardiovascular lesions. Hæmatinics are indicated in anæmic patients. Thyreoid gland extract has of late been much praised; given in small doses—say, five grains of the dried extract thrice daily, will, in some instances, afford relief.

Dr. R. M. Toll, of Scranton, Pa., observes:

Given a case of obesity it is first necessary to determine whether it is due to: 1. Excessive eating and drinking or too little exercise or both; 2, to some pathological condition; 3, or is merely the result of a hereditary predisposition.

The object of our treatment rests on two principles: 1. To furnish less food to oxidize; and, 2, to increase the oxidation of the food in the body.

Our means of treatment in the order of their efficacy (modified according as to whether the case is an uncomplicated one or not) are: 1. Dietetic; 2. hygienic; and, 3, medicinal.

Dietetic. Cut down the quantity of food and drink. Take care that the nitrogen equilibrium is maintained by watching carefully the excretion of urea. As this is not always possible increase the proteids when the patient shows a weak, low tension pulse, muscular weakness, giddiness, digestive disturbance, sleeplessness. Carbohydrates especially should be cut down. Potatoes and bread, sweets, milk, beer, and wine should be used very sparingly, if at all. Small amounts of strong wine or brandy are useful when fatty degeneration has caused symptoms of cardiac insufficiency. Lean meat may be allowed once a day. Green vegetables of all kinds are desirable. The amount of liquid should be cut down provided that the amount ingested exceeds that excreted, to avoid danger of irritating the kidneys. A diet of skimmed milk only is a sure way of reducing fat, but very few persons will bear this treatment any length of time.

Hygienic. Exercise, next to diet, is most important, as lack of it is often a predisposing and occasionally a direct cause of obesity. A half hour's walk in the morning before breakfast is most beneficial. Instead of a nap, a short walk should be taken after meals. Gymnastics, mountain climbing, rowing, and bicycling help promote oxidation. If cardiac degeneration is present we must be very cautious in allowing exercise. Massage or passive movements should be substituted. Sleep should not be prolonged over eight hours. Warm baths twice a week are very grateful and useful. If the heart is sound, hot air and steam baths may be employed.

Medicinal. For those who can afford it, a course of treatment at some health resort (preferably abroad) is to be recommended. The marked beneficial effect is probably due entirely to the strict diet, the systematic exercise, the bathing, the massage, and the laxative effect of the waters.

As laxatives, mineral waters and salts are to be preferred, as they are less drastic than vegetable purges, and draw water from the body into the intestine.

The use of thyreoid extract in obesity was suggested by the rapid loss of flesh following its administration in other conditions. The dose is from three to five grains, three times a day, gradually increasing to twenty grains. It is, however, not an entirely safe drug to employ, as it causes a waste of the body proteids as well as of the fats, and in some instances has been followed by unpleasant consequences, as symptoms of acute Graves's disease, glycosuria, and even permanent diabetes.

Complications modifying treatment. If cardiac degeneration exist, the amount of exercise must be very carefully regulated. If necessary cardiac tonics, such as digitalis, strophanthus, etc., should be given. If arteriosclerosis is pronounced the same precautions regarding exercise should be observed, and small doses of potassium iodide given over a long period. When the uric acid diathesis complicates the obesity, alkalis or alkaline mineral waters are indicated. The amount of water ingested should not be reduced for fear of favoring the formation of urinary calculi. Where diabetes is coexistent the theory of the diabetes takes precedence over that of the obesity. Fats should not be reduced. Carbohydrates should be reduced slowly and gradually, alkaline mineral waters should be given, much exercise ordered, and alkalis, arsenic, codeine when indicated.

Pathological obesity occurs in persons with scrofulous diathesis, in chlorotic girls, and in women after several child births or after the menopause. In these cases it is the aim rather to build up the patient. Accordingly we give much nourishing food, especially raw meat, advise mild exercise, cautious hydropathic measures, tonics (iron, arsenic, and codliver oil), and mineral waters.

Where the only cause of the obesity seems to be a hereditary tendency, our only measures are exercise and hydrotherapy, as restriction of the diet is useless.

When the obesity has developed as the result of a diet prescribed for pulmonary tuberculosis, it is unwise to reduce this diet. Exercise alone remains.

Dr. Alexander Isaacson, of New York, says:

Obesity is an overdevelopment of body fat, and in treating a case of obesity we must consider the etiology, if possible, and the various forms that may exist.

There are, of course, forms of hereditary obesity, where treatment is practically unnecessary, as the parties are enjoying splendid health; it would be foolish to put such a person under a strict diet or drug treatment. I would suggest in such a case systematic exercises only. Then again, there are forms of obesity in children, who, nevertheless, are anæmic or even rickety; and treatment here would require general tonics and specific remedies for the existing conditions. And as for the actual obesity present, I would prescribe the cutting down of the starches and fats in the daily food given; the minimum amount of sweets allowed, together with a regulated system of exercises. We also have cases of obesity evidenced in women after child bearing or those nearing the climacteric period. It is, therefore, not always overfeeding and under exercise that brings about obesity, and treatment depends largely upon the conditions present.

In general, I would advise the reduction in the carbohydrates and fat elements of the daily food, also reduction in quantity of liquids taken. I do not advocate a very rigid diet, but would prescribe a regular systematic form of exercise, including body massages. As to drug treatment, thyreoid extract in five grain doses, three times daily, has given good results in some cases; but we must be careful not to prescribe this drug indiscriminately, as it may prove fatal in people suffering with cardiac or nephritic diseases.

In concluding, I would state that each case of obesity requires its special treatment, depending upon the general physical condition of the patient.

Therapeutical Notes.

A Physiological Explanation of a Vasomotor Disturbance.—In his presidential address to the Therapeutical and Pharmacological Section of the Royal Society of Medicine (*Proceedings*, November, 1910) Cushny records the interesting case of a patient who presented himself with the statement that he became giddy when he rose from bed, but was quite well as long as he lay down. The heart seemed to be fairly efficient, and the inference was drawn that when he stood up the blood was driven into the abdomen and the brain starved. This was confirmed by a simple experiment: A tight bandage was pinned round the abdomen, and the patient felt no giddiness on rising. This indicated that the weakness was due to the slackness of the abdominal vessels, which offered too little resistance to the blood flow, which poured into the abdomen and left the brain insufficiently supplied; this in turn suggested a low excitability of the vasoconstrictor centre. The indications were a stimulant to this centre, and strychnine was prescribed with good effects. There has been current for some time a statement that strychnine is a heart remedy, for which Cushny says he could find absolutely no support in experimental work. And he asks, Are all the circulatory cases in which strychnine is said to be of value of the same nature as this one described? Until more accurate records of the cases in which strychnine is said to "tone up" the heart are available, he thinks we are justified in regarding it not as a heart but as a vasomotor remedy, and the symptoms are entirely different in nature.

Applications for Warts.—The following formulas for applications for warts, which have some features of novelty, are taken from *Union médicale du Canada* for November, 1910:

℞ Resorcin, ... gr. x.
Salicylic acid, ... gr. x.
Chloral, ... gr. x.
Wool fat, ... 5v.

M. Apply directly after washing or drying the parts.

℞ Glacial acetic acid, ... 5ss.
Precipitated sulphur, ... ʒ.
Glycerin, ... ʒ.

M. Apply on the point of a wooden tooth pick.

A Pill in Chlorosis Associated with Gastralgia.—Huchard is cited in *Union médicale du Canada* as favoring a combination of nux vomica with opium and iron in the treatment of chlorosis associated with gastralgia. He gives the following pill:

℞ Extract of nux vomica, ... gr. iii ¾;
Extract of opium, ... gr. iii ¾;
Extract of gentian, ... gr. cxxv;
Iron and potassium tartrate, ... 5i.

M. et ft. pil. No. 100.
Sig.: Two pills at meal time.

Bitter Tonic Mixture for Improving the Appetite.—Huchard is credited by *Bulletin général de thérapeutique* for January 30, 1911, with the formulation of the following bitter tonic:

℞ Tincture of cinchona,
Tincture of calumba,
Tincture of gentian,
Tincture of rhubarb,
Tincture of nux vomica, } . . . . . āā 5iss.

M. et Sig.: Fifteen drops in a little water before meals.

The Treatment of Ankylostoma Duodenale.—In *Janus* for March, 1910, P. Wijn recommends the following compound for use in the treatment of ankylostoma duodenale:

℞ Oil of eucalyptus, ... ℥ss.
Chloroform, ... ʒj;
Castor oil, ... 5x.

M. et Sig.: Take in divided portions in the morning three times a week.

Vaccines in the Treatment of Rheumatoid Arthritis.—It has been proposed recently (*British Medical Journal*, January 28, 1911) to treat rheumatoid arthritis by the injection of vaccines prepared from microorganisms obtained from the blood of patients suffering from the acute form of the disease. In patients experimented upon with the vaccines excellent results are said to have been obtained.

Insufflation for Ozæna.—The following powder is recommended by *Laryngx* (July, 1910) for insufflation in the treatment of certain conditions in ozæna:

℞ Menthol, ... gr. viiss.
Ammonium chloride, ... 5ss.
Boric acid, ... ʒii;
Pulverized talcum, ... ʒiiss;
Iodine, ... gr. iss.

M. ft. pulv.

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CORRIGAN'S DISEASE.

The morbid condition, resulting from aortic insufficiency, which is characterized by visible pulsation of the large superficial arteries is commonly known in this country as Corrigan's disease. The credit of describing it has, however, occasionally been given to others. In the January number of the *Zentralblatt für Herz- und Gefässkrankheiten*, Professor Vierordt, of Tübingen, goes over the whole matter and seems to prove beyond a doubt that the credit is due to Corrigan.

Of all writers on medical history, none is more reliable than Vierordt, and his confirmation of Corrigan's merit will be especially appreciated by patriotic Irish physicians. Vierordt mentions the different accounts in the textbooks. In his own work, *History of the Diseases of the Heart*, which forms a part of Neuenburger and Pagel's *History of Medicine*, he had already given all that is essential—the post mortem descriptions of Bertoletti, Vieussens, and Morgagni of degenerated valves of the aorta, the case reported by Douglas in 1715, and the acknowledgment of Stokes, the countryman of Corrigan, that it was the latter who first gave a practical and correct clinicodiagnostic description of insufficiency of the valves of the aorta, adding that Trousseau had named it "maladie de Corrigan." He quotes Corrigan's publication On Permanent Patency of the Mouth of the Aorta, or Inadequacy of the Aortic Valves, which had appeared in the *Edinburgh Medical and Surgical Journal* in 1832.

The English seem to say remarkably little of Corrigan. The [illegible] Carswell, Cheyne, and others mentions, in speaking of the valves of the aorta, only Hope and Charles Williams; in the article on valvular lesions Corrigan's name does not appear, and only Corvisart, Laennec, Bertin, and Hope are enumerated. With two exceptions, the name of Corrigan cannot be found in German medical works, and only very recently has Romberg, in his *Lehrbuch der Krankheiten des Herzens*, acknowledged Corrigan's observations sufficiently. Vierordt's researches show that Corrigan's fundamental treatise was disregarded, not even being mentioned for decades with a few praiseworthy exceptions. F. Aran, a French writer, presents the facts incorrectly: "Décrite pour la première fois en Angleterre par Hope, en 1831, et presque en même temps par Corrigan, qui avait cru devoir trouver le premier.

The main point in the question as it stands now is as to whether Corrigan had a competitor in Thomas Hodgkin. This is now solved by Vierordt's researches. In An Account of Some Unpublished Papers of the Late Dr. Hodgkin, by Samuel Wilks (*Guy's Hospital Reports*, iii, 1876), there is described Retroversion of the Aortic Valves, as the first observer of which is named Hodgkin because on February 21, 1827, he presented a paper before the Hunterian Society on this subject and a second communication on the same subject he read on February 18, 1829, and both papers were published in the *London Medical Gazette* in 1829. There is no doubt that the "very interesting communications," as they were called at the meeting of the Hunterian Society, meant a great progress compared with all that had been known until that time of the pathology of the aortic valves; it was a demonstration of a not very rare disease of the heart with the description of some, but certainly not all, the important symptoms.

The following is a literal translation of Vierordt's conclusion: "When the author of the article Corrigan in the *Dictionary of National Biography* asserts: 'As a physician Corrigan has received more praise than is his due' and adds that Corrigan's paper was dated in April, 1832, 'while the disease had been described more fully by Hodgkin in 1827 and 1829,' he is certainly wronging Corrigan, and N. M. [illegible] should read [illegible] add at the conclusion of his article that Corrigan's general education had been deficient and that his Irish compatriots, for political and religious reasons, had [illegible] a physician. [illegible] paper of Corrigan, comprising twenty pages with tolerably fair illustrations, with the rather fragmen[illegible]

actual (*sachliches*) estimate, especially as regards the symptomatology and diagnosis, will without hesitation give Corrigan the preference. However, considering everything, there can be no objection to granting Hodgkin his part in the priority of the recognition of insufficiency of the valves of the aorta, and Trousseau might well have spoken of maladie de Hodgkin et Corrigan. Summing up, we can demonstrate by this example of insufficiency of the valves of the aorta how historical data are insufficiently given even in otherwise good and reliable publications and how they are copied without control from one generation to another."

CHEESE AS A FOOD STAPLE.

There is very generally prevalent the notion that cheese is difficult of digestion, and there is in the community hardly a glimmer of appreciation of its great nutritive value. We are saying this of the United States in particular, for elsewhere in the civilized world cheese is largely consumed as an article of every day diet. Medical men in general, we think, do not entertain the low idea of cheese which in some way has impressed itself upon the people. No doubt there are persons with an idiosyncrasy by virtue of which cheese is to them deleterious, but there must be but few of them. In an occasional instance a man thinks that cheese "disagrees" with him, but finds on sufficient trial that he is mistaken. This was shown to be sometimes the case in some convincing experiments recounted in a recent pamphlet entitled *The Digestibility of Cheese,* by Mr. C. F. Doane, issued by the Bureau of Animal Industry of the United States Department of Agriculture.

Mr. Doane comes to the conclusion that cheese, even in relatively large quantities, is easy of digestion, the unripened article being, if anything, a little easier to digest than that which has undergone the ripening process. It is not of cheese as a condiment that the pamphlet treats, but of cheese as a staple article of food, one that on economic grounds may in many instances well take the place of meat and eggs. The report should be read widely, for it ought to have a great influence in leading to an enlarged consumption of cheese. Something has perhaps already been done in that direction by the growing practice of young ladies' entertaining evening visitors with Welsh rabbit made by themselves in a chafing dish. Welsh rabbit is thought of with horror by the ill informed, for they impute to it the consequences of immoderate indulgence in other things; in reality it is a precious dish, palatable and easy of digestion. But it must be properly made.

URBAN AND RURAL MORTALITY.

The recently published vital statistics for New York State for 1910 are especially interesting, since they represent the maximum degree of accuracy actually attained by departments of health on a large scale in this country and are comparable with census statistics for the same year. We commend these statistics, published in the January *Bulletin of the State Department of Health,* for the wide variety of hints on the nature and causes of disease and death which they contain. The point to which we wish to call particular attention is the old notion of the relative healthfulness of rural and urban life. It has been accepted almost as an axiom that residence in a large city is an evil, more or less inevitable, however pleasant and advantageous to the individual, and that it is our duty to resist the tendency toward concentration of population. It requires no more than a glance at the statistics mentioned to show the fallacy of the prevalent idea as to the superiority of country life, since the mortality for cities and rural districts is the same: 16.2 per thousand, per annum. The borough of Manhattan, it is true, slightly exceeds the average (16.6), but the entire city of New York has a mortality rate of only 16.1, the highest mortality occurring in the smallest borough, Richmond (17.1). The death rates for the smaller cities vary widely, undoubtedly on account of local conditions and the fluctuations to be expected in small communities.

The urban death rate is relatively high for measles, scarlet fever, and diphtheria, and moderately in excess for tuberculous disease. Other infectious diseases are also responsible for more than their share of deaths in cities in some instances, but not in others. In seeking a reason why we may not generalize and state that the overcrowding of cities greatly facilitates the spread of all infections, we note certain other facts that lead to an entirely different explanation. Congenital debility, applied only to deaths under three months of age, is reported for almost eight times as many urban as rural deaths, instead of less than three times as many. Deaths under four years of age are almost five times as common in the urban districts. It is an axiom of vital statistics that a high birth rate means a high death rate, since the mortality of infants, with the utmost care, is inevitably many times greater than that of adults. We are, therefore, somewhat prepared for a most surprising refutation of one of the stock arguments of race suicide alarmists. Instead of an inhibition of race perpetuation in the artificial environment of the city, and a high birth rate in the simple rural life, we find the maximum birth rate (twenty-eight per

thousand) in the borough of Manhattan and a gradual and very nearly regular decrease, as the population of the cities diminishes, until we reach a point just above the minimum for the rural districts (17.5). In other words, the highly contagious diseases called "children's diseases" are so much more common in the large centres of population, not for any essential hygienic reason, but because there are more children to be attacked.

The two points on which hygienists have laid stress in praising the superiority of country life are pure air and pure water. Of all air borne diseases not occurring with disproportionate frequency among children, influenza is the most typical, and, of essentially water borne diseases, typhoid is practically the only one known in our climate. As stated, a proportionately equal incidence of any disease in city and country would show, in New York State, nearly three times as many deaths in city as in rural residents. Yet influenza actually kills more than twenty-five per cent. more persons in the country than in the cities. Typhoid fever has almost exactly the same proportionate mortality in cities as in the country, according to statistics. But, typhoid is the medical disease, par excellence, treated in hospitals, and the one beyond any other in which the country lays its burden on the city. Just how many cases of fatal typhoid reduce the apparent incidence of this disease in the country and exaggerate its incidence in the city, there are no statistics to show, but there is no reasonable doubt, both that residents of the rural districts die of this disease in city hospitals and that city residents contract the disease while in the country. Indeed, a close study of ætiology must convince the most skeptical that the autumnal rise in typhoid is due not so much to strictly climatological conditions as to vacations and excursions into the country.

Mortality statistics are of value not only in the narrow sense of physical hygiene, but in that of what may be termed sociological hygiene. Homicide affords a fairly reliable index of the social health of a community. We should naturally expect homicide as an incident to robbery, as the result of the aggregated passion of a mob, or as representing the factor of the chance presence of a victim, to be far more common in cities where humanity is densely massed. As a matter of fact, this is true, but the excess is not great. Accidental death, the index of the ethical principles of being one's brother's keeper and of personal prudence, is proportionately more common in the country than in the city. Suicide, which is in the same negative way the index of the desirability of life, and thus of the ultimate object of both physical and social hygiene, is decidedly though not greatly more common in the country than in the city, with due regard to actual numbers involved. Is it not time to discard the platitude with regard to the superior healthfulness and wholesomeness of rural life, to be guided by actual present conditions rather than past traditions, to lay aside our fear of the great city as a destructive monster, and to direct the forces of society to alleviating the hygienic drawbacks of the country?

A SECOND DANIEL COME TO JUDGMENT.

We are told of a man who still believes that the earth is not round but flat. Such a man must be Dr. Herbert Snow, who has come all the way from England as a champion of the Antivivisection propaganda. He denies that experiments on animals have been promotive of modern progress in medicine; but, then, he denies that there has been any progress. In his opinion vaccination, the use of tuberculin, the serum treatment, Pasteur's protective inoculations against rabies, antityphoid inoculation, and all the other therapeutic advances of modern times have been no advances at all. He proclaims himself an old fashioned practitioner satisfied with the old remedies, but he admits that he is "rusty" and may be mistaken.

It was quite unnecessary for Dr. Snow to state specifically that he was "rusty," for the fact is apparent from all else that he says. But his Antivivisection friends are doubtless explaining to themselves that when he calls himself "rusty" he is either sarcastic or else intending to convey the idea that he is mellowed by age and observation and all the better qualified to pass judgment upon those things that younger men accept as signs of progress and as indications in the path of further advance. At all events, he seems to have no doubt that hi is the last word in such a controversy as that upon which he has entered, and that is the proper frame of mind for an Antivivisection witness in the opinion of the Antivivisectionists themselves.

To them Dr. Snow is a valuable talker, because he will probably impress that portion of the community to which they are accustomed to resort for support. The impression that he may make upon a legislative committee is quite another matter, especially when he finds himself confronted with men of such clear mind and sound thought as Dr. James Ewing, who has very properly taken up the cudgels against him in the newspaper press—a thing that had to be done by somebody because the Snow dicta had already been set forth in the papers. Dr. [illegible] and among Dr. Snow's own people, for that matter; [illegible] down.

Obituary.

WILLIAM W. MAYO, M.D.,
of Rochester, Minn.

Dr. Mayo, the father of the two celebrated Rochester surgeons of the present time, died on Monday, March 6th, in the ninety-second year of his age. He was a native of England, but came to this country at an early age. He went to Rochester in 1863, having practised previously in La Porte, Ind., and Leseuer, Minn. He retired from practice several years ago.

News Items.

Personal.—[illegible]

New Bushwick Hospital to Cost $75,000.—The work of building the new Bushwick Hospital, at the corner of Howard and Putnam Avenues, Brooklyn, will be started in about two months. The new building, which will be four stories high, will be built of brick, and the cost is estimated at $75,000. It will occupy a plot fronting a hundred feet on each avenue.

The Endowment Fund of the American Red Cross Society.—It is said that already $700,000 has been raised toward the $2,000,000 endowment fund, for which President Taft, the society's president, made an appeal. Washington has contributed $34,000, which is $1,000 more than her share, and New York and San Francisco have also contributed more than their share.

Civil Service Examinations.—Among the positions for which examinations will be held on April 1st by the New York State Civil Service Commission, at Albany, are the following: Assistant Surgeon, Soldiers' and Sailors' Home, Bath, N. Y., $1,200 and maintenance; trained nurse, $420 to $600 and maintenance; veterinarian, Department of Agriculture, $5 to $7 a day when employed.

The Dalton Chair of Physiology.—In recognition of the services to the science of physiology rendered by the late Dr. John C. Dalton, the trustees of Columbia University have named the head professorship of physiology, now held by Dr. Frederick S. Lee, the Dalton professorship of physiology. Dr. Dalton held the chair of physiology from 1860 to 1883, and was president of the College of Physicians and Surgeons from 1884 to 1886.

The Newark, N. J., Medical League held its regular monthly meeting on February 27th. Dr. Heinrich Stern, of New York, read a paper entitled The Decay of Nations, which was discussed by Dr. Kracker, Dr. Buerman, Dr. Mason, Dr. Price, Dr. Parsannett, Dr. Hicks, Dr. Christian, Dr. Maas, Dr. Gray, and Dr. Fisher. The next meeting of the league will be held on March 27th, with Dr. W. Gilman Thompson, of New York, as the speaker of the evening.

Philadelphia College of Physicians.—At a meeting held on the evening of March 1st, a portrait of the late Dr. William Goodall was presented to the college by Dr. W. W. Keen, on behalf of the family. Dr. John B. Deaver read a paper entitled Chronic Pancreatitis, which was followed by a discussion on What Cases of Anatomical Deviation of the Gastrointestinal Tract are Amenable to Surgical Treatment? Dr. John H. Gibbons opened the discussion.

The Tristate Medical Association, of Virginia and North and South Carolina, held its thirteenth annual meeting in Raleigh on Wednesday and Thursday, February 22d and 23d, under the presidency of Dr. Joseph A. White, of Richmond, Va. There was a large attendance, and the meeting was in every way a great success. It was decided to hold the next meeting in Columbia, S. C., in February, 1912. The new officers are: Dr. J. Howell Way, of Waynesville, N. C.; vice-presidents, Dr. Thomas E. Anderson, of Statesville, N. C.; Dr. William E. Anderson, of Farmville, Va., and Dr. Frank H. McLeod, of Florence, S. C.; secretary and treasurer, Dr. F. C. Hughes, of Rock Hill, S. C.

The Clinical Society of the New York Throat, Nose, and Lung Hospital.—A stated meeting of this society was held on Monday evening, March 6th. Dr. A. J. Quimby demonstrated several radiographs of lungs. Dr. S. J. Kopetzky read a paper entitled Observations Gathered in Mastoid Surgery, which was discussed by Dr. R. J. Heidi, Dr. MacIsaac, and Dr. Imperatori. Dr. S. Goldstein read a paper entitled Thigenol in Atrophic Rhinitis, which was followed by a general discussion.

Two New Night Clinics for Italians Opened.— A special night clinic for Italians was opened on January 1st at 81 East Second Street, New York, which is in charge of Dr. Attilio Caccini, of the Harlem Italian Clinic, who will be assisted by Mrs. Kakavos, a nurse. This new clinic is open every Saturday evening from eight to nine o'clock. A gas lighting system having been installed at the Harlem Italian Tuberculosis Clinic, at 339 East 109th Street, a night session is held at this clinic on Tuesday of each week, from eight to nine o'clock.

The Academy of Medicine of Northern New Jersey was formally organized at a meeting held in Newark on Saturday evening, February 25th. A constitution and by-laws were adopted and the following officers elected to serve for the first year: President, Dr. Edward J. Ill; of serve for the first year: President, Dr. Edward J. Ill, of Orange; second vice-president, Dr. Wells P. Eagleton, of Newark; secretary, Dr. Julius Levy, of Newark. A corresponding secretary, a treasurer, and a board of trustees will be chosen at a future meeting of the organization.

An Opportunity for a Pathologist at the Philadelphia Polyclinic.—Announcement is made by the dean of the faculty of the Philadelphia Polyclinic and College for Graduates in Medicine that the position of professor of pathology and director of the laboratories is vacant. The work will not require all the incumbent's time, and a fair salary is attached to the position, which will give a man a very good opportunity for clinical research, besides bringing him in contact with postgraduate students. Dr. R. Max Goepp, dean of the faculty, will furnish any further information which may be desired by candidates.

Bellevue Hospital Overcrowded.—During the month of February, Bellevue Hospital was seriously overcrowded. The capacity of the hospital is 1,050 beds, and the average number of patients last year reached that number, but since the first of the year there has been a gradual increase, and the average for February was 1,200. On March 1st there were 1,296 patients, the next day 1,330, the largest number for years, and on March 4th the number had decreased to 1,230. The Bellevue authorities attribute the congestion to the refusal of the City and Metropolitan hospitals, on Blackwell's Island, to receive patients, on the ground that they too were crowded. A conference will be held to find some way out of the difficulty.

Reorganization of St. Mark's Hospital.—At a meeting held on March 7th, the following new board of directors was elected: President, Dr. Benjamin T. Tilton; vice-president, Dr. Alexander Shulman; secretary, Dr. Andrew von Grimm; Dr. Otto Maier; Dr. C. A. von Ramdohr; Dr. Charles R. L. Putnam; Mr. John C. West, Mr. Thomas W. Slocum, and Mr. Julius F. Workum. The following were added to the medical board: Dr. Tilton and Dr. Putnam, visiting surgeons; Dr. Von Grimm, visiting gynæcologist; Dr. Otto Maier, visiting pædiatrist and obstetrician. Dr. Harry G. Watson was appointed visiting physician and gastroenterologist to the St. Mark's Dispensary. Dr. Carl Beck resigned as visiting surgeon. It is expected that a new hospital building will be erected in the near future.

A Bill to Restore the Right of Physicians to Practise Pharmacy.—A bill has been introduced in the New York State Legislature by Assemblyman Foley to amend the Public Health law in relation to the issuance of licenses to practise pharmacy. Under the provisions of the proposed measure, any person who, prior to the first day of January, 1910, was entitled to be registered as a pharmacist by the Board of Pharmacy of the City of New York, may, upon application, accompanied by a fee of $5.00, "and upon proof that he has been duly licensed to practise as a physician, in accordance with the provisions of article eight of this act, shall be granted by said board [the Board of Pharmacy] a license to practise as a 'licensed pharmacist' anywhere within the State." The act is designed to take effect immediately on its passage.

The Campaign Against Tuberculosis in Denmark has been carried on systematically since 1895. [illegible] from pulmonary tuberculosis has decreased [illegible] ten thousand of population in 1895, [illegible] ten thousand of population in 1908. There is now one sanatorium for every 1,244 inhabitants, and every tuberculosis patient is assured of treatment at a cost within reach of every one. The State pays three fourths of the expense of treatment, and the patient or his community, pays the remaining fourth.

The Association of Medical Officers of the Militia of Canada held its annual meeting in Ottawa on Saturday, February 25th. The annual dinner of the association was held on the evening of the same day at the Ottawa Golf Club. The toast to the Canadian militia was proposed by Lieutenant Colonel Shillington, and responded to by General Mackenzie. The toast to the Association of Military Surgeons of the United States was proposed by Lieutenant Colonel Jones, director general of medical services, and responded to by Major Louis Livingston Seaman, of the United States Volunteers.

St. Andrew's Convalescent Hospital to Move.—St. Andrew's Convalescent Hospital for Women has sold the property at 211-213 East Seventeenth Street, New York, which it has occupied for about twenty years, and will move about May 1st to more commodious quarters at 237 West Seventeenth Street. The present accommodations of the hospital have been wholly inadequate for several years, and it has been found necessary to transfer patients, after a certain length of time, to its country hospital, at Woodcliff, N. J., known as St. Andrew's Rest. The building at 237 West Seventeenth Street, is four stories in height, 25 feet wide, and 100 feet deep. It will be extensively altered at considerable expense, and when completed will have a roof garden, sun parlors, and all modern conveniences.

Williamsburgh Medical Society.—The thirty-sixth regular meeting of this society will be held at the Willoughby Mansion, Brooklyn, on Monday evening, March 13th, at 8:30 o'clock. Dr. Elias H. Bartley will read a paper entitled Atypical Aberrated Children. Dr. Siegfried Block will give a short talk on the question of delinquent children from a medical standpoint. A lecture, illustrated by stereopticon slides, will be delivered by H. G. Anderson, the subject being The Work of the Children's Court and of the Juvenile Probation Association of Brooklyn. This will be followed by a general discussion, which will be opened by Hon. Justice Robert J. Wilkin, Dr. M. G. Schlapp, of Manhattan, Dr. William M. Hendricks, Dr. Louis C. Ager, and Dr. F. C. Eastman. Members of the society are requested to [illegible]

Tuberculosis in Puerto Rico, Trinidad, and Cuba.—Associations for the prevention of tuberculosis have been formed in Cuba, Puerto Rico and Trinidad. In Cuba there are over 40,000 deaths from tuberculosis every year, and the death rate from this disease is nearly three times as high as in the United States. In Puerto Rico there are over 6,000 deaths every year out of 1,000,000 inhabitants. In Trinidad, the death rate from tuberculosis in Port-of-Spain, the only place where figures are available, was 4.75 per 1,000 in 1909, nearly three times the rate in New York City. Conditions in the other islands of the West Indies, where no active campaign against tuberculosis has been undertaken, are even worse. The chief reason for this high mortality is found in the unsanitary, dark, and poorly ventilated houses of the natives of the islands.

Drugs Most Used in the Tropics.—In a recent Consular Report, Consul General James T. Dubois, of Singapore, states that quinine stands first on the list of drugs for the tropics; epsom salts next; then come calomel, cas for oil, tincture of iron, or liquor of perchloride of iron, opium, and brandy. A large majority of the drugs most used are those well known to the doctors of two generations ago. One medical missionary has worked out the [illegible] estimated that the approximate cost would be $325. His [illegible] the Malay States are dispensary boats that reach distant points, where quinine and other necessary medicines are [illegible] charitable measure for relief

New Hospital for Crippled Children.—The New York [illegible] recently sold its hospital buildings, occupying the block front on the easterly side of Lexington Avenue, from Forty-second to Forty-third Streets, to the New York Central Railroad for $1,350,000, has completed the purchase of a new site. The society has acquired from various owners the property Nos. 305 to 325 East Forty-second Street, comprising eleven three story and basement dwellings, covering a frontage of 190 feet, together with sufficient land on Forty-third Street to give access from the rear. The property purchased on Forty-third Street includes Nos. 304, 308, 312, 314, 318, 320, and 322. The plot is between Second and First Avenues, and the buildings are to be demolished early this spring, as it is proposed to have the new hospital ready for occupancy by August, 1912.

The Homœopathic Medical Society of the County of New York held a regular monthly meeting at the New York Academy of Medicine on Thursday evening, March 9th. The programme included the following papers: A Causticum Case with Comments Thereon, by Dr. Rudolph F. Rabe, followed by a general discussion; Surgery of the Glands of the Neck, by Dr. William Francis Honan, discussed by Dr. William H. Dieffenbach and Dr. Joseph H Fobes; Observations on the Treatment of Arteriosclerosis, by Dr. William H. Dieffenbach, followed by a general discussion, which was opened by Dr. George F. Laidlaw and Dr. William H. Van den Burg. The officers of this society for the year 1911 are: Dr. J. Perry Seward, president; Dr. Rudolph F. Rabe, vice-president; Dr. Lindsley F. Cocheu, secretary; Dr. E. Welles Kellogg, treasurer; Dr. Charles Ver Nooy, necrologist; censors, Dr. William Francis Honan, Dr. Anson H. Bingham, Dr. John Strother Gaines, Jr., Dr. Addison S. Boyce, and Dr. Reeve Turner.

The New York Department of Health to Issue a Monthly Bulletin.—Announcement is made by Commissioner Lederle that the Department of Health of the City of New York has undertaken the publication of a monthly *Bulletin*, which will contain reports of the department activities, giving periodical summaries of the work of the various divisions, and is intended for the information of public health officials, physicians, and laymen interested in health problems. It will contain special articles dealing with the various phases of public health work. In each issue there will be a report of the vital statistics of the city for the preceding month, with explanatory comments. Official reports of the principal acts, ordinances, etc., of the Board of Health, will also be published in *The Bulletin*. The intention is to make *The Bulletin* an agency for disseminating information regarding hygiene and sanitation, the prevention of disease, particularly with reference to the health conditions in New York City, and to the work of the department as guardian of the health of the people. This new publication will not conflict with the regular weekly report of the department, which will be continued as a brief statistical summary.

Gifts and Bequests to Hospitals.—By the will of Mrs. Alice A. Hicks, of Old Westbury, Long Island, the Nassau Hospital, at Mineola, will receive $100,000.

Included in the will of Louise Bosse, who died recently in Philadelphia, are the following bequests: Medicochirgical Hospital, $500; St. Christopher's Hospital, $300, and the Jewish Hospital, $200.

Announcement is made of a gift of $100,000 to the Notre Dame Hospital, Montreal, by Mr. Rodolphe Forget, which brings up his gifts to this hospital to $250,000.

By the will of Louis Lowenthal, who died in Rochester, N. Y., on February 18th, each of the following named hospitals will receive $500: St. Mary's Hospital, Hahnemann Hospital, Homœopathic Hospital, City Hospital, Infants' Summer Hospital.

[illegible]

The will of James H. Covert, who died in East Pen[illegible] of $5,000, to endow a free bed in the hospital.

[illegible]

The will of J. W. Humphrey, late of Jamestown, N. Y., [illegible]

Plague in Hawaii.—[illegible] surgeon general of the United States Public Health and Marine Hospital Service the last case of human plague at Honolulu occurred on July 12, 1910, and the last plague infected rat was found at Aiea, nine miles from Honolulu, on April 12, 1910. At Hilo the last case of human plague occurred on March 23, 1910. A fatal case occurred at Honokaa, sixty miles from Hilo, on December 17, 1910, and two fatal cases were reported on January 31, 1911. Plague prevention work is being carried on steadily, the average number of traps set daily during the week ending January 28th being 1,720.

Infectious Diseases in New York:

[illegible] Health [illegible] March 4, 1911:

	February 25th		March 4th	
	Cases.	Deaths.	Cases.	Deaths.
[illegible]	566	[illegible]	624	[illegible]
Diphtheria and Croup	389	[illegible]	355	[illegible]
Measles	309	[illegible]	285	[illegible]
Scarlet Fever	1	[illegible]	60	[illegible]
Smallpox	[illegible]	[illegible]	[illegible]	[illegible]
Varicella	41	[illegible]	295	[illegible]
Typhoid Fever	[illegible]	[illegible]	[illegible]	[illegible]
Whooping Cough	48	[illegible]	111	[illegible]
Cerebrospinal Meningitis	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	2,054	[illegible]	1,811	282

Vital Statistics of New York.—During the week ending February 25, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,670, corresponding to an annual death rate of 17.48 in a thousand of population, as compared with a rate of 17.74 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 18.71; the Bronx, 15.44; Brooklyn, 17.08; Queens, 14.62; Richmond, 13.40. There were 125 stillbirths. The deaths of children under five years of age numbered 455, of whom 309 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 58; over five years of age, 58. There were 209 deaths from pulmonary tuberculosis, 24 from bronchitis, 178 from pneumonia, 138 from bronchopneumonia, 130 from Bright's disease, 177 from organic heart diseases, and 81 from congenital debility and malformations. There were 22 deaths from suicide, 2 from homicide, and 54 due to accidents. Eight hundred and eighty-two marriages and 3,027 births were reported during the week.

International Congress of Applied Chemistry.—The eighth International Congress of Applied Chemistry will be held in the United States in September, 1912. President Taft has consented to act as patron, and will preside at the opening meeting, which will be held in Washington, D. C., on Wednesday, September 4th. The other meetings, both business and scientific, will be held in New York, beginning Friday, September 6th, and ending Friday, September 13th. A preliminary announcement has been issued which gives the present status of the organization in the United States, and more complete announcements will be made from time to time. The scientific work of the congress has been divided into twenty-five sections and subsections, and an idea of the proposed scope of the congress may be obtained from the tentative schedules of these sections and subsections, which include analytical chemistry; inorganic chemistry; metallurgy and mining; explosives; silicate industries; organic chemistry; coal tar colors and dyestuffs; industry and chemistry of sugar; india rubber and other plastics; fuels and asphalt; fats, fatty oils and soaps; paints, drying oils, and varnishes; starch, cellulose, and paper; fermentation; agricultural chemistry; hygiene; pharmaceutical chemistry; bromatology; physiological chemistry and pharmacology; photochemistry; electrochemistry; physical chemistry; law and legislation affecting chemical industry; political economy and conservation of natural resources. The twenty-fifth section, which is being organized, will consider the leather industry. The object of the congress, as defined by the constitution is "the advancement of all applications of chemical science to practical life." Any person having an interest in the object of the congress is eligible to membership. The officers are: Honorary president, Edward W. Morley, Ph. D., Sc. D., LL. D., of West Hartford, Conn.; president, William H. Nichols, Sc. D., LL. D., of New York; secretary [illegible] Hesse, Ph. D., of New York; treasurer, William J. Matheson, of New York.

The Health of Chicago.—During the week ending February 25, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 20 cases, 0 deaths; measles, 160 cases, 7 deaths; whooping cough, 7 cases, 0 deaths; scarlet fever, 188 cases, 12 deaths; diphtheria, 175 cases, 13 deaths; chickenpox, 58 cases, 0 deaths; tuberculosis, 178 cases, 86 deaths; pneumonia, 74 cases, 126 deaths. There were 4 cases of German measles, 3 cases of smallpox, 1 case of cerebrospinal meningitis, and 56 of contagious diseases of minor importance reported, making the total 924 cases, as compared with 897 for the preceding week, and 751 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 46, and there were 35 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 171, of whom 119 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 680, corresponding to an annual death rate of 15.8 in a thousand of population, the same as for the preceding week. The rate for the corresponding week in 1910 was 17.3.

The Health of the Philippines.—According to a report from the chief quarantine officer, at Manila, to the United States Public Health and Marine Hospital Service, dated January 11th, at the beginning of the year 1911 the health of the Philippines is much more satisfactory than at any time during the past ten years, which makes it possible to begin the work of the new year under more favorable auspices than has been the case heretofore. There have been no cases of plague for over three years; smallpox is less prevalent; cholera is only known to exist in a sporadic form at Naujan, Mindoro, and upon the Island of Catanduanes; malaria prevails to a lesser extent; there is less beriberi, and a smaller number of cases of intestinal diseases than ordinarily. If this favorable condition of affairs should continue, there would be an opportunity to commence work upon a foundation upon which a sanitary superstructure might be erected which would make outbreaks of diseases like those enumerated above much less likely to occur in the future. This satisfactory state of affairs makes it more incumbent than ever upon the service to exercise the greatest vigilance in preventing the introduction of quarantinable diseases. The Philippines are seriously threatened by the plague which exists at Shanghai and by the frequent recurrent outbreaks of both plague and cholera in Japan. The great shortage which exists in the rice crop of the Philippines will also no doubt increase the number of rice-laden vessels which arrive from Indo-China and Siam, and, as there are ports in these countries which are infected, special precautions will be necessary in dealing with such vessels.

Society Meetings for the Coming Week:

MONDAY, *March 13th.*—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Williamsburg Medical Society, Brooklyn; New Rochelle Medical Society; Corning, N. Y., Medical Association; Waterbury, Conn., Medical Association.

TUESDAY, *March 14th.*—New York Academy of Medicine (Section in Public Health); New York Obstetrical Society; Newburgh Bay Medical Society; Medical Society of the County of Schenectady, N. Y.; Medical Society of the County of Rensselaer, N. Y.; Buffalo Academy of Medicine (Section in Medicine); Jamestown, N. Y., Medical Society; Rome, N. Y., Medical Society; Practitioners' Club of Jersey City, N. Y.

WEDNESDAY, *March 15th.*—New York Academy of Medicine (Section in Genitourinary Diseases); Woman's Medical Association of New York City; Medicolegal Society, New York; Buffalo Medical Club; New York Society of Internal Medicine; Northwestern Medical and Surgical Society of New York; New Haven, Conn., Medical Association; New Jersey Academy of Medicine (Jersey City).

THURSDAY, *March 16th.*—New York Academy of Medicine; Æsculapian Club of Buffalo, N. Y.; German Medical Society of Brooklyn; Newark, N. J., Medical and Surgical Society.

FRIDAY, *March 17th.*—New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Postgraduate Medical School and Hospital; New York Microscopical Society; Brooklyn Medical Society; Saratoga Springs Medical Society.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL
March 2, 1911.

Looking Backward, By William E. Fay.
Bacillary Dysentery. Its Bacteriology Biochemistry, and Their Relation to Treatment,
By Arthur I. Kendall.
Infectious Diarrhœa. Its Treatment with Special Reference to the Biochemical and Bacteriological Standpoint, By Henry ...
Silver Nitrate Irrigations in the Treatment of Infectious Diarrhœa in Infants, By Richard M. Smith.
An Analysis of 178 Cases of Infectious Diarrhœa in Infants, By James Herbert Young.
The Associated Flora of Bacillary Dysentery,
By Arthur I. Kendall and Arthur W. Walker.
Two Methods of Obtaining Human Milk for Hospital Use, By Fritz B. Talbot.
Diarrhœa in Infants Associated with the Gas Bacillus in the Schools,
By Arthur I. Kendall and Richard M. Smith.
Double Otitis Media. Dehiscence of the Floor of the Cavum Tympani. Streptococcus Meningitis,
By Dana W. Drury.
10. A Case of Intussusception. By Beth Vincent.
11. A Method of Collecting Urine from Female Infants,
By Charles H. Lawrence.

2. **Bacillary Dysentery.**—Kendall gives the following treatment in bacillary dysentery: The patient is first given a dose of castor oil or other cathartic to clean out the intestinal tract thoroughly. All food except sterile water is withheld for from twelve to fifteen hours to facilitate this cleaning out. Lactose, five per cent. solution in sterile water, is then fed by mouth, if possible, within eighteen hours. The longer the carbohydrate is withheld, the longer the dysentery bacilli have a free field to produce toxines, for several days, until the acute symptoms abate, or until it becomes apparent that the patient requires some nitrogenous food. Whatever nitrogenous food is selected must be fed cautiously, in small amounts, simultaneously with an excess of utilizable carbohydrate to protect it from bacterial attack. The lactose should be fed in rather small amounts, often repeated to keep up a stream of this sugar in the alimentary canal, otherwise the proteolytes will be able to attack whatever nitrogenous substances may be present in the alimentary canal between the doses of lactose. Dextrose infusions should be given at the very start, while the patient is undergoing the initial starvation. By so doing the patient is provided with a most readily utilizable food which spares body nitrogen without the slightest expenditure of digestive energy. It should be infused, preferably, as a 2.5 per cent. solution in physiological salt solution, to bring to normal the dextrose content of the blood and to furnish fluid to the patient. This feeding of lactose is intended to accomplish a twofold purpose: To furnish to the host a readily assimilable food, requiring a minimal expenditure of energy to metabolize it, and to change the character of the metabolism of the dysenteric flora from the proteolytic to the fermentative type. This change in the type of the intestinal flora is particularly desirable to prevent further intoxication of the host and to give him a better chance to combat the poisons already absorbed.

4. **Silver Nitrate Irrigations in the Treatment of Infectious Diarrhœa in Infants.**—Smith speaks of three per cent. silver nitrate colon irrigations in the treatment of infants ill with infectious diarrhœa. There were two distinct types of cases in which silver nitrate injections were used. First, the early acute cases, seen during the active period of the disease; second, the subacute or chronic cases, in which blood and pus persisted in the stools after the elevation of temperature and toxæmia had disappeared. In the acute cases the only methods of estimating the value of the treatment are (1) to judge between the course of the particular cases under observation and what might be expected the course of that case to have been without treatment; or (2) to compare a large series of cases treated by this method with other series not so treated. This is an unsatisfactory means of judgment, but it is the best we have and the one commonly employed in determining the value of various therapeutic agents. In the chronic cases, it is easier to show a relation of cause and effect between the treatment and the subsequent history of the case, because if blood and pus promptly disappear from the stools after the use of a silver nitrate injection when they had been present constantly up to that time, it seems reasonable to conclude that the treatment was of benefit.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

... By Joseph ...
2. The Œsophagoscope in Removing Sharp Foreign Bodies from the Œsophagus, By William Lerche.
3. Graves's Disease, a New Principle of Operating Based on the Study of 352 Operations, By G. W. Crile.
4. Sodium Cacodylate in Syphilis, By A. J. Caffrey.
5. Plea for Greater Care in Arranging Patients on the Operating Table for the Prevention of the Common Postoperative Weak Back. The Presentation of an Apparatus for Holding the Lithotomy Position without Strain, By Joel E. Goldthwait.
6. Intracranial Surgical Lesions in Children,
By Cassius C. Rogers.
7. Experience with Salvarsan in the New York Skin and Cancer Hospital,
... Howard Fox and William E. ...
8. General Chemical Aspect of Internal Secretion,
By Russell H. Chittenden.
9. Internal Secretion of the Pancreas,
By W. G. MacCallum.
10. Present Knowledge of Thyreoid Function,
By S. P. Beebe.
11. Report of a Case of Epidemic Anterior Poliomyelitis,
By Lewis F. Frissell.
12. Simple Method for the Detection of Minute Quantities of Albumin in Urine, By B. Katzenstein.
13. Abortive Cases of Poliomyelitis. An Experimental Demonstration of Specific Immune Bodies in the Blood ...

1. **Purulent Infection of the Urinary Tract in Infancy.**—Brennemann states that in purulent infection of the urinary tract in infancy, there is little that can be offered in the way of prophylaxis, except local cleanliness, the avoiding of diarrhœas and infections, and the maintaining of the general health at a high level. After the disease is established the child should be kept quiet, its diet should be watched carefully, and it should be given an abundance of liquids, especially water or alkaline waters, to flush the urinary tract. Potassium citr... ... a drachm or ... in ... Nearly all German ...

hexamethylenamine (urotropin) in doses from one to two grains three times a day, and phenyl salicylate (salol) in doses from one to three grains from five to eight times a day for ages varying from two months to two years, as of first value, and recommend alkaline drinks as of value in diluting and possibly alkalinizing the urine. Many of the cases drag along for months, often with distinct intermissions, in spite of any treatment. Ultimately the patients are cured clinically, in nearly all cases. His own procedure is to crowd water in every way, to try alkalies first, and if there is not a decided improvement in a few days, to substitute urotropine or salol, in doses of from one to two grains every three or four hours to an infant one year old, and to keep this up for a long time to avoid the relapses that are only too common. The severer cases with cortical abscesses are influenced but little by any of these remedies. They require also treatment of the underlying condition and general tonic and supportive measures. He states in conclusion that in every child, and especially in every female infant, that has a continuous or intermittent high temperature, the cause of which is not clinically obvious, an examination of the urine for pus is imperative.

3. **Graves's Disease.**—Crile states that in one fatal case of simple exophthalmic goitre the brain cells were found to be widely and extensively affected. Pure fear caused physical lesions in the cells of a rabbit's brain. The principal cause of so called hyperthyreoidism incident to operations on cases of Graves's disease is the adequate psychic and traumatic stimuli, both of which are phylogenetically closely akin; the psychic stimuli may be excluded by special orientation and the traumatic stimuli by an absolute cocainization of the operative field. By a combination of both local and general anæsthesia, ligation and excision may be safely done. The value of ligation probably lies mainly in its breaking part of the nerve connection with the brain. The value of excision is the diminution of the total quantity of the gland secreting structure and the breaking of the nerve supply as well. Between the brain and the thyreoid gland in Graves's disease a pathological reciprocal interaction seems to exist. Patients in Graves's disease are specifically supersensitive to trauma, to psychic stimuli, and to thyreoid secretion. When operated upon and then immediately returned to the environment that originally produced the disease they frequently relapse. Patients operated upon and then given a prolonged rest cure, which alone can repair the damage to the brain cells, are nearly all cured. It requires approximately the same length of time to recover from exophthalmic goitre as it does to recover from a nervous breakdown from other causes. A combination of surgery and an adequate rest cure is the method of choice and will cure most patients. Crile's thesis is that the explosive exacerbation after operation is not due to the commonly accepted cause, such as escape of thyreoid secretion into the circulation, but is due to injury to tissue and to fear, and that it may be prevented by excluding the psychic factor and by blocking the nerve impulse arising from injury of the operation can reach the brain. By this method even patients with advanced and otherwise hopeless cases of Graves's disease, abandoned by both the internist and the surgeon, may be operated on with safety and prepared for the maximum benefit from a rest cure.

6. **Intracranial Surgical Lesions in Children.**—Rogers remarks: If a child had a broken arm, what physician would wait twelve weeks to reduce it or wait until an abscess had formed, as is done in skull fracture? Early surgical interference in fracture of the skull, with intracranial hæmorrhage, will be rewarded by almost certain recovery, while delay for months or years hoping against hope that the focal symptoms if present will disappear, can lead only to discouragement and disappointment after operation. Much improvement may, however, be obtained in children after several years' delay. Constant localized headaches should demand our most serious attention and our greatest efforts to determine the cause, as they may mean localized diseased areas within the skull. Severe headaches following chronic otitis media associated with dizziness, rapid rise and fall of temperature, nausea, and vomiting, frequently demand prompt surgical interference to prevent extension into the cranial cavity.

7. **Salvarsan.**—Fox and Trimble report twenty injections of salvarsan, made upon eighteen patients. With the exception of a patient with nodular leprosy to whom the new remedy was given experimentally, the patients presented active syphilitic manifestations with (except one) a positive Wassermann reaction. In four of the cases the insoluble injections were given according to the method of Wechselmann; in six of the cases a neutral suspension was used, from four to six centigrammes being used. In all of the patients a rise of temperature occurred during the first few days after the injection. Relapses occurred in three cases, in two of which at first splendid results had been obtained. The authors concluded that the brilliant results in some cases have been only temporary and the relapses that occurred have followed the improvement with discouraging rapidity.

MEDICAL RECORD

March 4, 1911.

1. Resection of the Posterior Roots of Spinal Nerves to Relieve Pain, Pain Reflex, Athetosis, and Spastic Paralysis—Dana's Operation, By Robert Abbe
2. The Diagnosis of and the Feeding in Gastric Ulcer, By William Gerry Morgan
3. Appendicitis and Its Moving Pathology, By G. K. Dickinson
4. Vaccine [illegible] Philippine Islands, By Robert Olesen
5. Bilateral Nephrolithiasis; Left Nephrolithomy, By I. Bolton Bas[illegible]
6. Short Talks with My Students and Others; Being Random Suggestions for the Younger Practitioners, By Robert H. M. Dawbarn

1. **Resection of the Posterior Roots of Spinal Nerves to Relieve Pain, Pain Reflex, Athetosis, and Spastic Paralysis.**—Abbe says that Dr. Dana was the first to propose this operation, which then was performed by our author. Independently Horsley had proposed the same operation three months after Dana, but the operation itself was done seven days before Abbe operated upon Dana's patient, by

Mr. Bennett, of London. Abbe then describes his five operations. The operation consists in cutting the posterior roots of the offending nerve within the dura. The technique is described as follows: The muscles are separated from the laminæ on one side of the spinous processes under an incision alongside the spines. Then the laminæ are gnawed away by rongeurs. This is the method first proposed by him after much work on spinal cases for tumors, pressure of fractures, etc., in 1888. One valuable modification has been made by Taylor, namely, to limit the removal of the bone to one half lamina. This exposes the roots sufficiently for operation and preserves the support and protection from pressure of the other half lamina and spinous process. Abbe has found this adequate. The operation is neither a bloody one nor tedious. The patient should be in a horizontal posture three quarters turned upon his chest. A sharp pair of medium small rongeurs, bent partly on the flat, and preferably with a "gothic arch" cutting edge, is the best for vertebral work. The posterior roots consist of four or five threads in each group, combining into one cord. Of these, at first all were divided after being raised from the cord on a tenaculum hook. It has been lately proposed by Bailey to make hemisection, dividing only half or three fifths of each group, thus modifying the sensory disturbing reflex, but not destroying the pain sense and consequent poor coordination of the motor function. This note has been the sequel of Sherrington's observation on monkeys, that when all the posterior roots were cut, the animal refused to use his hand to feed himself, though cortical stimulation showed perfect muscular function.

4. **Vaccination in the Philippine Islands.**—Olesen shows the benefit of vaccination against smallpox in the Philippine Islands. Of Manila, for example, he says that under the Spanish rule the death rate from smallpox was often 400 during one week. With the advent of the Americans and their policy of persistent vaccination, a startling reduction in the number of cases and deaths from smallpox became apparent. Only once (in 1908) in the past ten years has the annual number of deaths in Manila from this disease exceeded thirty. During 1905-6-7 there were but eight deaths. In 1908, following a two years' suspension of vaccination, there was a sharp epidemic, in which a number of ardent antivaccinationists paid the penalty of their belief with their lives. No death from smallpox has occurred in Manila since June 15, 1909. During July, 1909, there were twenty-one deaths from smallpox in the city of Iloilo, which ranks next in importance to Manila. At that time the sanitary administration was notoriously lax. Representations to the provincial authorities that human life was being unnecessarily sacrificed resulted in an active campaign of vaccination. During August, when the work began, twelve deaths were reported; during September eight, and in October one. Since that time there has been but one case of varioloid in the entire city and the new district health officer is able to direct his attention to some of the much needed sanitary improvements. Systematic vaccination was begun in the Province of Ambos Camarines in September, 1907. [illegible] lows: Third quarter, 1906, 280 deaths. Fourth quarter, 1906, eighty deaths. First quarter, 1907, eight deaths. Later to date, no deaths. In this province four vaccinators are constantly employed in inoculating the infants and transients, thus reducing to a minimum the opportunity for the reappearance of smallpox. In 1904 and 1905 there were 446 deaths from smallpox in Pampanga Province. In 1906 vaccination was begun with some degree of regularity and was followed by exceedingly happy results: 1906, thirty-five deaths. 1907, fourteen deaths, 1908, no deaths, 1909, no deaths. The experience with vaccination in the Island of Cebu, which is the most densely populated section in the archipelago, is extremely interesting. Prior to 1905 there was an annual death rate from smallpox of between 3,000 and 4,000. Following the wholesale vaccination of 1905-1906 there was a reduction in the mortality to ninety-four deaths in 1907 and eighty-four deaths in 1908. Unfortunately vaccination was suspended during 1907 and 1908. In 1909 there was an increase in the mortality to 736. As a result of this recrudescence the unprotected children were vaccinated and a large portion of the general population revaccinated.

BRITISH MEDICAL JOURNAL

[illegible]

[illegible] By [illegible]

[illegible] By [illegible]

[illegible] By [illegible]

[illegible] By [illegible]

[illegible] By [illegible]

3. The Clinical Symptoms and Treatment of Chronic Subcutaneous Fibrosis, By Ralph Stockman.

[illegible] By D. Moore.

[illegible] By [illegible]

6. Simulated Disease Occurring in Persons of Hysterical or Neurotic Temperament, By John Ewens.
7. Eucalyptus Oil Poisoning, By W. E. Foggie.
8. The Curative Effect of Salvarsan ("606") in Cases of Framboesia, By Henry Alston.
9. A Report on Three Cases Treated with Ehrlich's Specific for Syphilis, By Captain E. G. French.

3. **Chronic Subcutaneous Fibrosis.**—Stockman remarks that cases of subcutaneous fibrosis can be treated with a considerable degree of success if treatment is gone about in the proper way and is persevered in. In thin people we have to rely on massage, daily exercises, directed to stretch the altered fibrous tissue and to accustom it to movement, along with an habitually active and as far as possible open air life. If all this is systematically carried out for some months the inflamed fibrous tissues gradually lose their extreme liability to become painful on exertion or exposure to cold and wet, and the patient is restored to comparatively good health. Some patients get practically well, many are improved, and in all considerable benefit is assured. An habitually active mode of life with plenty of outdoor exercise is necessary to maintain the improvement. The massage must be given firmly and so as to reach the affected parts. It is always painful at first, and should be given only by those who have had experience of similar cases. What probably happens is that the massage lessens or gets rid of the local neuritis, and favorably affects the inflamed small bloodvessels, so that exudation is not so apt to occur from them. It is commonly said to act by improving the flow of blood and lymph locally, but there is no exact knowledge on these

points. In stout or plump people the principles of treatment are the same, but in them we have to deal with two distinct conditions—the fatness and the chronic fibrosis. The inflamed fibrous tissue is relatively in very small amount compared to the fat round about it, and thus embedded, it is a hopeless business to try and reach it and its inflamed nerves and vessels by means of massage. Massage under such conditions is quite ineffective, and often unbearably painful. The first step in treatment is to get rid of the superabundant fat, and this is best accomplished by a more or less strict diabetic diet, and the administration of thyreoid gland or liquid extract of *Fucus vesiculosus*. Exercises can be commenced at once and massage somewhat later, or the latter can be instituted gently from the beginning, and increased in vigor as it becomes less painful. Unless the obesity can be substantially reduced, the prospects of improvement are very slight. The paroxysmal neuralgic pains, which are sometimes very severe, and accompanied by a palpable hardening and swelling of the fibrofatty tissue in the neighborhood, often disappear or greatly lessen as the fat becomes absorbed. This is explainable by diminution of pressure on the inflamed nerves. Hot baths and hot air have no direct curative effects, but, given before the massage and exercises, they render them less painful and probably more effective. In those cases in which the subcutaneous fibrous tissue is dense and widespread, with little fat, or the fat evenly diffused through it, treatment does much less good than in the other forms. Peat baths, very gentle massage, and soothing treatment generally, are sometimes indicated, as the patient cannot stand the pain and fatigue of the more vigorous curative measures, but experience has led Stockman in this class of cases to expect very moderate betterment. As regards drugs, he has made careful trial of iodine in various forms, many antirheumatic and antigouty remedies, so called tonic medication, and counterirritation with a considerable variety of substances, but, so far, he has not met with any drug which has the power of dispersing the denser kind of cirrhotic fibrous tissue.

7. **Eucalyptus Oil Poisoning.**—Foggie reports a case of eucalyptus oil poisoning. A boy of six, who had occasionally been in the habit of getting a drop or two of eucalyptus oil on sugar, was given by mistake a teaspoonful of the same. This was about 6 o'clock one evening. About 8 he had his usual light supper, and within two hours thereafter abdominal pain and severe vomiting set in. The vomiting continued without cessation of any length and diarrhœa soon became marked. By 11 o'clock the boy became drowsy, and when he was seen about this time he was semicomatose. He was pale and collapsed, with a small but not very quick pulse. The muscles generally were flaccid. The pupils were medium in size and equal. The conjunctival reflex was not quite abolished. The tendon reflexes were present and were not exaggerated. There was no cough and the breathing was shallow. He could be roused by very vigorous slapping of the face, but each time he looked dazed. Every time he was wakened up the sickness and vomiting set in. The vomited matter, which consisted of mucus and watery material, had a strong smell of eucalyptus oil. After two or three hours of external stimulation very much along the lines usually adopted for opium poisoning, the heavy comatose condition appeared to pass off, and the child was allowed to sleep. He slept well and next morning, beyond being a little tired, was quite himself again. The breath had a smell of eucalyptus oil for three days. There was never any irritation of the urinary tract. The poison showed itself by gastrointestinal irritation and cerebral paresis.

8. **Salvarsan in Frambœsia.**—See the editorial on page 429 of the issue of our *Journal* of March 4, 1911.

9. **Salvarsan.**—Firench reports three cases of syphilis treated with salvarsan in India which were very successful.

LANCET

February 18, 191.

1. John Hunter and His Museum. By EDMUND OWEN.
2. Operations for Stone in the Male Bladder, By WILLIAM F. HASLAM.
3. The Sphygmomanometer and the Sphygmograph in Relation to the Measurement of Arterial Blood Pressures, By C. O. HAWTHORNE.
4. Eye Strain in Relation to the General Health, By JAMES HINSHELWOOD.
5. Diffuse Latent Labyrinthitis: Its Dangers in the Radical Mastoid Operation, By JAMES HARPER.
6. The Present Position of the X Ray Treatment of Ra[illegible] By S. ERNEST DE[illegible].

3. **Blood Pressure.**—Hawthorne reminds us that the pressure of blood in different parts of the circulatory mechanism not only varies in degree but also in quality or kind—there is an intracardiac blood pressure, an arterial blood pressure, a capillary blood pressure, and a venous blood pressure; and each of these has both its own measure and its own character. Rather, therefore, than blood pressure there are blood pressures; and hence, when a particular figure is presented to us as a measure or index of blood pressure, it is of the greatest importance in the interests of clear thinking that we shall have a lively appreciation, both of the point or level of the circulatory mechanism at which such measurement has been taken, and also of the exact period of the circulatory rhythm in which it has been calculated. He then speaks of the sphygmomanometer, which in the most common type is a broad leather armlet strapped firmly around the upper arm; lining this armlet is an elastic bag which communicates through an india rubber tube with the well of a mercurial manometer. The figure obtained from the sphygmomanometer is not the measure of anything which can be called the general, mean, or average blood pressure, but is, on the contrary, merely the measure of a particular or individual pressure obtained from the brachial artery during a certain phase of the circulatory movement. Secondly, it is also evident that the figure recorded by the sphygmomanometer is not the measure of anything which can be called the mean or average pressure of the arterial cycle, for the record is taken only at a single point in this cycle. And as the point selected is the one at which the distending force within the artery is just overcome, it is manifest that the sphygmomanometric figure is the measure of this distending

force. But the distending force within the brachial artery is most certainly the pressure of the blood as this is due to the systole of the left ventricle. Therefore, the figure yielded by the sphygmomanometer is a measure of the force of the left ventricle as this reaches and influences the brachial artery; or, in more detail, it is a measure of the vigor with which the left ventricle, through the column of the blood and for an undefined period of time, acts as a distending or expanding force within the brachial artery. It is of some importance carefully to note this definition, as the pressure of blood within the brachial (or any other) artery is, if the complete arterial cycle is contemplated, caused, or at least controlled, by two different factors; and while one of these is the systole of the left ventricle, the other is the degree of resistance offered to the circulation, as this resistance is determined by a contracted or relaxed condition of the vessels on the remote or peripheral side of the artery. But, as in the application of the sphygmomanometer, and at the moment the record is taken, the peripheral circulation in the upper limb is, by the strangling action of the sphygmomanometer armlet, for the time being practically put out of existence, it is obvious that the sphygmomanometer cannot measure the contribution which this factor—that is, the peripheral resistance—makes to the level or other character of the blood pressure. There, therefore, remains for measurement only the contribution made by the left ventricle, and hence we arrive again at the conclusion that the figure announced by the sphygmomanometer is, and only is, a measurement of the height to which, for an undefined period of time, the blood pressure rises under the stroke or systole of the left ventricle. The sphygmograph is said to be an instrument which possesses the ability to proclaim in comparative terms the height or level of blood pressure. The features of the sphygmographic wave which present themselves as guides in the endeavor to estimate the degree of blood pressure are found mainly on the descending line of the wave. Hawthorne then compares the instruments and their reports and says we can no longer say that the sphygmomanometer and the sphygmograph speak in equal terms and deliver an identical message, as with one and the same announcement from the sphygmomanometer there may exist sphygmographic pictures which, as displays of the level of the blood pressure, vary in their characters and meanings between the widest possible extremes. But this is not all. Not only with a uniform sphygmomanometric reading may the pulse pictures vary as just described, but the records of the two instruments may appear in direct and mutual antagonism. And the contradiction may be in both directions. The measurement of the height to which blood pressure rises is one question, the measure of the endurance of the pressure in time is another and an entirely different question. Relatively high or relatively low and independent of the fact of high or low, blood pressure may manifestly be either prolonged and abiding, or brief and evanescent; whatever be the maximum attained, the decline therefrom may be either slow and gradual, or sudden and abrupt. Upon the duration of the maximum pressure and the manner of pressure decline, the sphygmomanometer does not, and cannot, give us any information. It may announce the measure of the force of the ventricular systole as this reaches the brachial artery, but it certainly cannot announce the time during which the blood pressure so caused continues, for, given a certain maximum of pressure within the brachial artery, the sphygmomanometric pressure necessary to neutralize or overcome this will be one and the same whether such maximum persists for a relatively prolonged period or whether, on the contrary, its duration is but for a moment. On the other hand, the sphygmograph, whatever be its other values, certainly does not contribute any reliable information as to the maximum level to which the blood pressure rises, for, with one and the same maximum record in different patients the pulse pictures may be of directly opposing types and with different maximum records the pulse pictures may be of one and the same type. But as, without doubt, the descending line of the sphygmographic wave corresponds more or less closely to the movement of pressure decline within the artery, we must surely find on contemplation of this line some information as to the manner of such decline. In other words, if the maximum pressure, whatever it be, is relatively prolonged, and the decline therefrom is slow and gradual, the sphygmogram will announce these facts in a sustained wave followed by a sloping or oblique downstroke; while, on the contrary, when the maximum pressure, whatever be its absolute reading, is promptly followed by a sudden fall, the sphygmographic wave will present a sharp apex and a sudden and abrupt descent. If we admit these conclusions, and if, further, we recognize that as the sphygmographic picture conveys no information as to the height or level of the blood pressure, the terms "high" blood pressure and "low" blood pressure applied to sphygmograms are misleading and inexact, and if, once again, we agree to replace these terms by the phrases "well sustained blood pressure" and "ill sustained blood pressure" respectively, all the apparent contradictions and mutual confusions of the sphygmomanometer and the sphygmograph cease and disappear.

6. X Ray Treatment of Ringworm.—Dore remarks that if the x ray treatment of ringworm is to be successful, it must be conducted in a methodical and systematic manner, by a trained operator and under skilled supervision; the child's head should be carefully and accurately marked out with a blue pencil before the treatment is begun, and the patient and apparatus should be watched during the whole time the child is under the rays. Secondly, the operator must not be stinted as regards efficient tubes and apparatus; the excessive use of one tube is false economy and may be dangerous, and such appliances as the milliampèremeter for measuring the current in the secondary, the valve tube for checking the reverse current, the spark gap for testing the resistance of the tube, are additional safeguards. The cases of permanent baldness he has seen have been, for the most part, due to the employment of an unskilled or careless operator or to

BERLINER KLINISCHE WOCHENSCHRIFT

[illegible]

1. The Treatment of Gout and Rheumatism with Radium, By W. His
2. [illegible] By Max [illegible]
3. [illegible] Real Method of Cure, By Josef Tornai
4. Cirrhosis of the Liver, By Felix Klopstock
5. Experiences with Subcutaneous Arthrodesis, By Siegfried Peltesohn
6. Total Extirpation of the Tonsils, By Sturmann
7. The Transmission to Newborn Animals of the Sarcoma of Rats and the Carcinoma of Mice, By A. Buschke
8. A New Infectious Disease of the Conjunctiva, By A. Leber and S. von Prowazek
9. Mydriatic Action of Organic Extracts and Fluids, By E. Catapano
10. Medical Impressions from America, By Wilhelm Nagel
11. A Reaction for the Distinction of Cow Milk from Human Milk, By Gustav Tugendreich

1. Treatment of Gout and Rheumatism with Radium.—His considers that radium is not a cure all, but is a very valuable and efficient remedy when used in connection with other known forms of treatment.

4. Cirrhosis of the Liver.—Klopstock in this, the third portion of his paper, considers the origin of the ascites. The subject is considered in minute detail in a manner that does not lend itself readily to abstract. He considers that stasis of the portal vein is not alone responsible for the production of the ascites, but that inflammatory processes take an important part in its production.

6. Total Extirpation of the Tonsils.—Sturmann favors total extirpation of the tonsils with hook and scissors. The wound heals as quickly and the pain lasts no longer than after a simple amygdalotomy and the results seem to be better.

8. A New Conjunctival Disease.—Leber and von Prowazek describe a new infectious disease of the conjunctiva to which they have given the name of epitheliosis desquamativa conjunctivæ, found in the Samoan Islands. The symptomatology, ætiology, biology, pathology, therapy, and prophylaxis are considered in detail. The active agent is found in cell inclusions that differ from the cell inclusions met with in trachoma, but belong to the chlamydozoa, as shown by their morphology, increase, and development.

9. Mydriatic Action of Organic Extracts and Fluids.—Catapano finds that extracts from the suprarenal capsules and from the hypophysis exert a strong mydriatic action; that extracts from many other organs exert a similar, but less marked effect, such as the thymus, kidney, pancreas, liver, ovary, testicle, and muscle tissue, while extracts from the thyreoid, brain, and spleen produce no effect on the pupil. The substance or substances on which the mydriatic action is dependent are not to be found in the blood serum; they are soluble in water and alcohol, and heat does not change their mydriatic action.

MUNCHENER MEDIZINISCHE WOCHENSCHRIFT.

[illegible]

1. The Mutual Relation between the Uterus and the Ovaries, a Contribution to the Treatment of Gynæcological Hæmorrhages, By Henkel
2. [illegible] By Ehrenfried and Meyer
3. The Influence of the Appetite upon the Capacity of the Stomach and Its Importance in Functional Gastric Diagnosis, By Fischer
4. The Prognostic Importance of the Entrance of Germs into the Blood, By Sachs
5. A Serious Accessory Effect of Salvarsan, By Gilbert
6. Some Accessory Effects of Salvarsan, By Sellei
7. Direct Lavage of the Duodenum, By Gross
8. Plan of a Color Scale for the Determination of Physiological and Pathological Pigmentations, By Solger
9. A Contribution on Oophorin Therapy, By Einhäuser
10. Typhobacilli in the Cerebrospinal Fluid, By Stehmer
11. New Remedies and Their Importance in Modern Therapy, By Lipowski
12. The Treatment of Syphilis, By Hubbes
13. A Simplification of the X Ray Instrumentarium, By Dessauer
14. Two Years in an Institution for the Care of Infants, By Uffenheimer

2. Milk Albumin.—Finkelstein and Meyer state that experience shows that with the introduction of the milk albumin, the conditions for the assimilation of carbohydrates become so favorable and the tolerance so much improved that very soon enough carbohydrates can be added without hesitation to avoid injury by the hunger for carbohydrates, that consequently the amount of carbohydrates can be rapidly increased and that a continuous increase of weight follows. They insist that the milk albumin is not to be combined with other nutritive mixtures. They describe its preparation and give the following rules to govern its therapy: 1. The cheesy curds must be very minute, and the milk albumin when shaken must assume an even, milklike appearance; lumpy curds are not useful. It should from the first have at least one per cent. of carbohydrate added, best in the form of sugar or maltose. 2. In dyspepsia and atrophy after six days of tea diet without sugar, at least 300 grammes of milk albumin with one per cent. of carbohydrate is given. In many cases, when the disease is mild, or in older children, the commencing dose may be larger. Then step by step but rapidly the dose is increased to 180 or 200 grammes for each kilogramme, without reference to the stools or other symptoms. If the loss of weight is not checked within forty-eight hours, the carbohydrate is increased to two or three per cent.; this seems to be particularly necessary when the temperature is subnormal and there are signs of collapse. If still the weight does not increase, the addition of carbohydrates is increased to three, four, five, six, and even seven per cent. 3. When the stools remain frequent and thin, the carbohydrates should be increased to three per cent. Rises of temperature, thinner and more frequent stools, and fluctuations in the weight do not form contraindications, because such symptoms quickly pass away. 4. Under no circumstances are the carbohydrates to be reduced below two or three per cent., or to be omitted. 5. Sometimes it is advisable to reduce the carbohydrates somewhat. 6. In intestinal catarrh and cholera infantum, tea should be given for from twelve to twenty-four hours, then ten times daily from five to ten grammes of milk albumin, with .1 per cent. carbohydrates, along with the tea, the dose to be rapidly increased.

5, 6. Accessory Effects of Salvarsan.—Gilbert reports a case in which the injection of [illegible] of salvarsan into the gluteal region of a girl, nine years old, for hereditary syphilis, was followed eighty-one hours later by a very severe epileptiform attack, which came near being fatal. He ascribes the symptoms produced to a supersensibility to arsenic—Sellei reports three cases of recent florid syphilis treated with salvarsan, in which aural troubles developed; the condition was diagnosticated in the first case as hypæsthesia acustica, due to disease of the cochlear nerve, in the second as otitis media chronica probably exacerbated by salvarsan, in the third as a catarrhal inflammation of the middle ear.

WIENER KLINISCHE WOCHENSCHRIFT

February 16, 1911.

- Professor Gustav von Braun, By Peters.
- Extracellular Action of Leucocytes (Aphagocidia), By E. Weil.
- Beck's Treatment of Chronic Suppurations with Bismuth Paste, By Schmid.
- Therapeutic Importance of Arsenobenzol, "606," By Reiss and [illegible]
- Methods of Application of Salvarsan, By J. Hahn.
- [illegible] the Electrodiagram, By W. Janowski.

3. Treatment of Chronic Suppurations with Bismuth Paste.—Schmid says that the injection of bismuth paste recommended by Beck for the treatment of chronic fistulæ and abscess cavities is convenient to both the physician and the patient, is almost painless, and is so far as is yet known, devoid of danger. It is an excellent diagnostic aid in the determination of the size, course, and place of origin of fistulæ and abscesses, and thereby is of great value in indicating the place for operation, and so in preventing incomplete and purposeless operations. It is also very efficient in abating pain, secretion, and eczema, in many cases leading to a perfect cure.

4. "606."—Reiss and Krzysztalowicz feel justified in the assumption that the local irritation of the tissues, the injuries produced in them, and the slow but permanent resorption of the broken down products, which follow the injection of "606," furnish in many cases a certain explanation of the prolonged rise of temperature. Regarding the exanthemata that follow the injection, they assert it to be characteristic that the reactions after small doses always take longer to heal than the very prompt and intensive reddenings that follow the introduction of larger doses. They find it acts very effectually on slight degrees of albuminuria. Their observations concerning the effect on the secondary exanthemata coincide with those of others. They found that hard, cervical glands were apt to decrease in size and soften in a few days, and that when this did not happen within a few days, it was no longer to be expected. In cachectic patients an improvement of the general condition was evidently due to the effect of the remedy on the general metabolism of the body. They call particular attention to the statement that injections of "606" in nonsyphilitic diseases are attended by the same reaction, especially as regards [illegible] of syphilis.

SOUTHERN CALIFORNIA PRACTITIONER.

1. The Diagnosis of Duodenal Ulcer, By E. C. Moore
2. The Surgical Treatment of Duodenal Ulcer, By William A. Edwards.
3. Osteofibroma Occupying the Tonsillar Fossa, By A. L. Kelsey.
4. Diseases of the Gallbladder and Its Ducts, with Their Treatment, By C. P. Thomas.
5. Relation of Rabies to Public Health, By Stanley P. Black.
6. Diagnosis of Fractures, By Bernard J. O'Neill.

1, 2. Diagnosis of Duodenal Ulcer.—Moore says that periodicity is characteristic of ulcer, the history extending over years. He emphasizes four symptoms which are important in the diagnosis of ulcer: 1. Periodicity of the attacks. 2. The number of years during which the patient has had these attacks of stomach trouble and their intermissions or remissions before surgical relief is sought. 3. The character of the pain in ulcer and its great prominence in the diagnosis. 4. The ease with which all the symptoms during an attack can be controlled, as well as the pain, and by the same measures, namely, food, alkalies, vomiting, and stomach washing.——Edwards observes that there is no treatment but the surgical one for chronic ulcer of the stomach and duodenum, because if the ulcer should heal under medical treatment its cicatrix will cause deficient motility, a serious condition of itself. It is here particularly that gastroenterostomy has its field and no operation in all surgery will be so satisfactory to both patient and surgeon. Relief from present suffering is assured and malignant disease does not occur. As to the time for operation he says, operate when the diagnosis can be made. It is doubtful if the diagnosis is ever made in the first or perhaps the second attack unless they have the unusual symptoms of hæmorrhage. It is the recurrence of attacks that make the diagnosis possible. It is during the first attacks before the diagnosis is made that medical treatment has its place.

4. Diseases of the Gallbladder.—Thomas discusses cystic gallbladder, cholecystitis, with and without stones, inflammatory diseases of the various ducts, with or without stones, malignancy of the same and adjacent structures, and gangrene of the gallbladder. The cause of nonmalignant gallbladder troubles, he states, may be safely accredited to infection, mostly extending up from the intestine; typhoid fever being, probably, the chief causative factor. Gallstones are probably due to the same cause. Malignancy of the gallbladder or ducts originates in a part already suffering from either infection or some result of the same. We can thus, probably, safely accredit nearly all of the gallbladder diseases to the one factor, infection. Since there is no known method of preventing infection of the gallbladder, we can only direct our attention to the cure of the troubles as soon as possible after their discovery. Involvement of the pancreas from gallbladder disease is common; acute pancreatitis rare; necrosis more frequent; and chronic pancreatitis most common of all. Jaundice in gallbladder disease always means involvement of the common duct and is due to one of three causes: First, infection, [illegible]

bladder; second, by stones in the duct; third, pressure from pancreatitis or tumor, usually malignant. We must then recognize that jaundice is a grave condition which has great surgical significance, indicating that the disease is no longer simple and confined to an almost useless organ, and that simple means of relief will not suffice. It should also be remembered that continuous jaundice of three months' standing is probably incurable by any means, since permanent changes in the blood have taken place from which the patient cannot recover. Jaundice due to descending infection usually follows gall-bladder attacks, and is not as severe or lasting as when due to common duct stones. The mortality from operating simple gallstone diseases is less than one third of one per cent., and the rule is that the patients have ample evidence to enable diagnosis and removal during this favorable period. More than one half of the patients operated upon at the present time have passed beyond this simple condition, but if the disease is still confined to the gall-bladder and cystic duct, the mortality is not above one per cent.

5. **Rabies.**—Black states that in rabies in dogs we know two forms: Dumb and furious. In the former the symptoms are practically uniform, consisting of, first, a paralysis of the lower jaw with usually great nervousness and a peculiar staring look in the eyes. Later, paresis or paralysis of the hind legs develops. In the second form there is a most variegated symptomatology. However, the prevailing symptom is nervousness exhibited in play or in irritability and the tendency to bite and to bite indiscriminately, either human beings, other animals, or inanimate objects. At times the animal may be friendly to his friends or even to strangers, and often seems to yearn for sympathy. The animal has little or no appetite. Often the dog will disappear from his home and be gone for a night and sometimes for a day or two. This is probably due to his extreme nervousness. Sometimes they wander many miles from home. At times the animal will "run amuck," biting at anything which comes in his way, but this is not usual. Later the case may develop into the dumb form with the characteristic paralysis. In neither form is there fear of water, or in other words, is there hydrophobia. In both forms there is usually a profuse discharge of glairy saliva, which often runs from the mouth. With such multiplicity of symptoms, which do not meet the popular idea of a mad dog, it is easy to see that the laity may not comprehend the diagnosis of rabies when the dog is friendly and laps at water eagerly. Black then states that the muzzling of dogs is imperative. A muzzle properly constructed is not cruel, the dog can open his mouth, yawn, and drink, but he cannot bite.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

March, 1911.

1. On the Presence of a Venous Hum in the Epigastrium in Cirrhosis of the Liver, By William Sydney Thayer.
2. The Diagnosis of Duodenal Ulcer, By William Fitch Cheney.
3. Observations on Traumatic Diabetes in Children, By I. A. Abt and S. Strouse.
4. Biot's Breathing, By Lewis A. Conner.
5. The Imyogenic Doctrine of the Cardiac Activity and Its Relation to Arrhythmia, By John H. Musser.
6. The Interrelation of the Organs of Internal Secretion, By R. G. Hoskins.
7. Further Observations on Acetabular Fracture with Intrapelvic or Central Dislocation of the Femoral Head, By William Fuller.
8. Congenital Syphilis of the Heart, By Alfred Scott Warthin.
9. Personal Experiences with the Use of Salvarsan (Dioxydiamidoarsenobenzol, or "606") in the Treatment of Syphilis, By Hermann Goldenberg and David J. Kalisky.

1. **Cirrhosis of the Liver.**—Thayer observes that a venous hum, accompanied sometimes by a well marked thrill, may be detected in the epigastrium in some instances of hepatic cirrhosis. The thrill and murmur may be appreciable: 1. Directly over the extensive cutaneous varicosities; or, 2, in instances where there is little or no external evidence of venous engorgement. In most of the cases where an epigastric venous hum has been heard in cirrhosis, in the absence of cutaneous varicosities, the sound has been audible best about the umbilicus and along the median line in the epigastrium—in other words, along the course of the round ligament. In a few of these instances it has been found that the incompletely closed umbilical vein has become greatly dilated as a result of increased portal pressure. In others, a large dilated vein has been found in the round ligament running alongside of the obliterated umbilical vessel—doubtless a dilatation of a small circumumbilical vein. These murmurs should be distinguished from the slight venous hum sometimes heard in the anæmic, just above and to the right of the umbilicus, over the inferior vena cava—murmurs which may be brought out by pressure in thin individuals. These murmurs are said to disappear in some cases with pressure on one or another femoral vein. A venous hum has been described in Traube's space and in the left side of the epigastrium in the angle between the large liver and spleen in cirrhosis, and in splenic enlargement which may arise in a varicose splenic vein. A well marked thrill and an intense venous hum may be heard in hepatic cirrhosis over a limited area in the epigastric notch, in the immediate neighborhood of the xyphoid cartilage, at a point so far above the lower border of the enlarged liver that it cannot depend upon currents in a varicose umbilical or circumumbilical vein. Such currents may, in some instances, arise in varicose coronary veins while in others the seat of origin is probably in anastomoses between the roots of the internal mammary and the inferior deep epigastric vessels, very possibly to the entrance into these latter veins of an enlarged parumbilical xyphoid vein of Braune.

2. **Diagnosis of Duodenal Ulcer.**—Cheney says that recognition of duodenal ulcer depends largely on the clinical history. The site of pain is the epigastrium, high up toward the ensiform process, and near the middle line. From this situation the pain radiates through to the back, to one or the other side of the spine; sometimes it is felt in the back even more severely than in the epigastrium; usually it runs straight through. In character and intensity the pain is severe, but does not compare with that of hepatic or renal colic, nor is it colicky or intermittent like these; patients describe it as aching or dragging or piercing, but in most instances as not unbearable. One of the most char-

acteristic features about the attacks in duodenal ulcer is the time at which the pain occurs with reference to meals; it is several hours, as a rule, three or four at least, after food is taken. Often the attacks come in the night, about midnight or at one or two in the morning, waking the patient from sleep. If they come during the day, it is late in the forenoon or afternoon, as the patient grows hungry for the next meal. In duration the attacks are variable, depending upon what is done to relieve them. An hour, or several hours, may pass without relief, the pain coming gradually and going gradually, if left to take its own course. Relief may be obtained in several different ways, which the patient has usually discovered for himself. The most characteristic method is by the taking of food, so that patients learn to have food of some kind at hand, to eat if an attack comes on at night. In other cases, sodium bicarbonate taken freely will afford relief. In still others, drinking freely of water suffices. In all cases, external application of heat is grateful. Associated symptoms are unusual with the pain of uncomplicated duodenal ulcer; there is no nausea, no vomiting, no sweating. Subsequent bad effects are likewise unusual; the epigastrium may be left tender for a day after the attack is over, but the appetite is good, the digestion unimpaired, and the general health as satisfactory as before.

6. Organs of Internal Secretion. — Hoskins speaks of the interrelation of the thyreoid and adrenals, the thyreoid and pituitary, the thyreoid and the sex-glands, the thyreoid and thymus, and the thyreoid and pancreas. Most of the available evidence indicates that the thyreoid stimulates the adrenals. Hypothyreoidism causes hypertrophy in the pituitary, probably due to a vicarious assumption of thyreoid function. It is fairly well demonstrated that there is a relation between the thyreoid and the sex glands, which are probably stimulated to normal activity by the former. The frequent association of abnormal conditions in the thyreoid and thymus points toward a relationship between them, but definite evidence upon the point is meagre and conflicting. The theory that the thyreoid inhibits the pancreas is probable, but more data are needed.

8. Congenital Syphilis of the Heart.—Warthin remarks that congenital syphilis of the heart occurs most frequently in the form of a diffuse interstitial myocarditis, due to the presence of the *Spirochæta pallida* in large numbers, without ordinarily producing characteristic microscopic changes, so that the absence or presence of congenital cardiac syphilis can be told only by a thorough microscopical examination of the heart wall.

9. Salvarsan.—Goldenburg and Kaliski, from their observations, conclude that the indications for the use of salvarsan cannot be absolutely formulated, but they believe that fresh cases of syphilis should be given the benefit of treatment with "606" provided there are no contraindications. Cases of malignant lues, those refractory to mercury, or having an idiosyncrasy to it, and patients with [illegible] of vital and important structures, where a rapid dissolution of the lesion is necessary to save life or prevent marked destruction of tissue, are proper cases for the use of salvarsan. At the present time they do not believe that every case of lues with a positive Wasserman reaction, but without manifest symptoms of the disease, should be given salvarsan, in view of the fact that a large number of the cases treated with the drug persist in giving a positive Wassermann reaction months after the lesions have disappeared. The idea of a therapia sterilisans magna, which, as Unna says, is a royal thought, worthy of Ehrlich, will, they fear, have to give way to a sterilisans fractionata. That the spirochætæ in the superficial lesions have been demonstrated to disappear within twenty-four hours in many cases, they can testify to, but that they can be removed from the body as a whole in one coup, especially with the present mode of application and dose, they believe to be unattainable.

JOURNAL OF EXPERIMENTAL MEDICINE.

[illegible]

Præcox, By W. Koch.

2. The Blood Supply of the Kidney. V. The Influence of the Vagus Nerve upon the Vascularity of the Left Organ, By R. Burton-Opitz and Daniel R. Lucas.
3. Calcium Metabolism in a Case of Infantile Tetany, By Howard D. Haskins and H. J. Gerstenberger.
4. Observations on the Succus Entericus, By Herman O. Mosenthal.
5. On Absorption from Intramuscular Tissue, [illegible]
6. The Relations of the Interstitial Cells of Leydig to the Production of an Internal Secretion by the Mammalian Testis, By Frederic M. Hanes.
7. A Histological and Chemical Study of the Fatty Matter of Normal and Cryptorchid Testes, By Frederic M. Hanes and Jacob Rosenbloom.
8. The Cultivation of the Leprosy Bacillus from the Human Tissues with Special Reference to the Amino Acids as Culture Media, By Charles W. Duval.
9. The Experimental Production of Leprosy in the Monkey (Macacus rhesus). By Charles W. Duval.
10. Chemoimmunological Studies on Localized Infections. Second Paper, By Richard V. Lamar.
11. Cultivation of Tissues in Vitro and Its Technique, [illegible]

1. Chemical Study of Brain in Dementia Præcox.—Koch states that chemical studies so far made have shown the existence of a peculiar change in the chemical composition of the brain, consisting of a deficiency in the metabolic or chemical activities of the nervous system, the exact interpretation of which is at present impossible, and probably will remain so until this change is produced experimentally. The foundation for the deficiency here met with lies, probably, in some disturbance occurring during early or embryonic development, as a result of which the brain fails to acquire its full metabolic activity and recuperative power. Such a nervous system can meet simple conditions, but when subjected to the strain of adolescent life it gradually deteriorates, producing the chemical differences observed. This view supplies a chemical or metabolic basis for the idea expressed by Kraepelin, and in a manner supplements the anatomical view elaborated by Bolton; namely, that deterioration of the nervous system cannot take place unless there is an underlying instability of the neurone. He has made chemical observations with sulphur, and finds that the chemical analysis [illegible]

variation in the neutral sulphur fraction; in other words, a difference in chemical composition of a nature not so far observed in other forms of insanity, or in cases free from mental disease. Because of the chemical relationship of this group of sulphur compounds to a similar group in the urine, and in view of the suggestion of Folin that in the urine this group may bear some relation to tissue metabolism, he concludes that in dementia præcox there exists a condition of metabolic deficiency. He believes that the absence of demonstrable macroscopic or microscopic anatomical changes in the brain of these cases gives to this chemical finding an especial significance.

4. **Succus Entericus.**—Mosenthal states that nitrogen equivalent to about thirty-five per cent. of the nitrogen intake, though not necessarily derived directly from it, is daily secreted in the succus entericus in dogs on a mixed diet; about ten per cent. is excreted in the fæces, and about twenty-five per cent. is reabsorbed. The amount of reabsorbed nitrogen containing material is considerably larger if the bile and pancreatic secretions are included. The metabolic significance of this reabsorption can only be surmised. That it is probably of great importance is indicated by the fact that in his experiments the amount of nitrogen reabsorbed equaled approximately twenty-five per cent. of the nitrogen intake.

5. **Absorption from Intramuscular Tissue.**—Auer and Meltzer have carried out a series of experiments which show that injections of adrenalin or other substances into the lumbar muscles of rabbits are followed by a rapid absorption in whole or in part of these substances. The rapid absorption is not due to the needle being within a vein or to the tearing of veins by the needle during its insertion. Similar injections into gluteal muscles failed to give reliable results.

8. **Cultivation of the Lepra Bacillus.**—Duval states that in the cultivation of *Bacillus lepræ* the initial multiplication outside the body cannot be obtained unless amino acids are present in the medium. The amino acids are believed to be essential nutritives for the initial growth of the organisms. It has been demonstrated that the primary growth of the leprosy bacilli occurs only in the presence of the products of tryptic digestion. Hence, putrefactive and other bacteria which are capable of splitting nucleoproteids into their end acid products are, in consequence, of value in the isolation and cultivation of the leprosy bacilli. Amœbæ are not necessary for securing the primary multiplication of the leprosy bacilli upon artificial media and are detrimental since they feed with avidity upon the bacilli themselves. Two methods may be employed for recovering in culture *Bacillus lepræ* from the tissues. In one (the direct), tryptophane or a mixture of albumin and trypsin are employed with a culture medium; in the other (indirect), bacterial species capable of digesting the albumin constituent of the culture medium are introduced into the medium. In both, the end result is identical, since they both provide for the presence of the amino acids in the medium, without which the primary multiplication of the leprosy bacilli cannot be secured.

MILITARY SURGEON.

1. Blank Forms for the Internal Administration of Army General Hospitals, By Thomas L. Rhoads.
2. Camp Wikoff, Montauk Point, New York, in 1898, By Ira C. Brown.
3. The Prevention of Typhoid Fever, By F. R. Keefer.
4. The Ethics, Scope, and Prerogative of the Army Medical Officer, By L. Mervin Maus.
5. Report on an African Trip, By W. W. Roberts
Report of Cases [illegible] Camp Overton, Mindanao, P. I., By O. Weston

2. Camp Wikoff, Montauk Point, New York, in 1898.—Brown answers Dr. Nancrede's article in the *Military Surgeon* of June, 1910, in reference to the condition of Camp Wikoff, Montauk Point New York, after the close of the Spanish-American war.

5. Report on an African Trip.—Roberts reports his trip to Africa which was undertaken to obtain a general view of the method of European powers dealing with African sanitation problems, especially trypanosomiasis. The problem of prophylaxis is tremendous and apparently hopeless. The actual work is chiefly included in the herculean task of clearing jungle and the detection of existing cases as early as possible, with segregation of infected individuals and removal of communities to fly free areas. For this purpose medical officers of the government service are stationed in the localities where they will be able to inspect traveling natives to the best advantage. Tours of inspection are frequently made through possibly infected countries. Their chief diagnostic method seems to be palpation of the cervical lymphatics. In cases where the glands are palpable, microscopical examination of blood and gland juice is done. In cases with nonpalpable glands and without febrile symptoms nothing further is done. Those found infected are sent to the segregation camps for treatment and isolation. Treatment appears to be very unsatisfactory so far. Hodges in Uganda threw a wet blanket on previous ideas by recently saying that nervous symptoms such as paralysis, paresis, and epileptiform seizures which were formerly uncommon among untreated patients are now very frequently met with and are undoubtedly due to arsenical treatment. Tendencies to sudden loss of vision have also caused greater care in the use of arsenicals. The drugs used at present are all in an experimental stage—the perfect cure has yet to be discovered. Arsenic in the form of one of its organic salts seems to be the best so far in the opinion of the majority. Atoxyl, the sodium salt of paraaminophenylarsonic acid, is preferably administered by Broden and Rodhain's method, 0.5 gramme by intramuscular injection every fifth day. Atoxyl was also given by them by mouth in incipient cases and injections substituted in the absence of prompt improvement. Injections of the drug into the spinal canal are not approved of. It is a generally accepted fact in Africa that arsenicals must not be administered in the form of frequent small doses, a tolerance for the drug by the trypanosomes being established thereby. A similar preparation to atoxyl, but said to be less poisonous, is soamin, sodium paraaminophenylarso-

nate, and its chemical formula is identical with atoxyl. The methods of administration are the same. Other drugs advocated by different men are orpiment, the colloidal trisulphide of arsenic arsacetin, the acetyl derivative of arsanilic acid, arsenophenylglycin, is generally accepted as the most promising of the organic arsenicals at the present time. Doses of one gramme are said to be borne by man. The subcutaneous or intravenous administration of antimony salt does not appear to give satisfaction. Broden and Rodhain seem to approve administration of antimony salt (tartar emetic) with an arsanilate. Treatment by dyes is not considered beneficial, nor is the treatment by cold, as proposed by the Liverpool School of Tropical Medicine, accepted.

ANNALS OF SURGERY

March, 1911.

1. Parathyreoid Implantation in the Treatment of Tetania Parathyreopriva, By W. H. Brown.
2. Gastrostomy as a Curative Measure *per se* in Non-malignant Strictures of the Œsophagus, By Joseph Rilus Eastman.
3. Operative Treatment of Wounds of the Heart, By G. W. W. Brewster and Samuel Robinson.
4. The Importance of Preserving the Gallbladder in Operations upon the Gall Passages, By [illegible]
5. Retroperitoneal and Mesenteric Cysts of a Simple Nature, By George Henry Makins.
6. The Abdominal Incision—The Removal of the Wedge of Skin and Fat to Facilitate Intraabdominal Operations, By Howard A. Kelly
7. Supernumerary Kidney Subject of Cystadenoma, By Farrar Cobb and Harold G. Giddings.
8. The Damage Done to the Kidney by Operation, By James E. Moore and J. Frank Corbett.
9. Empyema of the Ureter, By H. A. Fowler
10. The Control of Urinary Drainage after Cystotomy, By H. H. Sinclair.
11. The Technique of Median Perineal Prostatectomy, By [illegible]
12. An Operation for Stiffening the Knee Joint, By Russell A. Hibbs.
13. Intussusception in the Adult, By Stephen H. Watts.

1. Tetania Parathyreopriva.—Brown reports a case of tetania parathyreopriva in which parathyreoid implantation was performed. He thinks that the case proves that removal of the parathyreoids brings about a morbid condition, of which attacks of tetany are one of the most striking manifestations. Also that no remedy of those he used really ameliorates this condition, except the administration, in some way, of parathyreoid. There is no hope of the permanent cure of this morbid condition apart from the successful implantation—successful in the sense of their permanent reception and life and growth as part of the body—of parathyreoids from another body. Haberfeld and Schilder in very recent work, whose main result was to show that accessory parathyreoids may exist in the thymus gland, found in three instances (in rabbits) where they gradually at intervals, removed, as they considered, every bit of parathyreoid tissue, that the animals ultimately recovered. This they take to show that the very gradual withdrawal of all parathyreoid tissue from the body is not necessarily fatal. This is the only evidence he has been able to find that the body can ever adapt itself to do without the parathyreoids. Experiments point unmistakably toward the probability of the parathyreoids being indispensable to health. A most vivid example is one of Halsted's experiments, where cachexia parathyreopriva, having been artificially produced, was cured by a successful implantation of one parathyreoid in a dog. Some time later this body was dissected out, with the result that the dog died in tetany within twenty-four hours. On the human or clinical side, Ochsner, having earlier conceded great value to calcium, sums up the whole matter by asserting that the parathyreoid bodies are essential to life and that their loss can only be made good by their reinstatement, i. e., successful implantation. In his own case, he believes that the implantation of the monkey parathyreoids was the first measure which with any permanence put the patient in a better condition.

3. Wounds of the Heart.—Brewster and Robinson observe that the diagnosis of heart injury is usually difficult. Heart wounds rarely exist without pleural or lung involvement. Operative rather than expectant treatment is indicated in a large proportion of the cases. Osteoplastic flaps should not be employed. Intercostal incision, with or without subsequent division of ribs, is the preferable method of approach. In certain cases the heart wound may be of sufficient size to permit violent hæmorrhage at the time of suture. In such cases interrupted manual compression of the superior and inferior cavæ may be a possible safe procedure; the profuse hæmorrhage without this compression is of greater danger. Differential pressure with apparatus is by no means a *sine qua non* in all operations for wounds of the heart and lungs. It is, however, a valuable agent to control the respiratory function, to regulate the heart beat, and to reinflate the lung at the end of the operation. Air tight closure of the pleural cavity with reinflation of the lung should be employed when possible; the intercostal incision followed by a pericostal stitch is a successful method of securing tight closure. Drainage of the pericardium is unnecessary.

8. Damage to the Kidney by Operation.—Mave and Corbett conclude from their experiments that an operation upon the kidney always destroyed some kidney substance. The section of the kidney did less harm than the suturing necessary to control hæmorrhage. Suture of the capsule alone was not sufficient to control the hæmorrhage and is therefore dangerous. Mattress sutures destroyed a great deal of the kidney substance, and the enlargement of the unoperated kidney after a short time was due to congestion from overwork and not to increased kidney substance, showing that the sum total of kidney substance is reduced by an operation. The destruction of kidney substance extended far beyond the field of operation. The functional activity of the operated kidney was somewhat reduced, and this resembles the finding in a contracted kidney due to other causes. Interrupted sutures transfixing the kidney at the pyramidal line and tied around the body of the kidney did the least damage, and this method therefore is the method of suture to be recommended.

Proceedings of Societies.

PHYSICIANS OF PHILADELPHIA.

SECTION IN GENERAL MEDICINE.

Meeting of Monday, November 28, 1910.

Dr. J. HUN C. DACOSTA, Jr., in the Chair.

Hæmorrhages Occurring within a Brief Period in a Group of Cases of Pulmonary Tuberculosis.—Dr. CHARLES M. MONTGOMERY said that at the Home for Consumptives at Chestnut Hill, during a period of three weeks, from September 30 to October 20, 1909, fourteen cases of hæmorrhage had developed among sixty-six tuberculous patients, mostly far advanced. About three fourths of the sixty-six were females and one fourth males. Of the fourteen, eight had only streaky sputum and six expectorated pure blood, the latter all females. In three of these death took place immediately as the result of the hæmorrhage. One of these immediately fatal hæmorrhages occurred during menstruation. This was an unusual mortality, considering the relative infrequency of immediately fatal hæmorrhages among women. Another advanced patient had a hæmorrhage of twenty-four ounces and died twenty-five days later, without any recurrence of hæmorrhage. An epidemic origin was suggested for this as for other similar outbreaks. No record was made of the atmospheric conditions at the time, except that both the rainfall and temperature were below the average for this particular time of year.

Dr. M. HOWARD FUSSELL recalled four cases of fatal pulmonary hæmorrhage in tuberculosis. The first case was that of a colored man far advanced in tuberculosis in whom a profuse hæmorrhage came on very suddenly. The speaker saw him in the morning and gave a rather favorable prognosis. He was dead at about four in the afternoon. Another case was that of a boy, who had been out walking and came in spitting a little blood. This had often occurred before. Before the family could get him upstairs he was dead from a very profuse hæmorrhage. A third case was that of a boy who had long been ill, but who had improved. He had a very severe hæmorrhage, like one which he had had before, but this one was fatal. The fourth case was that of a young woman seen about a year ago. She had been coughing up blood in small amounts for about a week. She had a lesion of one apex unquestionably. The speaker gave a good prognosis. The doctor called him up some time after and said that the young woman had been seized with violent hæmorrhage and had died within a few hours.

Dr. NORMAN B. GWYN said that, bearing upon the question of infection, last summer a man in the best of shape in regard to tuberculosis was taken with mumps, and within twenty-four hours of the onset he had three very furious hæmorrhages. The hæmorrhages quickly subsided, as did the mumps, and at present he is little the worse for the attack. He would like to ask Dr. Montgomery whether he had any records of the length of time that some of these hæmorrhages persisted. He had had to deal with a case of continuation of hæmorrhages from the 25th of May. The sputum was clear for the first time on the 14th of September.

Dr. JAMES TYSON would like to ask Dr. Montgomery whether he had any data as to which lung the hæmorrhage came from. In his experience this determination was not easy.

Dr. ALBERT P. FRANCINE said that as to blood spitting as an evidence of acute bronchitis and other nontuberculous conditions, this was contrary to his experience. He believed there was blood spitting in nearly all these cases and that nearly all the patients were tuberculous. He believed that a man with a pair of healthy lungs, if he had a bad bronchitis, did not spit blood. He had frequently observed such a history as Dr. Montgomery mentioned, the relief of the pain and general malaise upon the occurrence of hæmorrhage. He had two patients now who from time to time had had these attacks. They could always tell when a hæmorrhage was coming on and they felt better when it was over.

Dr. JAMES M. ANDERS thought that Dr. Montgomery's explanation that this small epidemic of hæmorrhages was due to some unknown infection was probably correct. He was interested to know whether there was not some change in the physical signs prior to the occurrence of hæmorrhage. The cases of hæmorrhages that he had seen show an aggravation of symptoms and some evidence of consolidation or at least of marked congestion.

Dr. JAMES E. TALLEY said that, judging from the experience of general hospital wards, it seemed to him that there was a distinct relationship between the occurrence of hæmorrhage in these incipient, ambulatory cases and the occurrence of acute respiratory infection. In connection with these cases mentioned by Dr. Montgomery, in which hæmorrhage occurred in the early morning hours, he had been thinking of the interesting observations made with the sphygmomanometer, showing the variations in blood pressure, and that in the early hours of sleep the arterial pressure was not under the same control as later. In this connection, with a patient waking at 11 or 12 o'clock, an occasional dose of nitroglycerin or codeine had been found useful.

Dr. MONTGOMERY said that none of these patients showed long periods of hæmorrhage. It was remarkable how little some of the patients seemed to suffer. He did not refer to the spitting of blood in bronchitis, but said that at the outbreak there were other patients who had bronchitis. Some of the textbooks referred to slight hæmoptysis in bronchitis.

Arrested Mental Development with Congenital Absence of Both Thumbs.—Dr. ALFRED GORDON reported a case with the following interesting phenomena: Although the patient was sixteen years old, her mentality was that of a child. She acquired knowledge very poorly and could not solve the simplest mathematical problems. She believed that the present President was Lincoln. She was, however, very tricky and shrewd and had abnormal moral tendencies; she liked to deceive, attack, break, and destroy. She was an inveterate masturbator. She did not hear well, although the auditory apparatus was normal. She had scotomata, although her visual organs were normal. She had at times vicarious menstruation (through the mouth or nose). She stuttered. She had a high arched palate, poor dentition, very small ears, which were cuplike, and

a very small head. The hands presented the most interesting peculiarity. She had five fingers on each hand, but no thumbs. The thenar muscles were exceedingly poorly developed (skiagraph shown). The third toe on each foot was of one third the size of the other toes. The father was alcoholic and perhaps syphilitic, as the mother had had multiple miscarriages. Four other children were arrested in their mental development. As the girl showed sensual proclivities, the mother contemplated marriage for her. This question was certainly a very important one from a sociological standpoint. Should she be permitted to get married, the community would undoubtedly suffer the consequences. Castration in this girl would be the most urgent and most humane procedure.

SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

Twenty-third Annual Meeting Held in Nashville, Tenn., December [illegible], [illegible] and [illegible], 1910.

The President, Dr. W. O. Roberts, of Louisville, in the Chair.

(Concluded from page 446.)

Some Suggestions Relative to the Preparatory Operative and Postoperative Treatment of Cases of Acute Intestinal Obstruction.—Dr. John Young Brown, of St. Louis, stated in this paper that an analysis of the records of fifty-nine cases of acute intestinal (mechanical) obstruction coming under his care with the view of ascertaining the treatment received in each case prior to operation and the bearing this treatment had on the mortality had convinced him that the general profession had yet to appreciate that acute intestinal block was one of the gravest and most disastrous surgical emergencies, and that the outcome of a given case depended largely upon the time elapsing between the development of the condition and its relief by surgical interference. Of the fifty-nine cases recorded, twenty-seven required primary resection for gangrene of the bowel. All of these cases save one resulted from strangulation due to hernia, the exception being due to a gangrenous intussusception. Of these twenty-seven patients, five died, giving a mortality of a little over twenty per cent. In twelve cases the formation of an artificial anus was necessary. Three of these were for strangulated umbilical hernia, four for strangulated inguinal hernia, and five for acute obstruction due to malignancy. Of these twelve patients, six died, giving a mortality of fifty per cent. Twenty cases of strangulated inguinal hernia in which the contents of the sac were such that it could be returned to the abdomen resulted in the loss of one patient, a mortality of five per cent. The total mortality in the fifty-nine cases was a little over twenty per cent., a mortality entirely too high and largely due to conditions avoidable. The history of each case without a single exception showed that temporizing methods were resorted to prior to operation. He illustrated this by selecting two patients at random from the list, one operated on fifty-two hours after strangulation, the other seventy-two hours. Gangrenous bowel was found in each. Taxis, cathartics, and morphine, with hot applications to the abdomen had been used in each case, the cases being referred to operation as a last resort. That the general profession still used such methods was not to be wondered at. Surgery, to be successful, must recognize two factors always present in acute intestinal blocks. First, and least important, was the mechanical block in the bowel, the actual obstruction. The second, and incomparably the more severe, was the septic absorption from the distended, congested, and perhaps ulcerated bowel above the place of stoppage.

After urging careful preparation of the patient, with particular attention to the removal of the stomach contents by means of the stomach tube, he described a method of draining a distended bowel above after the constriction was relieved. In the treatment of gangrenous bowel found in the sac of a femoral hernia, he strongly advocated the use of a supplementary abdominal incision as possessing many advantages when it became necessary to resect the gut. In discussing the postoperative treatment of such cases, he advocated frequent washing of the stomach, the withholding of food by the mouth, and the use of salt solution both under the skin and in the rectum, and he condemned in strong terms such drugs as morphine and strychnine.

In cases where an artificial anus had been made, he urged the importance of attention to the passive bowel. He illustrated with the report of two cases how failure to attend to this point in the after treatment might result in a contracture of the small bowel to such an extent that it would complicate the work of restoring the intestinal continuity.

Cysts of the Pancreas.—Dr. Rufus B. Hall, of Cincinnati, detailed his further observations on this subject. (See *New York Medical Journal*, February 11, 1911.)

President's Address.—Dr. W. O. Roberts, of Louisville, delivered an address which was literary rather than scientific, and dealt biographically and historically with the names and achievements of the prominent men who practised surgery in the South before, during, and after the civil war. It covered the period of years between 1806 and 1892, from the pioneers of the first two decades of the nineteenth century to the few who survived and did work in the last two decades. These names might be divided into two, perhaps three groups. First, the pioneers; second, the general surgeons; third, the founders of the specialties. In the first were Walter Brashear, Ephraim McDowell, Charles McCreary, and Benjamin Winslow Dudley. These the author ranked as pioneers in American surgery. One of whom, Dr. McDowell, was an epoch making surgeon. The others in early days were conspicuous in the surgery of the South, and did marked and original work, adding much to the medical fame of Kentucky, which was the field of their labors. They were all accomplished physicians as well as able surgeons, and with wonderful industry, learning, and art, practised successfully medicine in its three great specialties, as laid down by Hippocrates, namely, medicine, obstetrics, and surgery. In those days little beyond minor surgery was done by the country doctor, and the physicians of the larger towns and villages sent their more

important cases to the cities, where the men named performed the necessary operations. The specialties of surgery during that period were merely taking form or being slowly differentiated, and it might be said that these men, while practising general medicine and doing high class surgery, did much of the work now done by specialists and, in short helped to form and differentiate the specialties. Some of them indeed were its real pioneers. The list being a long one, Dr. Roberts selected a few only for special comment. They were Hunter McGuire, Paul F. Eve, W. T. Briggs, Warren Stone, J. Marion Sims, Samuel D. Gross, and David W. Yandell. He gave a detailed biographical sketch of each of these surgeons. The speaker's peroration was reflective, retrospective, and eloquent.

Cancer of the Uterus.—Dr. REUBEN PETERSON, of Ann Arbor, Mich., described the technique of the radical abdominal operation for uterine cancer, based upon an experience with forty-four cases.

Dr. WILLARD BARTLETT, of St. Louis, presented an interesting series of lantern slides of distinguished surgeons of Great Britain, of the surgical clinics visited, of the operations performed by these surgeons, as witnessed by the members of the American Clinical Society.

Volvulus of the Cæcum.—Dr. HORACE J. WHITACRE, of Cincinnati, reported four cases of volvulus of the cæcum, and gave a brief statement as to the nature and frequency of the lesions. In one case a very movable cæcum and ascending colon had passed over in front completely around, behind the mesentery of the small intestine, and reappeared in the right side. This patient had suffered three previous similar attacks of obstruction of the bowel which had been relieved by enemata and position. This patient recovered after operation. Two other cases represented volvulus of the cæcum and ascending colon alone, gangrene having occurred in both. One of these patients recovered. A fourth suffered from volvulus of the cæcum and ascending colon, was operated upon in a very few hours, and made a prompt recovery.

Volvulus of the cæcum was among the least frequent causes of intestinal obstruction. It had occurred at all ages, from sixteen days to eighty years. The symptoms, as a rule, did not differ widely from those of intestinal obstruction from other internal cause. Some authors spoke of a false remission of symptoms after the first two or three days. The mortality was very high even in the patients operated upon (52.2 per cent.). The cases reported by the author seemed to present symptoms that were suggestive, namely, first, all suffered premonitory symptoms or previous attacks. Second, all cases presented primary symptoms in the region of the cæcum, and a localized distention first appeared at this point. The mortality in this group of cases was twenty-five per cent.

Pylorospasm.—Dr. STUART MCGUIRE, of Richmond, said that spasm of the pylorus, or pylorospasm, was not a disease, but a symptom. It might be caused by rapid eating, by indigestible food, or by an ulcer or other lesion of the stomach, but was most frequently the expression of some remote abdominal disease. How appendicitis or cholecystitis caused gastric symptoms had never been satisfactorily explained. It was believed that irritation transmitted to the stomach through the sympathetic nervous system caused an excess secretion of hydrochloric acid. The resulting hyperchlorhydria caused spasm of the pylorus, the pylorospasm caused retention of food beyond the physiological limit, and finally there came motor insufficiency, food stagnation, and dilatation of the stomach. The most prominent symptom of pylorospasm was a cramping pain in the epigastrium, which might last only a few minutes or might continue for several hours. In some cases the spasm might relax suddenly; in others it might terminate slowly and gradually. Some patients had attacks several times a day, others at intervals of weeks, and others still only once or twice a year. In the interval between attacks the digestion might be normal. During attacks peristalsis of the stomach was increased, but food could not pass through the pylorus, and often relief came only after vomiting. The patient usually dieted strictly, and lost flesh and strength steadily from starvation and autointoxication. In no other class of patients, with possibly the exception of epileptics, was it necessary to be so thorough in preliminary examination and so patient in postoperative treatment. The real cause of the condition must be found, and after it had been removed the patient must be systematically treated until the supersensitiveness of the pyloric muscle was relieved and its spasm habit overcome.

After reporting an interesting case, Dr. McGuire emphasized the following points: 1. The necessity of distinguishing between gastric symptoms due to organic disease of the stomach and those reflected from other organs. 2. The impropriety of doing gastroenterostomy for spasm of the pylorus. 3. The advisability at the time of operation of examining all the abdominal organs and correcting every abnormity, lest the obvious might not be the real cause of the symptoms. 4. The importance of the postoperative treatment of patients to overcome the spasm habit of the pyloric sphincter.

Tumors of the Jaw.—Dr. WILLIS F. WESTMORELAND, of Atlanta, presented the pictures of a type of tumor that, so far as his clinical experience went, had practically disappeared. He had not seen one in years. This type of tumor seemed to have occurred almost exclusively in the negro. Of thirty-eight patients operated upon by his father, only one was white. In the five cases occurring under his observation, all were in the negro. Among us these cases were known as fibrocystic tumor; this title very closely described the gross clinical appearance of the tumor. In reviewing the literature of this subject Dr. Westmoreland said: "I am not able to place it, though it seems to conform more closely to the species of follicular odontoma of the genus odontomata in Bland Sutton's classification. I would class it as an anomalous form of this species. I should judge they belong to the follicular rather than the epithelial odontoma, although they have never shown malignancy, while the epithelial type occasionally did." Clinically the tumors presented a uniformly well rounded mass, the surface of which felt hard and dense to the touch. Firm pressure upon the tumor with the fin-

gers would always at some point elicit a distinct crackle; that was characteristic, as in a way diagnostic, though not positively so as it occurred in other species of odontoma.

In a research of the literature of tumors of the jaw, which up to a few years ago were classified under the generic term of dentigerous cysts, the essayists had probably had the same trouble as he had, seeing them in their later development and being unable to classify them properly. But in the negro one fact seemed to be true, and that was, no matter what the original type, the later development was always along the same line.

Transfusion in Pellagra.—Dr. H. P. Cole, of Mobile, presented a review of twenty cases of this disease, and then drew the following conclusions: In transfusion in twenty cases of pellagra there had been observed no ill effect resulting directly from the operation. We might safely resort to transfusion in the severe type of case, steadily retrogressing under approved therapeutic procedures. No advantage had been noted in the employment of a donor who had recovered from pellagra as compared with the donor who had never had pellagra. There was apparently no advantage in the use of a relative for a donor. The recoveries following transfusion in the grave type of cases (sixty per cent.) compared most favorably with the recoveries (ten to twenty per cent.) in the same type of cases in which other therapeutic measures were employed. The employment of transfusion in the terminal stages of pellagra must be undertaken with a full knowledge of the difficulties and dangers of the operation. Without careful selection of the cases and unprejudiced conclusions, this procedure would fall into an undeserved ill repute.

The Causal Relationship between Injury and Cancer.—Dr. William B. Coley, of New York, stated that in a previous paper he had published an analysis of 170 cases of sarcoma that had come under his personal observation, and no clinical feature of the disease had impressed him more strongly than the frequent association of trauma with its early manifestations. In forty-six of these cases there was a definite history of antecedent trauma. Since this paper was written he had observed 740 additional cases of sarcoma, making a total of 910 cases. In 236 cases (twenty-six per cent.) there was a definite history of antecedent trauma. The interval elapsing between the injury and the development of the trauma was less than two weeks in sixty-three cases (twenty-seven per cent.); less than a month in ninety-seven cases (forty-two per cent.); the tumor occurred within the first six months in 137 cases (sixty per cent.). The disease originated in the bone in 111 cases (forty-seven per cent.) and in the soft parts in 125 (fifty-three per cent.). In making a study of all his cases of carcinoma, he presented an analysis of 125 cases of carcinoma of the breast. In these there was a definite history of previous injury in fifty-two cases, or forty-one per cent. In five of these the tumor was noted within a week after the injury, in twelve cases within the first few weeks, in nineteen within the first month, and in thirty-six within the first six months. He further presented three cases that [illegible] filled the strict scientific test which Segone required, namely, that a medical examination had been made of the parts by a competent surgeon prior to the accident. He did not attempt to offer a complete explanation of the influence of injury upon the development of malignant tumors, but said that he personally believed more strongly with increasing experience that all types of malignant tumors were of extrinsic origin or parasitic.

Officers.—The following officers were elected for the ensuing year: President, Dr. Rudolph Matas, of New Orleans; vice-presidents, Dr. Guy Leroy Hunner, of Baltimore, and Dr. J. Garland Sherrill, of Louisville; secretary, Dr. William D. Haggard, of Nashville; treasurer, Dr. William S. Goldsmith, of Atlanta.

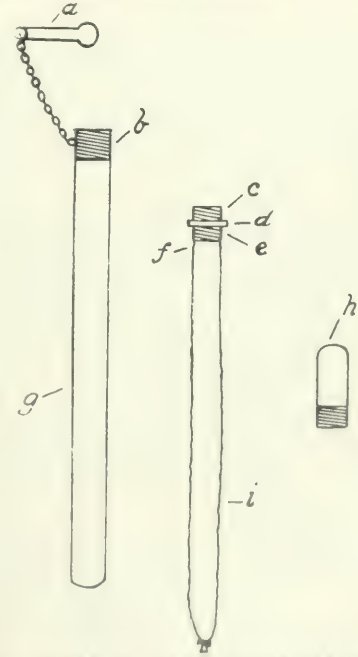
Washington, D. C., was selected as the place for holding the next meeting, in December, 1911.

New Inventions.

Aseptic Thermometer Case.

By F. W. Bremer, M. D.,
Pittsburgh, Pa.

I wish to suggest to the readers of the *New York Medical Journal* a new form of thermometer case which would always keep the thermometer aseptic. I think any concern would manufacture it if there was a demand for such an article.



As shown in the accompanying illustration, it consists of an outer casing made large enough to allow a wick or gauze "stocking" being inserted. At the top this stocking is fastened to a threaded collar, which fastens on the casing and prevents it from slipping down.

This stocking is made thick and porous enough to hold a quantity of forty per cent. solution of formaldehyde by capillary attraction, which would keep the thermometer aseptic at all times, both by contact and by its fumes. Before and after using the thermometer, it must be rinsed and dried. The formaldehyde must be replenished from time to time, of course. In order to wash and boil the stocking when it becomes dirty or soiled, the collar is made detachable; i. e., with two threads, one for the casing, the other for the cap, and having a flange between the two. The thermometer might be fastened to the cap or not, as desired. The casing might be fastened to the pocket by a chain and pin, or by a suitable clip. The sizes of the different parts might be made to suit the need of the particular thermometer.

717 FIRST STREET.

Book Notices.

[*We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.*]

The Hygiene of Infancy and Childhood and the Underlying Principles of Physiology. By [illegible], M. D., F. R. C. P. (Edin.), Extra Physician to the Royal Hospital for Sick Children, Edinburgh. New York: William Wood & Co., 1910. Pp. xi-289. (Price, $2.50.)

The author of this book is a practitioner in Edinburgh, who has been for quite a number of years a specialist in pædiatrics. He contributes a valuable addition to the great number of first class books dealing with the clinical and therapeutical aspects of the diseases of childhood. Without going too much into detail, the book gives a very good review of our knowledge in pædiatrics, so that it can be well recommended to the busy general practitioner. It is divided into five parts, each containing a number of chapters, and there are treated the food factor, the factor of heredity, of environment, the bacterial factor, and the factor of age. This last part should receive special attention, as it gives very good views on the subject.

Emanuel Swedenborg's Investigations in Natural Science and the Basis for his Statements Concerning the Functions of the Brain. By MARTIN RAMSTRÖM. Till Kungl. Vetenskaps-Societeten I Uppsala vid dess 200 Årsjubileum at Uppsala Universitet den 19 November, 1910. Uppsala, 1910. Pp. 39

The author invites attention to the fact that the versatile Swedenborg was an early exponent of cerebral localization, holding that it was the cerebral cortex to which the impressions of the senses were carried and that from it the voluntary impulses were sent out to the muscles. He wrote: "The muscles and actions which are in the ultimates of the body, or the soles of the feet, seem to depend more immediately upon the highest parts (of the anterior region of the brain), the muscles which belong to the abdomen and thorax upon the middle lobe, those which belong to the face and head upon the third lobe; for they (the muscles of the body and the lobes of the brain) seem to correspond to one another in inverse order."

The author of the monograph seeks to show that Swedenborg concluded that the centres of the psychical functions were found in the cortex from published clinical observations, post mortem discoveries, and results obtained from experiments on animals; from the then recent discoveries in microscopical cerebral anatomy; and from the hypothesis of the continuous connection between the cortical elements and the fibres of the cerebral medulla. He agrees that the detailed doctrine of localizations seems to have been constructed with the assistance of Vieussens's statements concerning the connection of the nerves with the various regions of the cerebral medulla.

Swedenborg also suggested that "cerebellula" were the units of which the brain was in reality composed, and that the function of the cortex was essentially the summing up of the activity of the cerebellula, which were connected with one another into various kinds of groups, corresponding to the various kinds of perceptions. This is an elementary phase of the neurone theory. The book is well printed and is an interesting contribution to medical history.

A Manual of Nursing. By MARGARET FRANCES DONAHOE. Formerly Superintendent of Nurses, and Principal of Training School, Philadelphia General Hospital. Illustrated. New York and London: D. Appleton & Co., 1910. Pp. x-480

There is not, to our knowledge, a medical publishing house in the United States which has not brought out one or more manuals of nursing. Miss Donahoe's addition to the list of books on nursing is a very good one. We can recommend it, not only for the use of the nurse, but also for perusal by the mother and wife.

The Nonsurgical Treatment of Duodenal Ulcer. By GEORGE HERSCHELL, M. D. (Lond.), Lately Senior Physician to the Kensington General Hospital and to the National Hospital for Diseases of the Heart, etc. London: Henry J. Glaisher, 1910. Pp. 39

The author has reprinted an article that appeared in the *Clinical Journal*, in which he holds that the chief reason for want of success in the treatment of duodenal ulcer by medical means is the neglect to make use of recent scientific work.

Where there is any marked interference with the passage of food along the duodenum or immediate danger to life from hæmorrhage or perforation, actual or impending, surgical measures are essential. Where these symptoms are absent, medical treatment may meet with success.

The patient should be put to bed for three weeks, and after that period he should lie down for an hour after each meal. The author thinks that these ulcers are caused by the direct action upon the intestinal wall of trypsin and other proteolytic ferments contained in the digestive fluids, in health the walls being protected against these ferments by antienzymes and antilysins in the blood serum. These antibodies may be diminished in amount or absent, and the duodenum is vulnerable. The antibodies are affected by the existence of pyorrhœa

alveolaris, autointoxication from the intestinal tract, and anæmia; and any or all of these conditions must be eliminated in treatment. The methods advocated are very interesting and suggestive, and commend themselves as safe and practicable. The paper was well worth reprinting so that it could be more generally accessible.

Verhandlungen des [illegible]. Herausgegeben im Auftrage des Vereins vom Schriftführer [illegible]. Curt Kabitzsch, 1910. Pp. [illegible].

The seventeenth annual meeting of the Society of German Laryngologists took place at Dresden, May 11 and 12, 1910, and its report appears only five months later, when the meeting and the papers read are still vividly remembered by the participants. Besides the usual business reports, bylaws, and list of members, we find twenty-six papers actually read and four papers read by title (time did not permit the reading in full).

The Modern Treatment of Alcoholism and Drug Narcotism. By C. A. McBride, M. D., L. R. C. P. and S. (Edin.) New York: Rebman Company, 1910. Pp. vii-376. (Price, $2.)

This seems to be a very timely book. Without question, alcoholism and drug narcotism are gaining ground. This has been noticed by law makers and physicians alike. But while laws may restrict or regulate the traffic in alcohol and narcotics, the physician will always be called upon, even under the strictest surveillance by the government, to treat the victims. The author pays special attention to alcohol and goes fully into detail as to ætiology and therapeutics, but the treatment of drug addiction is somewhat disappointing. He speaks of the treatment of the morphine habit on only five pages and then makes a sweeping statement as to cocaine paraldehyde, chloral, sulphonal, trional, and veronal habits, of which he says the treatment is "similar to that of morphine." That may be our author's experience, who is a well known Scotch physician, but the cocaine habit in the United States, especially in our large cities, has increased enormously, notwithstanding strict surveillance by the States; and the American practitioner is therefore very much interested in this question; we thus find in our medical journals many valuable contributions on the subject. The chapter on opium inebriety is very satisfactory, and the same can be said of the coffee and tea habits.

Die Krankheiten der warmen Länder. Ein Handbuch fur Aerzte. Von Dr. B. Scheube, Geh. Medizinal-Rat in Greiz. Vierte, umgearbeitete und erweiterte Auflage. Mit [illegible] Figuren im Texte. Jena: Gustav Fischer, 1910. Pp. viii-[illegible].

That such a large work on a specific subject needs four editions in fourteen years speaks well for it. The author has practised medicine for a number of years in Japan and has traveled extensively through Asia. The book is divided into six parts, and we find in Part I general infectious diseases (malaria, trypanosomiasis, kala-azar, frambœsia, plague, Malta fever, [illegible] beri, etc.); intoxication diseases (pellagra, poison by snakes, lacquer poisoning, etc.); diseases from animal parasites; diseases of certain organs; dermatological diseases; and, finally, cosmopolitan diseases of the tropics. The author has added to each chapter a very thorough literature, which is of great value to a man studying certain topics; for example, the literature of malaria in the tropics runs through fifty pages, set in small type, and not only gives special reference to the books written in German, but is complete in every respect. It will be impossible here to go into detail in reviewing this work, but we wish to recommend it to our readers. The book is written in a German which is plain and distinct, and a physician who has some knowledge of German can easily understand the contents. To hope for an American edition would, we think, be in vain, as the expenses would be too large. The book contains valuable nosogeographical charts and the illustrations are well executed.

Die Krankenkost. Ein praktisches Handbuch für Aerzte, Kranken- und Wohlfahrtsanstalten, Sanatorien, Pflegepersonen, Erziehungsanstalten und für die Familie. Von Emilie Kieslinger, Wien, und Dr. Karl Wirth, Wien. [illegible] Pp. [illegible].

The feeding of the sick is a very important question, and this has been recognized by authors and publishers alike. We have, therefore, quite a number of manuals on the subject, while the textbooks of diseases usually contain a large addendum treating of it. The book before us is a valuable addition to these manuals, and contains many good hints on the general subject, although the cooking referred to is specifically Austrian and could not therefore always be adapted to our American dietary.

Tuberkulose. Für Aerzte und Studierende. Von Dr. [illegible] heim in Schömberg bei Wildbad, und Dr. Roepke, Chefarzt der Eisenbahnheilstätte Stadtwald in Melsungen bei Cassel. 5. erweiterte und verbesserte Auflage. Mit einem Vorwort von Wirkl. Geh. Rat Prof. Dr. R. Koch, Exzellenz. Mit 19 Temperaturkurven auf 5 lithographischen Tafeln, 1 farbigen lithographischen Tafel, und 4 Textabbildungen. Würzburg: Curt Kabitzsch, 1911. Pp. xii-292.

Die Klinik der Tuberkulose. Handbuch der gesamten Tuberkulose für Aerzte und Studierende. Von Dr. B. Bandelier, Chefarzt der Lungenheilanstalt Schwarzwaldheim in Schömberg bei Wildbad, und Dr. O. Roepke, Chefarzt der Eisenbahnheilstätte Stadtwald in Melsungen bei Cassel. Würzburg: Curt Kabitzsch, 1911. Pp. x-266.

We reviewed the first edition of the textbook of specific diagnosis and therapeutics of tuberculous disease in our issue of April 11, 1908. The fifth edition lies now before us; the fourth appeared only half a year ago and was mentioned at that time in our book notices. From 113 pages the book has grown to 292; the bibliography has increased from seventy-three reference works to 284, all published in German with the exception of eighteen! That the book is appreciated by the medical profession is shown by the fact that it has appeared in eight languages. We cannot add much to what we said in our former reviews, April 11, 1908, October 16, 1909, and April 23, 1910.

At the same time, when the fifth edition of the specific treatment is published, the authors bring out the first edition of a new book which comprises tuberculous diseases of all organs, and thus treats [illegible]

prognosis, therapeutics, treatment, and prophylaxis of the disease generally, while the former book gives a review of the specific treatment of the white plague. The programme of the two books is the same. The authors are enthusiastic advocates of the specific use of tuberculin in all forms of tuberculous disease. It is their aim that the knowledge of this disease should be in the possession of every general practitioner, who thus should be able to diagnosticate it early enough and institute treatment which would then be effective. The authors have an extensive experience and are well conversant with German literature; among 182 references there appear only two not written in the German language. The list of the German sanatoria seems to be very complete—the government possesses a good statistical bureau; Switzerland appears with three places (twenty sanatoria), while Austria, Italy, and Egypt are also mentioned; the book is thus entirely built up of German experience and appeals only to the physician practising in Germany. Whether this adds to or detracts from the value of the book must be left to the reader.

Lungen- und Herzkrankheiten der inneren Medizin. Ein Lehrbuch für Studierende und Ärzte von Dr. Erich Kindborg, in Bonn. Erster Band. Die Krankheiten der Zirkulationsorgane und Respirationsorgane. Mit 47 Abbildungen. Berlin: S. Karger, 1911. Pp. xii-404.

We gladly welcome a new German textbook on medicine. Germany has become the country of specialists, a fact which is impressed upon us very much by the books published there. The present volume contains the diseases of circulation and respiration. A great advantage of it is the circumstance that the author also shortly reviews the studies upon which internal medicine is based, such as anatomy, physiology, histology, bacteriology, etc. The book does not bring us anything new, but is arranged in a very methodical way which will appeal to the reader.

Études sur la physiopathologie du corps thyroïde et de l'hypophyse. Par les Drs. Léopold Lévi et Henri de Rothschild. Préface de M. Ch. Achard, professeur agrégé à la Faculté de médecine de l'hôpital Necker. Avec 4 figures et 2 planches. Paris: Octave Doin, 1911. Pp. lxix-366.

In a well printed volume of over 400 pages the authors present a vast amount of clinical material dealing with the pathological physiology of the thyreoid gland and the pituitary body, and the relation of the pathological changes to the other bodily functions. Published, as it was, in 1908, this book fails to include a lot of interesting work recently done on the pituitary body.

The Proceedings of the Charaka Club. Volume III. New York: William Wood & Co., 1910. Pp. xii-174.

The third volume of the *Proceedings of the Charaka Club*, in its well known excellent make up, is larger than the former two issues. The committee of publications has remained the same. The list of members is increased by three and, for the first time in its existence (since 1901), the *requiescat in pace* appears (George F. Shrady). The frontispiece is a well executed reproduction of the head of Æsculapius in the British Museum. The book contains quite a number of good illustrations. We find eleven essays and a letter from Dr. Mitchell with three poems. Dr. Bailey writes on Flaubert's epilepsy; Dr. Peterson is the author of a short one act play with a sad moral; Dr. Dana has collected a number of poets among the old anatomists. The Visualization of the History, and Epicurus and his Ethics are Dr. Walton's themes; Dr. Jelliffe, Dr. Gerster, Dr. Sachs, Dr. Filcher, Dr. Camac, and Dr. Collins have written biographies of Franciscus Sylvius, Henry de Mondeville, Raymond de Vieusens, John de Vigo, Benjamin Rush, and Andreas Cesalpino.

The Principles of Pathology. By J. George Adami, M. A., M. D., D. Sc., LL. D., F. R. S., Professor of Pathology in McGill University, and Pathologist in Chief to the Royal Victoria Hospital, Montreal, etc., and Albert G. Nicholls, M. A., M. D., D. Sc., F. R. S. (Can.), Assistant Professor of Pathology and Lecturer in Medicine in McGill University, etc. Volume II. Systemic Pathology. Second Edition, Revised and Enlarged, with 301 Engravings and Fifteen Plates. Philadelphia and New York: Lea & Febiger, 1911. Pp. xv-1160.

This is a splendid book. Many changes have been made: some chapters have been rewritten, others altered, others condensed, and still others amplified. All through the book we see Adami's genius expounding the materia and making pathology, written in his style, a study to be loved by all readers.

Food and Feeding in Health and Disease. A Manual of Practical Dietetics. By Chalmers Watson, M. D., F. R. C. P. E., Assistant Physician, Royal Infirmary, Edinburgh, etc. Edinburgh and London: Oliver & Boyd, 1910. Pp. xvi-638.

This is, indeed, one of the best books on the subject of food and feeding in health and disease published in the English language which we have seen. It is a good manual, combining theory and practice; that is, it gives instructions in the elements of physiology, the nature of foods, and the normal laws of feeding, as well as practical instruction in kitchen usages and processes. The physician who gives advice on diet to his patients should be acquainted not only with the scientific preparation of the food, but also with questions which come up while preparing it. Dr. Watson has solved these questions and has produced a practical book which can be well recommended.

Pathologie und Therapie der Kachenkrankheiten. Von Prof. Dr. Albert Rosenberg in Berlin. Mit 50 Abbildungen. Wien und Leipzig: Alfred Hoelder, 1911.

Rosenberg's treatise is a rather sketchy review of the subject, which, however, may be read with profit by the practising laryngologist. It is hardly detailed, systematic, and didactic enough for the student or general practitioner. The chapters on anatomy and physiology are perhaps the most scientific and best illustrated. The cuts from photographs are on too small a scale. No mention is made of direct pharyngoscopy, and the enucleation of the tonsils is barely indicated.

Die Praxis der Ernährungstherapie der Zuckerkrankheit. Von Dr. Hermann Schell und Dr. August Heisler, früheren Assistenten der medizinischen Klinik in Marburg. Mit 1 Kurventafel. Würzburg: Curt Kabitzsch (A. Stuber's Verlag), 1910.

In this excellent and practical *brochure* the writers make a plea for the establishment of diet kitchens for the diabetic and also for stations where the necessary quantitative determinations of the urine can be made. There would seem to be no good

reason why in New York the latter should not be done by the Health Department, as examinations are now made for tubercle bacilli or the Widal reaction. The diabetic patient is usually very poorly treated in the outpatient departments of most hospitals. Besides full descriptions of the modern dietetic methods in diabetes the authors enter sufficiently into the physiological chemistry and metabolism of the disease, and the best practical clinical tests are given in detail, including Bang's superior titration method for the determination of sugar. There is appended a useful form of graphic chart which will interest practitioners who employ accurate clinical records.

Manual of Diseases of the Nose, Throat and Ear. By E. B. Gleason, M. D., LL. D., Clinical Professor of Otology in the Medico-Chirurgical College, Aurist to the Medico-Chirurgical Hospital, Philadelphia, etc. Illustrated. Second Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1910. Pp. 563 (Price, $2.50.)

In the issue of the *Journal* for August 24, 1907, page 378, we gave a review of the first edition of this manual which we closed with the remarks: "The book . . . is likely to prove a useful working manual." We can now alter that sentence and say that it has proved a useful working manual. The new edition has undergone many changes. The section on the tonsils and adenoid structures has been nearly completely rewritten, additions have been made to the chapters on membranous rhinitis, nasal mucosis, septal perforations, Ludwig's and Vincent's angina, to the sections of leprosy of the nose, pharynx, and larynx, etc.; and it has thus been brought up to date.

MEDICOLITERARY NOTES

The Eternity of Forms is a story of the supernatural in the March *Red Book*, by Jack London. The hero suffers from that terrible and mysterious disease, fortunately confined to the characters of fiction, "brain fever." The artist, Edmund Frederick, who illustrates George Hibbard's story, The Mind Readers, represents the hero, who is making his first visit to the heroine, as seated and with his legs crossed, while the lady is standing; we suppose Mr. Hibbard could not sue him for libel. Mud is a farcical story of the founding of a fake sanatorium, by Thornton Chambers; the writer begins with a good idea, but lacks the technique to sustain it, and the tale fizzles out ingloriously.

A physician plays a small part in The Artist, by Dorothy Canfield, in the March *Scribner's;* also an actress. Nobody has to warn the actress of her danger. They are chorus to a tragic tale of an unappreciated Pennsylvania painter. There are several beautiful prophetic pictures in this issue of what is to be some day accomplished by the aeroplane.

There is plenty of interesting and useful information in *Popular Mechanics*, especially for physicians who have a taste for machinery. In the March issue, for example, it is told how a Turkish sanitary inspector has devised a milk can which is fitted with valves which allow milk to be poured out, but not in, after it has been officially sealed; how, in Rumania, travelers are met at the frontier and sprayed with disinfectants from tanks which the inspectors wear on their backs; how a government official of New South Wales has devised an infallible lantern for the detection of color blindness; how a valuable baby llama in Cincinnati is being cured of knock knees by an ingenious mechanical apparatus; how to make an emergency magnifying glass out of a wire and a drop of water. There is a reproduction of a sixteenth century woodcut, showing alchemists engaged in trying to discover the philosopher's stone, and an important article, The Kingdom of Dust, by J. Gordon Ogden, Ph.D. By means of an experiment carried out on the roof of a school house in Pittsburgh, Dr. Ogden calculated that during the winter months about sixty tons of dust fell monthly on the streets, on the house tops, and in the homes in every square mile of the famous smoky city of steel. Millions of dollars are expended annually in fighting this menace to health, comfort, and beauty.

A letter from John F. Anderson, director of the Hygienic Laboratory of the Public Health and Marine Hospital Service, to the March *McClure's*, shows the care taken in examining the serums and antitoxines manufactured in the United States; the percentage of perfectly trustworthy preparations is very high. In case a sample, purchased in the open market, is not up to standard, the manufacturer is compelled to call in every package bearing the same laboratory number. A physician, "certainly one white guy," in the words of the hero at the end of his verbal resources for praise, is the *deus ex machina* of The Test, by Frances A. Ludwig; we hope the story is founded upon fact.

In the March month end number of the *Popular Magazine* Dr. Henry C. Rowland has a "long short" story, The Make Believe Man, an admirably constructed tale of a case of double consciousness. Two women become entangled with this duplex hero, and a Dr. Brookes plays an important part.

The *Ladies' Home Journal* for March 1st takes time by the forelock in arguing for further legislation against fireworks on the next Fourth of July; it again brings up the difficult question of individual Communion cups; lectures women for demanding that sales girls waiting upon them shall stand up; and gives sound advice to mothers in law. What to Eat and How, by Mrs. S. T. Rorer, is in line with modern rediscoveries of what might be thought elementary principles.

[illegible] draws attention to the fact that both the Republican and Democratic State Conventions of New York previous to the last election had a plank expressing approval of governmental supervision of tuberculous disease; it thinks the time has come to stop talking of the "great white plague," because the phrase hurts the feelings of many sensitive con[illegible]

Heaton Vorse, seems to disapprove of the modern scientific methods of raising a child; Miss O'Neill, the artist, has equipped a very charming baby with a very bad bottle, one of the old model with an uncleanable rubber tube. Jean Williams, M. D., discusses obesity; obese people may make obeisance to the treatment, but it will be with terror. As long as the heart muscle was not infiltrated, we should hesitate to condemn a patient to the régime indicated by Dr. Williams.

In *Current Literature* for March we find The Pathological Problem of the Employed, based on an article in the *British Medical Journal*. It refers to the pneumoconiosis of miners and other occupational diseases. Considerable space is given to a discussion of the theories of the late Sir Francis Galton on the substitution of scientific selection of a mate for the old fashioned romantic love. We may remark that the older a man gets the more Galton's idea appeals to him; *si jeunesse savait, si vieillesse pouvait*. We look to hearing scientific serenades on faultlessly accurate self playing guitars under casements equipped with the newest air filtering ventilating appliances. "At the Bureau take a look at my elegant bill of health" may replace such stuff as "From thy window look and see my passion and my pain."

There is an unfortunate confusion of terms in James R. Noland's article, The Fake Eyeglass Dealer, in the March *Pearson's*, no distinction being made between oculist and optician; it is quite beyond the power of the most expert optician to diagnosticate glaucoma, retinitis, and chorioiditis, as Mr. Noland intimates he can. The article, however, discloses depths of villainy in the eyeglass business that ought to lead to supervision. It is amusing to read the innocent statement that oculists have a set of fixed charges "after the manner of physicians."

NEW PUBLICATIONS.

Hare, Hobart Amory.—Modern Treatment. The Management of Disease with Medicinal and Nonmedicinal Remedies. In Contributions by American and Foreign Authorities. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia. Assisted by H. R. M. Landis, M. D., Director of the Clinical Department of the Phipps Institute (University of Pennsylvania). In Two Volumes. Volume II. Illustrated. Philadelphia and New York: Lea & Febiger, 1911. Pp. vii-900. (Price, $6.)

Sheffield, Herman B.—Modern Diagnosis and Treatment of Diseases of Children. A Treatise on the Medical and Surgical Diseases of Infancy and Childhood, with Especial Emphasis upon Clinical Diagnosis and Modern Therapeutics. For Practitioners and Students of Medicine. With One Hundred and Fifty Original Half Tone Photoengravings and Numerous Smaller Illustrations, Some in Colors. Philadelphia: F. A. Davis Company, 1911. Pp. xii-619. (Price, $4.50.)

Bethage, W.—Der Einfluss geistiger Arbeit auf den Körper unter besonderer Berücksichtigung der Ermüdungserscheinungen. Halle a.S.: Carl Marhold, 1910. Pp. 51.

Erlandsen, A.—Tabelle für die Bestimmung des Tuberkulin-Titers nach Ellermann-Erlandsen. Würzburg: Curt Kabitzsch, 1911. Pp. 419-421.

Lowry, E. B.—Truths. Talks with a Boy Concerning Himself. Chicago: Forbes & Co., 1911. Pp. 95. (Price, 50 cents.)

O'Reilly, Bretney Rolph.—A Manual of Physical Diagnosis. With Six Plates and Forty-nine Other Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xxi-369. (Price, $2.)

Osborne, Oliver T.—Handbook of Therapy. With a Chapter on Prescription Writing by George W. Hall, A. M., M. D. Second Edition. Chicago: The Journal of the American Medical Association, 1911. Pp. 452.

Transactions of the Fourth International Sanitary Conference of the American Republics. Held in San José, Costa Rica, December 25, 1909, to January 3, 1910. Published and Distributed under the Auspices of the Pan American Union, John Barrett, Director General, Washington, D. C., 1910. Pp. 209.

Morse, John Lovett.—Case Histories in Pædiatrics. A Collection of Histories of Actual Patients Selected to Illustrate the Diagnosis, Prognosis, and Treatment of the Most Important Diseases of Infancy and Childhood. Boston: W. M. Leonard, 1911. Pp. 314. (Price, $3.)

Adam, Curt.—Handbook of Treatment for Diseases of the Eye (Ophthalmic Therapeutics). With a Preface by Prof. von Michel, Berlin. Translated from the Second German Edition (1910) by William George Sym, M. D., F. R. C. S., and E. M. Lithgow, M. B., F. R. C. S. With Thirty-six Illustrations. New York: Rebman Company, 1911. Pp. xii-264. (Price, $2.50.)

Albu, Albert.—Beiträge zur Diagnostik der inneren und chirurgischen Pankreaserkrankungen. Halle a. S.: Carl Marhold, 1911. Pp. 104.

Green, C. E.—The Cancer Problem. A Statistical Study. Edinburgh: William Green & Sons, 1911. Pp. 90.

Marfan, A. B.—Le Rachitisme et sa pathogénie. Paris: J. B. Baillière et fils, 1911. Pp. 92.

White, William A.—Outlines of Psychiatry. Third Edition, Revised and Enlarged. Nervous and Mental Disease Monograph Series No. 1. New York: The Journal of Nervous and Mental Disease Publishing Company, 1911. Pp. viii-272. (Price, $2.50.)

Collected Papers by the Staff of St. Mary's Hospital, Mayo Clinic, Rochester, Minn., 1905-1909. Philadelphia and London: W. B. Saunders Company, 1911. Pp. x-668.

National Association for the Study and Prevention of Tuberculosis. Transactions of the Sixth Annual Meeting, Held in Washington, D. C., on May 2 and 3, 1910. Pp. 440.

Kolle, Frederick Strange.—Plastic and Cosmetic Surgery. With One Colored Plate and Five Hundred and Twenty-two Illustrations in the Text. New York and London: D. Appleton & Co., 1911. Pp. xxi-511. (Price, $5.)

Marsh, Howard.—Diseases of the Joints and Spine. New and Enlarged Edition, Thoroughly Revised by the Author and C. Gordon Watson, F. R. C. S. With Four Colored and Eight Black and White Plates, and upward of One Hundred Illustrations in the Text. Chicago: Chicago Medical Book Company, 1910. Pp. xv-632. (Price, $3.)

Cabot, Richard C.—Differential Diagnosis. Presented through an Analysis of 383 Cases. Profusely Illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 753. (Price, $5.50.)

The Modern Materia Medica. The Source, Chemical and Physical Properties, Therapeutic Action, Dosage, Antidotes, and Incompatibilities of All Additions to the Newer Materia Medica That Are Likely to be Called for on Prescriptions, together with the Name and Address of the Manufacturer or Proprietor, and, in the Case of Foreign Articles, of the American Agent. Second Edition, Revised and Enlarged. New York: The Druggists' Circular, 1911. Pp. iv-432. (Price, $1.25.)

London, E. S.—Das Radium in der Biologie und Medizin. Mit 20 Abbildungen im Text. Leipzig: Akademische Verlagsgesellschaft m.b. H., 1911. Pp. 199.

Kiltel, M. J.—Die Heilung der gichtisch-rheumatischen Erkrankungen gemäss der erfolgreichst bewährten Methode. In gemeinverständlicher wissenschaftlichpopulärer Darstellung von J. F. Kleine. Berlin: Von Kleine & Stapf, 1911. Pp. 128.

Much, Hans.—Immunitätswissenschaft. Eine kurz gefasste Uebersicht über die Immunotherapie und Diagnostik für praktische Aerzte und Studierende. Mit 5 Tafeln und 6 Abbildungen im Text. Würzburg: Curt Kabitzsch, 1911. Pp. viii-162.

Finger, E., Jadassohn, J., Ehrmann, S., und Gross, S.—Handbuch der Geschlechtskrankheiten unter Mitarbeit von

Prof. Dr. G. Alexander, Prof. Dr. K. Benda, Prof. Dr. A. Blaschko, Dr. L. Braun, et al. III Lieferung. Wien und Leipzig: Alfred Hölder, 1910. Pp. 321-480.

Eppinger, Hans.—Allgemeine und spezielle Pathologie des Zwerchfells. Supplemente zu H. Nothnagel, spezielle Pathologie und Therapie, Herausgegeben von Prof. Dr. L. von Frankel-Hochwart. Mit 31 Abbildungen im Texte. Wien und Leipzig: Alfred Hölder, 1911. Pp. [illegible]

Jolly, Rudolf.—Atlas of Microscopic Diagnosis in Gynecology. With Preface and Explanatory Text. Only Authorized English Translation by P. W. Shedd, M. D., New York. With Fifty-two Lithographs in Color and Two Textual Figures. London: Rebman Limited, 1911. Pp. 192. (Price, 5.50.)

Annual Report of the Board of Regents of the Smithsonian Institution. Showing the Operations, Expenditures, and Condition of the Institution for the Year Ending June 30, 1909. Washington, D. C.: Government Printing Office, 1910. Pp. x-751

Rapport à M. le Préfet sur les recherches effectuées au bureau du casier sanitaire pendant l'année 1909 relatives à la répartition de la tuberculose et du cancer dans les maisons de Paris. Préfecture du Département de la Seine. Direction des affaires municipales, bureau administratif des services d'hygiene de la Ville de Paris. Pp. 149.

Currie, Donald H., and Hollman, Harry T.—Studies upon Leprosy. IX. Mosquitoes in Relation to the Transmission of Leprosy. X. Flies in Relation to the Transmission of Leprosy. XI. Heredity versus Environment in Leprosy. Public Health Bulletin No. 39. Washington: Government Printing Office, 1910. Pp. 50.

Goldberger, Joseph.—Some Known and Three New Endoparasitic Trematodes from American Fresh Water Fish. Hygienic Laboratory Bulletin No. 71. Washington: Government Printing Office, 1911. Pp. 35.

Goldberger, Joseph.—On Some New Parasitic Trematode Worms of the Genus Telorchis. Hygienic Laboratory Bulletin No. 71. Washington: Government Printing Office, 1911. Pp. 30-47

Goldberger, Joseph, and Crane, Charles G.—A New Species of Athesmia (A. Foxi) from a Monkey. Hygienic Laboratory Bulletin No 71. Washington: Government Printing Office, 1911. Pp. 48-61.

McClintic, Thomas B.—Disinfectants, Their Use and Application in the Prevention of Communicable Diseases. Public Health Bulletin No. 42. Washington: Government Printing Office, 1911. Pp. 46.

Tenth Annual Report of the New York State Hospital for the Care of Crippled and Deformed Children. For the Year Ending September 30, 1910. Pp. 48.

Official News.

Public Health and Marine Hospital Service Health Reports:

Weekly reports from [illegible] relative to cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service for the week ending February 24, 1911:

Place.	Date.	Cases.	Deaths.
[illegible]	January.		
[illegible]			
[illegible]			
[illegible]

MARSH, W. H., Acting Assistant Surgeon. Granted six days' leave of absence from March 4, 1911.

MATHEWSON, H. S., Passed Assistant Surgeon. Granted six days' leave of absence from February 23, 1911, under paragraph 189, Service Regulations.

MEAD, F. W., Surgeon. Granted two days' leave of absence from March 7, 1911.

NAULTY, C. W. Jr., Acting Assistant Surgeon. Granted one day's leave of absence, February 19, 1911.

PETTUS, W. J., Assistant Surgeon General. Granted three days' leave of absence from February 18, 1911.

PETTYJOHN, J., Passed Assistant Surgeon. Granted one day's leave of absence en route to station.

RUSH, J. O., Acting Assistant Surgeon. Granted one day's leave of absence, February 11, 1911, under paragraph 210, Service Regulations.

SCHUG, F. J., Acting Assistant Surgeon. Granted thirty days' leave of absence from February 18, 1911.

STEMPLE, LOUIS, Pharmacist. Appointment as Pharmacist of the third class revoked February 15, 1911.

STILES, C. W., Professor of Zoology. Detailed with Mine Rescue Car of the Department of the Interior on special temporary duty.

STORRS, H. R., Acting Assistant Surgeon. Granted thirty days' leave of absence from March 1, 1911.

TAPPEN, J. W., Acting Assistant Surgeon. Granted three days' leave of absence from February 10, 1911.

TURNIPSEED, D. C., Assistant Surgeon. Directed to proceed to Manila, P. I., and report to the Chief Quarantine Officer for duty.

WHITE, J. H., Surgeon. Granted eighteen days' leave of absence from February 16, 1911, without pay.

WILLE, C. W., Passed Assistant Surgeon. Granted two days' leave of absence from February 27, 1911.

WOOD, J. E., Acting Assistant Surgeon. Granted fifteen days' leave of absence from February 24, 1911.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending March 4, 1911.

BAKER, FRANK C., Major, Medical Corps. Left Fort Moultrie, S. C., on March 1st, on tour of inspection of Medical Department, North Carolina, National Guard.

CLARKE, JOSEPH T., Lieutenant Colonel, Medical Corps. Assumed on February 23d temporary charge of the Office of Chief Surgeon, Department of the Columbia, and as Attending Surgeon, Department Headquarters.

CONNELLY, PHILIP B., Lieutenant, Medical Reserve Corps, recently appointed. Ordered to Fort Monroe, Va., for duty.

DEAN, ELMER A., Major, Medical Corps. Granted leave of absence for one month about March 1, 1911.

EASTMAN, WILLIAM R., Captain, Medical Corps. Ordered to Washington, D. C., on May 22, 1911, for examination to determine his fitness for promotion.

FIELD, PETER C., Major, Medical Corps. Relieved from duty at Fort Slocum, N. Y., and ordered to Philippines Division for duty on the transport sailing from San Francisco, California, about June 5, 1911.

FORD, JOSEPH H., Major, Medical Corps. Ordered to duty with troops from Fort Wadsworth, N. Y., to Fort Crockett, Texas.

HALL, JAMES F., Captain, Medical Corps. Ordered to Washington, D. C., on May 22, 1911, for examination to determine his fitness for promotion.

KELLOGG, PRESTON S., Lieutenant, Medical Reserve Corps. Granted leave of absence for one month.

KREMERS, E. D., Lieutenant, Medical Corps. Left Presidio of San Francisco, Cal., en route to San Francisco, Cal., for duty as Surgeon, U. S. Army transport *Buford* during the trip to China and return.

MILLER, REUBEN B., Captain, Medical Corps. Ordered to Washington, D. C., on May 22, 1911, for examination to determine his fitness for promotion.

MITCHELL, LEOPOLD, Lieutenant, Medical Reserve Corps, recently appointed. Ordered to Washington Barracks, Washington, D. C., for duty.

MYERS, WILLIAM H., Lieutenant, Medical Reserve Corps. Reported for temporary duty at Fort Moultrie, S. C., on February 28th.

NEWLOVE, GEORGE, Lieutenant, Medical Reserve Corps. Reported arrival at Fort Sam Houston, Texas, for temporary duty in the field.

QUALLS, GUY L., Lieutenant, Medical Reserve Corps, recently appointed. Ordered to Jefferson Barracks, Missouri, for duty.

WELLES, E. M., Jr., Lieutenant, Medical Corps. Ordered to proceed from Army General Hospital, San Francisco, Cal., to Presidio of Monterey, Cal., for temporary duty.

WHEATE, J. MARSHALL, Lieutenant, Medical Reserve Corps. Orders to proceed to the Philippine Islands for duty, revoked; relieved from duty at Fort Lincoln, N. D., and ordered to Boise Barracks, Idaho, for duty.

WOODBURY, FRANK T., Major, Medical Corps. Granted leave of absence for one month and ten days about April 21, 1911.

Navy Intelligence:

No change in the stations and duties of officers serving in the Medical Corps of the United States Navy were reported during the week ending March 4, 1911.

Births, Marriages, and Deaths.

Born.

SMART.—In Fort Flagler, Washington, on Thursday, February 23d, to Captain William M. Smart, Medical Corps, United States Army, and Mrs. Smart, a son.

WHALEY.—In Fort St. Michael, Alaska, on Wednesday, February 22d, to Captain A. M. Whaley, Medical Corps, United States Army, and Mrs. Whaley, a daughter.

Married.

LAWRENCE—CURTISS.—In Wilmington, Delaware, on Tuesday, February 14th, Dr. George Alfred Lawrence, of New York, and Mrs. Julia Watt Morris Curtiss, of Bridgeport, Connecticut.

WELLBERY—CARNEY.—In Brooklyn, New York, on Monday, February 27th, Dr. Edward Wellbery and Miss Rosemary Carney.

Died.

BRIGGS.—In Saginaw, Michigan, on Thursday, February 23d, Dr. Thomas W. Briggs, aged thirty-two years.

BRINCKERHOFF.—In Cambridge, Massachusetts, on Thursday, March 2d, Dr. Walter Remsen Brinckerhoff, aged thirty-seven years.

BURGESS.—In New York, on Tuesday, February 28th, Dr. Daniel Maynard Burgess, aged eighty-two years.

CURRIE.—In Englewood, New Jersey, on Tuesday, February 28th, Dr. Daniel A. Currie, aged seventy years.

DONOGHUE.—In Georgetown, Massachusetts, on Sunday, February 26th, Dr. James C. Donoghue, aged forty-six years.

FISHBLATE.—In Edgewood, Pennsylvania, on Thursday, February 23d, Dr. S. A. Fishblate, aged fifty-five years.

GALLOWAY.—In Philadelphia, Pennsylvania, on Tuesday, February 28th, Dr. M. James Galloway, aged seventy-three years.

GARST.—In Westerville, Ohio, on Monday, February 27th, Dr. Henry Garst, aged seventy-five years.

GAYNOR.—In Newark, New Jersey, on Sunday, February 26th, Dr. John A. Gaynor, aged thirty-three years.

HOWARD.—In Indianapolis, Indiana, on Thursday, February 23d, Dr. Lewis Nathaniel Howard, aged seventy-six years.

LAMBERT.—In Salem, New York, on Friday, February 24th, Dr. John Lambert, aged eighty-two years.

MCHUGH.—In Detroit, Michigan, on Saturday, February 25th, Dr. J. J. H. McHugh, aged fifty years.

NOTTINGHAM.—In Bay City, Michigan, on Saturday, February 25th, Dr. John C. Nottingham, aged sixty-nine years.

PADGHAM.—In Geneva, New York, on Monday, February 27th, Dr. Richard Watson Padgham, aged sixty years.

PARSONS.—In Bowersville, Georgia, on Saturday, February 25th, Dr. J. A. Parsons, aged forty-nine years.

SPRAGUE.—In New York, on Saturday, February 25th, Dr. Homer Baxter Sprague, aged fifty-one years.

WARNER.—In Newark, New Jersey, on Monday, February 20th, Dr. Oswald Warner, aged seventy-seven years.

WOODBURN.—In Towanda, New York, on Wednesday, February 22d, Dr. Skiles M. Woodburn, aged sixty years

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Original Communications.

THE SURGICAL ASPECT OF GASTRIC AND DUODENAL ULCER.*

BY JOHN B. DEAVER, M. D., LL. D.,
Philadelphia.

If I were given permission to rename the subject assigned to me to-night I should reverse the qualifying adjectives of the title in order to indicate their relative importance. To many men it will come as a surprise to learn that duodenal ulcer is more frequent than ulcer of the stomach. Yet such is undoubtedly the case. We have now an accurate means of differentiating the location of ulcers which lie close to the pylorus, by means of the arrangement of the pyloric veins. By this means it has been found that the great majority of ulcers of the pyloric region which were formerly classed as gastric are in reality in the first portion of the duodenum just distal to the pyloric sphincter. The duodenal ulcer arises with almost uniform regularity at the point where the acid contents of the stomach, propelled by the contracting antrum, impinge upon the duodenal mucosa. This suggests forcibly the influence of direct traumatism in the formation of such ulcers. Doubtless other factors must be present in order that ulceration may arise. Such factors are debility and anæmia, the influence of which has long been recognized clinically, and operate probably by diminishing the general tissue resistance to trauma and lessening the ability to repair small injuries. Superacidity of the gastric contents also is a factor and probably under certain conditions toxines are formed in the stomach or are excreted into it, which possess an epitheliolytic effect. We know that certain poisons when introduced into the body are excreted into the stomach. These being driven against the delicate duodenal mucosa would surely exert an effect which might result in denudation of the epithelium. Probably this is the explanation of the well known Curling's ulcer of the duodenum which is associated with the toxæmia accompanying extensive superficial burns. The last word has not yet been said regarding the ætiology of duodenal and gastric ulcer. Some have thought that disturbance of the blood supply and local thrombosis precede the ulceration. The evidence now available inclines us to the belief that the ulcers are toxæmic in origin and that very probably bacterial activity is directly or indirectly at the bottom of the trouble.

The association of gastric and duodenal ulcer with chronic disease of the appendix is beginning to arouse comment. For several years it has been known to abdominal surgeons that chronic appendicitis may express itself by gastric symptoms, even hæmatemesis, without local signs of disease of the appendix itself. In the majority of cases removal of the appendix results in disappearance of the disturbance of the stomach, but in a percentage of cases the symptoms persist. In the January 14th number of the *Lancet*, Paterson states that in two thirds of the cases in which he had operated for duodenal ulcers he also found a diseased appendix. This ratio is too high to be readily accounted for by coincidence and suggests a causative relation. He believes that ulceration of the stomach or duodenum may be due to toxic absorption from the appendix, or even from the large intestine, the sequence of events being this: Appendicular disease, secondarily erosion of the gastric mucosa, then superficial ulceration (the so called "medical ulcer"), and later a recognizable indurated ulcer.

Duodenal ulcer outnumbers gastric ulcer at least as 2 to 1, and probably more.

The absolute incidence of these affections is impossible of accurate determination at the present time, since nothing less than direct inspection of all cases of dyspepsia would settle the point. One thing is certain. It is a vastly more common condition than we have been led to suppose. So much dust has been thrown into our eyes by the names which gastroenterologists have given to symptoms and regarded as final diagnoses that the majority of cases of ulcer have been treated unsuspected under other names. To give you a concrete illustration of this state of affairs I wish to quote from the work just issued by Soltau Fenwick on *Dyspepsia, Its Varieties and Treatment.* In his description of acute or intermittent hypersecretion, a condition first described by Reichmann and attributed by him to a neurosis of the stomach, a view which has been acceded to by most internists since then, and indeed still does duty as a final diagnosis, Fenwick gives the condition found at operation in 112 cases which he followed to the operating table, a practice not to be too strongly urged upon all internists who wish to unravel the most difficult task of diagnosis of disease of the upper abdomen.

Chronic ulcer of the stomach existed alone in	13
Chronic duodenal ulcer existed alone in	46
[illegible]	[illegible]
[illegible]	[illegible]
Gastric and duodenal ulcer coexisted in	3
Duodenal ulcer and gallstones coexisted in	3
Gastric ulcer and diseased appendix in	5
Duodenal ulcer and diseased appendix in	4
Cancer of the pylorus existed alone in	4

*Read before the Kensington Branch of the Pennsylvania State Medical Society, January 19th.

Note well: In every case there existed an actual demonstrable lesion, which accounted for a symptom which had long been masquerading as a diagnosis. As Fenwick puts it, "it is quite clear that chronic supersecretion is not a disease, but merely an expression of an organic lesion of some point of the digestive tract or of those organs that pour their secretions into it."

The same is true of that much worked diagnosis of hyperchlorhydria. Of this Moynihan states unqualifiedly that "persistent, recurring hyperchlorhydria *is* duodenal ulcer."

Osler, in the last edition of his textbook, speaks as follows: "That the brothers Mayo should have operated (to June 1, 1908) on *272* cases of duodenal ulcer (as many almost as have been reported in the whole literature), and that Moynihan should have had (to June, 1908) 174 cases, indicates that we physicians have been napping and that what the modern 'gastroenterologist' needs is a prolonged course of study at surgical clinics." In the edition immediately preceding the last he had spoken wonderingly and approvingly of a case of duodenal ulcer in which a correct diagnosis had been made. This complete change of front is a sign of the greatness of the clinician. That others are falling in line I can see in the fact that I am yearly operating on more and more cases of duodenal and gastric ulcer.

From these few illustrations you can see how impossible it is to estimate with any certainty the frequency of duodenal and gastric ulcers. The usual statistics taken from post mortem records are far from the truth, and the same is true of clinical statistics, simply because the ulcers have not been diagnosticated.

As Codman says: "In Osler's *Modern Medicine* (note that this article is not by Osler's own pen: his view I have just stated) this wicked statement is made: 'Of 2,000 patients suffering with the various forms of gastric disease, 1,592 (79.6 per cent.) represented one or more forms of nervous disorders.' When I go fishing in a pond I always yearn for an all seeing eye which would give me the ability to see every fish on the bottom. How many duodenal ulcers (or gastric ulcers) would that all seeing eye disclose in those 1,592 cases of gastric neuroses?"

On the basis of a careful study Codman states it as his conviction that duodenal ulcer is almost as frequent as acute appendicitis. As radical as this may seem, my experience makes me believe that it is true, and I also believe that within ten years the truth of the assertion will be as convincingly demonstrated as is the case now with the once rare disease, appendicitis.

Not only have we failed to recognize the frequency of this disease through unfamiliarity with its symptoms, calling it by other names, but even cases of perforation have not infrequently been operated upon as appendiceal peritonitis without the mistake being discovered. Some of these mistakes have been righted at the autopsy table, where a post mortem examination could be made, but others have recovered after drainage.

I have just operated in such a case:

A young man, aged twenty-four. For ten years he had been troubled by epigastric pain which he did not attribute to the taking of food, though he had found that when present it was relieved by food. Five years ago he had a severe attack attended by vomiting. Two years later there was a similar attack which was diagnosticated as appendicitis. He was operated upon and a large amount of pus discharged by an incision through the right rectus. After this he remained well for six months when "following a fall" the attacks returned. The pain finally incapacitated him from work. His appetite remained good. He was never jaundiced and never observed blood in vomitus or stools. At operation a large, old indurated ulcer was found in the pylorus. This was inverted and gastroenterostomy performed. He is now making a satisfactory recovery.

There is no doubt that the attack diagnosticated and operated on as appendicitis was really perforation of the ulcer. Drainage came to the viscus of the general peritoneal cavity and permitted the ulcer to close, thus saving his life, but not curing the disease. Not all who have been operated upon under this misapprehension have fared so well, as hospital necropsy records will show.

In its pathology the duodenal ulcer is extraordinarily uniform. I have already stated that it is found just distal to the pylorus, in the first or second inch of the duodenum. Beginning as the small typical punched out peptic ulcer, it may become multiple or extend as a ring about the lumen. By extension it may involve the pylorus and the adjacent portion of the stomach. Doubtless some ulcers of the pyloric portion of the stomach begin in this manner. There can be no doubt that many small ulcerations heal spontaneously. There is no doubt also that many others exist for years only occasionally giving symptoms. Codman has aptly likened the duodenal ulcer to a fissure in ano. Viewed from below the pyloric sphincter, when contracted, has much the same appearance and structure as the anus. The small duodenal ulcer lies infolded in the plications of the adjacent mucosa. There it is protected from harm, but also prevented from healing. When the pylorus relaxes the bed of the ulcer is exposed to tension and to the action of the more or less irritating gastric contents. The ulcer also, like the fissure in ano, is subject to exacerbations of inflammation, during which time the symptoms are most prominent.

The liability to perforation and to hæmorrhage is common knowledge. Slow perforation gives time for adhesion of the surrounding viscera, which may then prevent peritonitis from extravasation of the bowel contents, but gives rise to the dyspepsia of periduodenal adhesions. Acute perforation into the general cavity is of course at once recognized as an abdominal catastrophe, and such patients usually succumb unless treated by operation. Hæmorrhage occurs usually by erosion of a large vessel. The pancreaticoduodenal is the vessel most commonly opened. This may be rapidly fatal or at times ceases spontaneously. Subdiaphragmatic abscess should also be mentioned as a not uncommon sequel of slowly perforating ulcer. At the present time only the graver complications are deemed sufficient to justify operation. In a general way the gastric ulcer with its complications is similar to the duodenal ulcer. The greater area of the stomach, however, gives opportunity for greater differences in situation and sequels. The pyloric region is the most frequent site, and the posterior wall is affected more frequently than the anterior. In spite of this fact by far the greater number of acute per-

ferations occur on the anterior wall. A common form is the so called saddle bag ulcer, which is located on the lesser curvature, with arms extending down the anterior and posterior surfaces. While it is more common for only one ulcer to be present statistics show that there are more than one in at least twenty per cent. of the cases.

For clinical purposes I have found it convenient to consider gastric ulcer under the following groups: Open ulcer; those occurring when hæmorrhage is a marked symptom; those of perforation; and, finally, those due to contraction and adhesions of the ulcer. Perhaps we should also distinguish the group of mucous erosions, which goes by the name of Dieulafoy. In this condition the ulceration is almost macroscopic in some cases, comes on acutely and is characterized by severe hæmorrhage, which is more of the nature of venous oozing than like the arterial erosions which are a more common cause of severe bleeding.

It is impossible to treat here of the amazing variety of clinical manifestations of these various conditions, and, indeed, the salient features have already been pointed out by the preceding speaker. The most important fact to be brought out, in my opinion, is the great and hitherto unsuspected frequency of duodenal ulcer, and that the majority of cases may be diagnosticated by the simple means of taking an accurate detailed history. If this is not done the practitioner is at fault. There are diseases which require for differentiation the close observation and accurate laboratory data which are difficult to obtain outside of a hospital. The diagnosis of duodenal ulcer depends as almost no other disease upon the anamnesis alone.

Let me cite a case:

A man, aged forty-two, was admitted to the General Hospital on November 10, 1910, complaining of severe indigestion. Two or three years before he had begun to have slight attacks of pain in the epigastrium coming on usually two or three hours after eating. The pain was dull and aching and occasionally radiated around the right side into the shoulder. He did not vomit. He was never jaundiced and never had observed blood in his stools. He had gradually lost weight or ten pounds which might be attributed to dieting. Recently the attacks had become more severe and he had vomited bilious material. He had not been of a nervous type but lately had had considerable worriment on account of sickness in the family. The blood was normal, except for a slight reduction in hæmoglobin and erythrocytes. The stool showed no occult blood. The test breakfast showed a marked hyperacidity and a faint trace of [illegible] after the [illegible] trauma occasioned by passage of the stomach tube. The physical examination revealed nothing except a point of tenderness in the right epigastrium. At operation an inflamed duodenal ulcer was found on the anterior surface of the duodenum just beyond the pylorus. Gastroenterostomy was followed by normal recovery.

This history brings out several points of interest. In the first place the worriment to which the man was subjected could be readily seized upon to indicate the source of a neurosis, and undoubtedly this case would have been interpreted as a nervous disorder by many diagnosticians. Secondly, the symptoms are typically those of hyperchlorhydria so called. An interesting point in this connection is the finding by the test meal that the gastric contents really showed far less acid than normally. This is usually the case, contrary to the classical ideas taught in our textbooks. Again, the diagnosis was one which had to be made exclusively on the anamnesis without aid from physical examination. It could have been made as easily without seeing the patient.

It is necessary to hold clearly in mind that a duodenal ulcer may exist without pain, vomiting, hæmorrhage, perforation, or obstruction of the pylorus. I quote freely from Codman's recent paper. One patient bleeds and has no pain. Another suffers intensely from pain and never bleeds. A third patient has a perforation, and until the day of perforation has no pain or bleeding. Still another has pain and bleeding, but never vomits. Finally there is a patient who has all the symptoms, and it is evident that the converse must be true, that there must be cases without symptoms, except negligible dyspepsia, and which heal naturally and completely.

While this remarkable variety of symptoms is encountered in this condition, it is still true that the majority of duodenal ulcers do give a fairly typical history. Our chief reliance is pain and the chief characteristic of the pain is not the kind which may be variably described as dull, sharp, aching, boring, lancinating or a flatulent distress, not its severity, which may be inconspicuous or agonizing, not its location, though it is usually in the epigastrium but may radiate around beneath the costal margin or pierce through to the back, but its regular relation to food and the process of digestion. The characteristic thing about the pain of duodenal ulcer is that it appears at an interval of two to six hours after the ingestion of food. In cases where the pain is long delayed it may come on when hunger for the next meal is felt, which has caused the name "hunger pain" to be given to it.

More often the pain is not so long delayed but that the patient will state that it occurs after meals. He may find that the pain is relieved by taking a mild alkali or by more food. If so he is likely to carry soda or some article of food with him for the purpose. There is no distatste for food. On the contrary the appetite is usually good, and the sleek condition of some of these patients has been commented upon and seems inconsistent with the existence of a serious lesion.

There are remissions when these symptoms will not be present. It is also true that as time goes on the history may become less typical. The ulceration creeps up to the pylorus and may involve the neighboring part of the stomach. Or periduodenal adhesions may form and the pain may appear earlier or be otherwise obscured in character. This emphasizes again the importance of a careful history in order to get an account of the more typical period. At the risk of making the diagnosis seem too easy I wish to repeat that when a history is obtained of pain or flatulency, distress coming on regularly late after meals, the existence of a duodenal ulcer is strongly to be suspected.

Hæmorrhage, gross or occult, when present is practically pathognomonic, provided cirrhosis of the liver, cancer, or other source of bleeding can be excluded. Acute perforation also forces a diagnosis, either preoperative or postoperative. Slight jaundice may occur in a percentage of cases by extension of the duodenal inflammation to the bile

[illegible] addition of the bowels is inconstant and appears to be fortuitous. Epigastric tenderness is present during acute attacks, but in general is a very misleading sign. Vomiting rarely occurs early and is of little aid. The gastric analysis is apt to show some departure from the normal, but cannot be entirely relied upon.

To particularize further would only obscure the issue. Enough has been said to show to every man in active practice that if he has not been making diagnoses of duodenal ulcer among his cases of indigestion he would better mend his ways.

The question of treatment is a difficult one. We all agree that certain ulcers are the exclusive property of the internist, while others just as clearly belong to the surgeon. As usual the fields overlap. There is a middle class in which "experience is fallacious and judgment difficult." Those ulcers which we have reason to believe, from the youth of the patient and absence of antecedent history of indigestion, are newly formed I firmly believe, and should receive the benefit of a rigid medical treatment designed to aid the healing of the ulcer. This certainly occurs in many instances, and often, doubtless, without the physician being aware that ulceration is present. The mucous erosions of Dieulafoy, even though complicated by severe hæmorrhage, I believe should be treated medically, and this in spite of the fact that Dieulafoy himself, though an internist, counsels operation. The difficulty of locating the bleeding point or points is very great, and it seems likely that the average patient will receive more harm than good from operative intervention. Acute massive hæmorrhage from an eroded vessel also, to my mind, should be treated palliatively. In this matter again I differ from some surgeons, who think that an attempt should be made to secure the bleeding vessel. Experience has taught us that the application of this axiom of surgery in this particular location results in a large percentage of deaths. Medical treatment consisting in absolute quiet, morphine, and ice to the epigastrium will not save a certain number of these patients from bleeding to death, but there seems to be an unavoidable mortality in this complication which my experience leads me to believe is less with expectant than with radical measures. My reason for not advocating operation in these cases is based solely on their inability to endure the operation. If they are so fortunate as to recover from the first hæmorrhage there is no excuse for not advising operation to prevent a recurrence, which is almost sure to take place within a short time. Even with operation bleeding may at times recur.

I am aware that the patient's feelings in regard to operation and the state of public opinion concerning operation in certain classes of cases constitute for the practitioner, who has to handle patients as he finds them, another valid excuse for medical treatment, but it does not relieve him, in cases which should be referred to the surgeon, from stating his belief and placing the onus of decision upon the patient himself. This may prove to have been a wise precaution and moreover will at times have the desired effect within a short time, at the same time as it assists in the education of the people.

The absolute indication for operation is perforation of the ulcers. This may occur acutely, being productive of general peritonitis, in which case operation to be of any service must be done without delay. When more than twelve hours have elapsed after perforation but few recover. My experience with these cases has been especially fortunate, as I have not lost a case of acute perforation. It is my practice in these cases, in addition to closing the point of perforation, to do a gastroenterostomy. This takes but little longer, and not only takes the strain off of the ulcer during convalescence, but aids in the complete cure after the acute danger has passed. Many surgeons do not do this, but my results have been good enough to justify continuing it, and the reports of the past year have shown that better results were obtained by those who included the gastroenterostomy in the primary operation. Certainly there will be desperate cases in which it is inadvisable, but those cases who are standing the operation well should be so treated.

Subacute perforation also demands operation. By this is meant a perforation which is so minute, or so well guarded by defensive adhesions, that a very slow extravasation of the bowel contents has been insufficient to set up a general peritonitis, but has resulted in a localized peritonitis or pus collection in the upper abdomen. Subdiaphragmatic or subhepatic abscess, or a collection in the lesser peritoneal cavity, are not uncommon results of this type of perforation. Evacuation of the abscess is necessary to save life. It may be possible at the same time to close the perforation. Oftener it is not to be found without manipulations that would endanger the general cavity. A perforation of this kind may cause a healing of the ulcer even when nothing operative has been done directly to the ulcer itself.

Chronic perforation occurs when an ulcer making its way slowly to the surface excites a plastic peritonitis over it, that glues an adjacent viscus so firmly to it that the ulcer when it reaches the peritonæum finds its course still obstructed by the adhering tissues. Thus a general peritonitis or localized abscess is averted, but, as a rule, at the cost of such marked interference with abdominal functions that disabling dyspepsia results. This is the sort of case which performs spontaneous anastomoses with other hollow viscera. I have found communications established between the stomach or duodenum and gallbladder, and the larger or smaller intestines. The adhesions may occur posteriorly to the parietes or to the pancreas. In the latter case the pancreaticoduodenal artery is in danger of erosion. This form of ulcer, while not so dangerous as the former types, should by all means be operated upon. Healing seldom occurs, disturbances of digestion are marked, and the danger of complications great. It is unfortunately not easy to determine just how far ulceration has progressed in many instances, but in general this must be estimated by the duration and severity of symptoms, remembering at the same time that it is not always the most dangerous ulcers that produce the most severe symptoms. The length of time that the condition has existed, as determined by a careful history, is the safest guide.

Another absolute indication for operation is pyloric stenosis, produced by indurated cicatrizing ulcer. Here we have the well known symptoms of retention and stasis coming on usually after a history of ulcer indigestion. There are few results in medicine or surgery so satisfactory as that obtained by a gastroenterostomy in such a case.

Small recurrent hæmorrhages producing anæmia and debility call for operation before the patient's vitality is so wasted as to make him a poor subject for it.

Finally, chronic recurring indigestion due to ulcer, or its complications such as adhesions or cicatricial deformity of the stomach, which is characterized solely by disturbance sufficient to cause disability and malnutrition should be treated by operation whether hæmorrhage be demonstrable or not. At times these patients fear to eat because of the consequences, or, having eaten, the pain or discomfort leads them habitually to empty their stomachs by vomiting or the stomach tube. It is not wise to permit matters to come to such a pass. Besides exposing the patient to all the danger of complication, he is rendered a poorer subject for operation. A large part, indeed almost all the mortality of surgery comes from delay on the part of the patient or his physician and should be charged up where it belongs.

As for the methods to be used by the surgeon, I have already spoken briefly of the treatment of perforation. The keystone of all ulcer surgery is the gastroenterostomy. The best method is the posterior, no loop operation, in which the jejunum as it emerges from behind the peritonæum is joined to the most dependent portion of the stomach through a rent in the gastrocolic omentum. Vicious circle, once the dread of surgeons, is practically unknown with this operation. I have never had a case since adopting it. Peptic ulcer of the jejunum which was also common after the anterior long loop operation is now the greatest rarity. The mortality, when it is performed by a competent surgeon upon a case which shows average ability to endure any operation is almost nil. The results in well chosen cases are brilliant and permanent, contrasting strongly with medical cures which so often are not cures at all but merely remissions in the course of the disease.

At times this operation must be supplemented by other procedures. Thus in hourglass contraction it will do little good to drain one pouch of the stomach unless the two be placed in communication. This may be accomplished by cylindrical gastrectomy or by gastrogastrostomy, preferably the latter.

It is not uncommon to find a pyloric ulcer so indurated and thickened as to arouse suspicion of malignancy. The rôle of gastric ulcer in the production of cancer of the stomach is now known to be an important one. Observations at the operating table show that over one half of all gastric carcinomata originate from chronic benign ulcer. As cancer of the stomach is only second in frequency to that of the uterus, we should welcome the opportunity to obviate such a large proportion by operation upon the cause of irritation. For such cases pylorectomy is the operation of choice.

A suspicious ulcer elsewhere in the stomach should be [illegible] if that is possible without too great risk. The conditions found after opening the abdomen will determine the operation to be used. The surgeon who is able, conscientious and experienced in this line of work may be safely trusted with this part. What is needed is recognition of the advisability of operation on the part of the physician.

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A new era of surgery commenced with Billroth's first successful resection of the stomach for cancer of the pylorus and with the introduction of Woelfler's gastroenterostomy. Since then the results of these operative methods have continued to improve, due to the better technique and to experience derived from both success and failure. Important in this connection is also the fact that the diagnosis of gastric disorders has become more accurate than ever before. Statistics on surgery of the stomach may be utilized only with great care, because the operative results of twenty years ago cannot be in any way contrasted with those of the last few years. Operations upon the stomach are performed by surgeons who are often as impulsive as they are competent. The results of a gastroenterostomy following a benign stenosis of the pylorus are so good that some surgeons are led to believe that all cases of indigestion which have resisted medicinal treatment require an exploratory incision. They forget that venous congestion of the gastric mucosa caused by a derangement of the heart, lung, liver, and kidney will give severe digestive symptoms, and an exploratory incision without due deliberation may do more harm than good. Surgery is not a "cure all" for stomach diseases as some of our operators would lead us to believe.

During the past ten years the operation of gastroenterostomy has become almost a fad, and in some quarters the opinion seems to prevail that this radical operation is a panacea for each and every form of indigestion. That experience, however, has not warranted this extreme idea is emphasized in an article in the *American Journal of the Medical Sciences* for May, 1910, in which Deaver, while insisting that gastroenterostomy is, when properly indicated, one of the most valuable of surgical procedures, warns against its indiscriminate use, especially in cases of the various forms of gastric neurosis. There is no class of patients more anxious to undergo operations than the neurotic, especially when the neurasthenia has taken upon itself the symptoms of indigestion and abdominal pain or discomfort. [illegible]

women, often themselves members of the medical profession, who are traveling from one gastric surgeon to another, pleading with each to open the abdomen and so change the course of the alimentary tract that their sufferings may be relieved. In such cases operation is of course to be condemned, and its results, as Deaver says, are nothing short of a catastrophe. This warning is thoroughly timely, and coming from a man with an established reputation as an abdominal surgeon carries no small weight. Indiscriminate operating has done more harm to the advancement of stomach surgery than we realize. It is the internist who has to deal with the case after the surgeon has discharged the patient as cured. Some of these patients make sorry looking individuals, and yet we acquiesce without a word of warning and practically agree to this sacrifice to experimentation. How absurd to accept unchallenged the assertion that most of the stomach cases coming into the hands of the internist are the beginning of carcinoma and should have exploratory incision! When surgical intervention is rationally indicated, there is no class of cases in which success is as gratifying; but, taken as a whole, less than two per cent. of stomach cases require surgery. The most frequent condition that demands surgery is obstruction of the pylorus. In this condition gastric retention is extreme. In severe cases there is found in the morning in the fasting stomach food that has been taken the night before, and there may be as much as four pints of foodstuff found in the stomach. The stomach endeavors to compensate for the pyloric obstruction by increased muscular effort. This brings about an hypertrophy of the organ, which is soon followed by dilatation. Dilatation is almost invariably present where there is a stenosis of the pylorus.

Before operative treatment of the stomach is advised, a number of factors should be taken into consideration. The most important factors to be considered are the general condition of the patient, both indicating the condition of the vascular system and his power of resistance. The age of the patient is important. Although it must be admitted that young people undergo a serious surgical ordeal with better success than older ones, no definite lines of age can be drawn. In grave cardiac affections, in diabetes, Bright's disease, etc., operations on the stomach are usually contraindicated.

The simplest operation of the stomach is gastrostomy. It is indicated in impermeable strictures of the œsophagus, for the removal of foreign bodies situated so low down in the œsophagus as to make their removal from above impossible, and for the removal of foreign bodies in the stomach.

In carcinomatous strictures of the œsophagus or of the cardia, gastrostomy is a thankless operation and should be undertaken only when the stenosed part is impassable even for fluids. In such cases the first step should be to administer small doses of morphine throughout the day, and to replace feeding by mouth by rectal alimentation for several days, as it is not an uncommon occurrence under this treatment for the stenosed passage to become fairly passable. The benefit derived from gastrostomy undertaken for the relief of carcinoma is very limited, as it consists only in the prolongation of a none too enviable life for a few weeks or months. I am, therefore, unable to support the opinion, held by some surgeons, that it is advisable to perform gastrostomy immediately after a diagnosis of œsophageal or cardiac carcinoma.

A simple, uncomplicated gastric ulcer does not demand surgical intervention. Only in the event of complications and in the event of the ulcer defying thorough internal treatment, and impairing nutrition by interference with motility, should there be any question of surgical intervention. The fact should always be taken into consideration that in the present state of the science of diagnosis we can only have a suspicion as to the seat of the ulcer. We know that four fifths of all gastric ulcers are situated at the lesser curvature on the posterior wall of the stomach—a surgically inaccessible place. Unless, therefore, there is a well developed ulcer of the pylorus, which has been diagnosed by the presence of retention, it is impossible to make a safe prognosis of recovery or even of improvement through surgical intervention. In some cases in which there has been a diagnosis of ulcer of the stomach, the abdominal cavity having been opened, the ulcer has not been found, or if found adhesions or an unfavorable position of the ulcer rendered any operative measure futile.

William J. Mayo says that "nearly all the failures of surgery for ulcer of the stomach are to be found in the group of so called clinical or medical ulcers because: (1) The ulcer is not found and many times its existence is problematic; (2) the condition is often confounded with pyloric spasm, atonic dilatation, gastroptosis, gastric neuroses, or other morbid nonsurgical conditions; (3) simple ulcer does not give rise to that mechanical interference with the progress of food which would introduce an operative indication." Internists owe a debt of gratitude to this surgeon who has had the courage to come out and plainly tell us that it is our duty as internists to bring about a recovery in simple and uncomplicated cases of gastric ulcer.

Munro, in a paper read before the Congress of Physicians and Surgeons in 1907 said, referring to the unsatisfactory results from gastroenterostomy in gastric ulcer: "It is wise to close the abdomen when there is no gross ulcer, no actual pyloric obstruction or other crippling lesion." He has learned from the observation of the results of many such cases that gastroenterostomy under those conditions is useless.

So far as surgery is available, no procedure but the removal of the ulcer by excision or gastroenterostomy is to be considered. Removal of the ulcer does not remove the cause nor the tendency to new formation, nor does it improve motility, nor reduce superacidity; but it does remove the dangers accompanying the ulcer, such as hæmorrhage, perforation, and malignant degeneration. Gastroenterostomy and favorable drainage protect the ulcer from irritation of the superacid gastric contents, and some ulcers which have defied every kind of therapy will sometimes heal or become latent after gastroenterostomy. Ulcer of the pylorus or duodenum can be cured by gastroenterostomy, but this operation will not cure ulcers in other parts of the stomach

It is always necessary to pay special attention to the diet after stomach operations in order to achieve the most favorable results. It is certainly surprising to observe that a patient, compelled for years to live on milk, broth, and soups, is allowed at once to partake of roast beef and potatoes. It is an overestimation of surgical effect to suppose that a stomach which has been seriously impaired for a number of years can suddenly develop normal function. It is irrational to allow such a patient to get out of bed after a couple of weeks and to discharge him as cured at the end of three weeks. After the operation a careful dietary should be instituted for weeks and even months if necessary. The surgeon should be assisted in the care of such convalescents by an internist trained for this purpose. This course, together with the simultaneous use of alkalies, constitutes the best method of avoiding the danger of new formations, especially of ulcer of the jejunum, in which location an ulcer is apt to come as a sequela of gastroenterostomy.

One of the most frequent complications of gastric ulcer is hæmorrhage. Acute hæmorrhage is not a condition that lends itself to surgical treatment. Such hæmorrhages can usually be stopped by internal treatment, but if this should fail, operative intervention is not likely to help. Less than five per cent. die of these hæmorrhages without operation. By subjecting patients to operation, we expose them to further dangers to which they easily succumb, while without operation they have a better chance to recover. This view is shared by a large number of experienced surgeons. As a matter of fact few cases of gastric hæmorrhages have been lost when proper therapeutic measures were instituted. With internal treatment Lenhartz reports 201 cases of gastric hæmorrhage with a mortality of three per cent., Ewald 166 cases with a mortality of 4.8 per cent., and Wirsberg reports 320 cases with a mortality of 5.9 per cent. Robson, resorting to operative treatment in forty-five cases of acute hæmorrhage, saved fifteen; without operation he would probably have saved forty. The ligation of the coronary arteries which supply the ulcer is not to be endorsed, because the results achieved without surgical intervention are better.

What is our position as to the treatment of ulcers, which, characterized by chronic oozing of blood, lead to grave anæmia? If energetic internal treatment should not be successful, as can easily be observed by daily examination of the fæces with the benzidin test for occult blood, operative treatment should be advised. Either resection of the ulcer or, where this is impossible, gastroenterostomy should be done. The latter operation frequently stops the hæmorrhage, especially if the ulcer is situated at the pylorus. In the case of pyloric ulcer it is not the hæmorrhage but the stenosis which renders operation necessary. In cases which do not improve after a prolonged course of internal treatment and in which pyloric obstruction is not present, it is unwise to promise a recovery by a gastroenterostomy. Surgeons agree that good results in ulcer of the stomach by gastroenterostomy are obtained only when there is a pyloric obstruction. Gastroenterostomy does not give drainage and physiological rest when the pylorus is patulous. Cannon and Murphy have shown that food and liquids pass through the pylorus even after gastroenterostomy has been performed. The artificial opening does not help matters so long as the pylorus is unobstructed.

Another dangerous complication of gastric ulcer is perforation into the free abdominal cavity, followed by peritonitis or a subphrenic abscess. This complication requires surgical intervention, and the operation should take place within ten hours after perforation, when the mortality is about twenty-eight per cent. According to figures, the mortality rises to sixty-five per cent. if the operation is delayed for more than twenty-four hours, and to eighty-seven per cent. after thirty-six hours; undertaken later, operation offers no hope. The operation may be very simple for perforation at the greater and lesser curvatures and at the anterior wall of the stomach. If the perforation has taken place at the posterior wall the operation is most difficult and usually does not do any good. Statistics in perforation show such unfavorable results by internal treatment that it seems imperative to resort at once to surgery, unless there are very important factors to contraindicate it.

Subphrenic abscess following perforation should likewise be operated on as soon as possible.

The surgically most important complication of gastric ulcer is benign pyloric stenosis with subsequent dilatation of the stomach. The diagnosis is dependent upon: The history pointing to ulcer; vomiting of a large proportion of the food ingested on the previous day; decreased secretion of urine; the presence of food remnants in the morning before breakfast; the chemical findings, superacidity, or hyperchlorhydria; the microscopical findings, sarcinæ in the gastric contents.

Benign pyloric stenosis may be occasioned by compression of tumors of the liver, of the gallbladder, and of the pancreas, by adhesions, by true cicatricial constriction, and by spastic contraction of the pylorus.

Unless there is a critical condition, such as exhaustion, tetany or impending tetany, or uncontrollable vomiting, we should, after having arrived at the diagnosis of benign pyloric stenosis, attempt to relieve the engorgement by rational nutrition, gruels, and fluid diet, nourishing enemata, cataplasms, irrigations of the stomach, and oil therapy by mouth. Einhorn has introduced recently a pyloric dilator that should always be given a trial. If this line of treatment proves successful, the daily secretion of urine increasing to the normal, the patient showing uninterrupted improvement from week to week, with no retention even after an increased dietary, operation is not indicated, because the case is one of gastric congestion caused by a spastic stenosis and not by a cicatricial condition. If all other symptoms improve, but there are still food remnants early in the morning after enlarging the range of foods, the operation should not be delayed, particularly with patients who, from their position in life, are not able to continually confine their diet within the required limits. In cicatricial stenosis of the pylorus the results of gastroenterostomy are excellent.

Hypertrophic stenosis of the pylorus has been

successfully operated on in very young children. As experience in these cases accumulates we find, however, that internal treatment is often efficient and surgical intervention usually not required. An important point to remember in this connection is that we do not know how gastroenterostomy performed upon young children will regulate itself in advancing years.

In dilatation of the stomach, resulting from atrophy of the muscular fibres when the pylorus functionates normally, operation is indicated only in exceptional cases. It should be regarded as indicated only after all internal therapy, such as irrigations of the stomach, diet, tonics, massage, electricity, hydropathic measures, have proved to be complete failures. Congenital stenosis of the pylorus almost always responds to internal treatment, provided it is carefully followed. In rare cases only is it necessary to resort to surgery.

The differential diagnosis between atony and secondary dilatation following pyloric stenosis is frequently not easy. It depends upon the objective findings, and upon a history of ulcer manifestations. Gastric rigidity and pyloric tumor point to stenosis. If, in the absence of ulcer symptoms, a rational therapy relieves the dilatation, the latter was probably atonic. In regard to adhesions and perigastritis we are, unfortunately, able to make a diagnosis in only a very small percentage of cases. Perigastritis, unless there is a distinct disturbance of motility, is rarely a sufficient reason for surgical intervention. When firm, immovable tumors can be palpated in the epigastrium and carcinoma can be excluded, the presence of adhesions or epigastric hernia may be surmised. Adhesions may or may not interfere with the motility of the stomach. Those not interfering with its motility may be wisely let alone, for we all know that severed adhesions are likely to reform. For adhesions interfering with the motility of the stomach fibrolysin by the hypodermic method may be tried, but should this fail such cases must be turned over to the surgeon.

In hourglass stomach gastroanastomosis is the procedure to be recommended. The diagnosis of this condition is now easily made by the use of bismuth and the x ray.

In gastroptosis surgeons have attempted to establish normal conditions through ventrofixation, by shortening the gastrocolic and gastroduodenal ligaments and gathering the mesocolon. My experience has taught me to withhold my approval of these procedures, because I have seen so many cases in which such measures have created new troubles without removing the old. In my opinion gastroptosis should be treated altogether by mechanical, dietetic, physical, and medicinal methods. The most rational method of treatment in cases where the ptosis has caused a kink at the pylorus or duodenum seems to be gastroenterostomy.

Carcinoma of the stomach, when diagnosticated early, should be operated on at once. Even if the diagnosis is doubtful no harm is done in the hands of a good operator. However, indiscriminate exploratory incision is apt to bring disrepute to surgeons and no calculable benefit to the patient.

Is it not surprising that among the alarmingly large number of gastric cancer cases we have only a few isolated cases of cure reported? The reason has been correctly stated that we resort to operation when it is too late, and, therefore, surgeons reiterate the great necessity for an early diagnosis of carcinoma. What is an early diagnosis? It is a diagnosis of carcinoma during the stage when the condition is still circumscribed and when metastasis has not taken place. At this time radical operation is possible. A diagnosis of cancer in a very early stage of its growth can rarely be made. I might cite a number of cases demonstrating that we are far from being able to make a sure diagnosis, let alone an early diagnosis, even with the aid of an exploratory laparotomy. It may happen, as I have personally seen, that operation is performed at a very early stage—at the time of the first manifestations of the disease—with no tumor palpable, and that at the operation metastases both small and large were found, but no primary tumor. I have even had exploratory incision made in suspected cases of cancer of the stomach where no lesions were found, yet carcinoma with all its manifestations continued to develop, and subsequently proved fatal to the patient. On the other hand, there may be an occasional case with a large and apparently inoperable tumor, and at autopsy it is discovered that there are no metastases and the tumor could have been removed without difficulty.

Findings which are supposed to be a safe guide for the early recognition of carcinoma are very misleading. Great importance is to be attached to the history, whether there was a diagnosis of gastric ulcer, gastritis, cholelithiasis, or whether the affection has developed insidiously. Loss of appetite, repugnance to food, eructation, vomiting, debility, decrease in weight are points to be considered. There should be repeated examinations of the entire body and a study of the gastric functions, including tests for the absence or deficiency of hydrochloric acid, presence of lactic acid, and blood. The microscopical examination of the stomach contents should not be omitted. Especial attention should be paid to disturbed motility, to the presence of food remnants in the stomach, and the recognition of occult blood in the fæces. I consider retention the most important symptom and the most important indication for immediate operation where there is the slightest suspicion of carcinoma. The examination of the contents of the stomach after a long continued fluid diet is not sufficient. The gastric contents should be examined after the patient has partaken for one or two days of a diet difficult of digestion, containing such foods as apples, plums, currants, cherries, and sausage. If after feeding the patient on such food a gastric retention is found on examination of the stomach contents, made before breakfast, interference with motility is certain.

The secretion of hydrochloric acid and pepsin is usually decreased as the carcinoma develops, and in an advanced stage of the disease is inhibited altogether, except in carcinoma developing from gastric ulcer, when even superacidity may exist. The presence or absence of hydrochloric acid is of value only in connection with all the other symptoms and findings. The presence of lactic acid is not a specific sign for carcinoma. I have found lactic acid without any carcinoma being present, and, again,

have not infrequently missed it in the presence of carcinoma. There is no doubt that its presence distinctly points to carcinoma, but not invariably so. When hydrochloric acid is present, this excludes lactic acid, for where there is hydrochloric acid there is no lactic.

Some surgeons have formulated a demand for an exploratory laparotomy in every case in which the diagnosis is in the least doubtful. One surgeon says in speaking of early diagnosis of cancer: "This cannot be done on the present state of our knowledge save by timely exploratory laparotomy. Other means at our command are wholly inadequate, and to depend on them further is needlessly to sacrifice many, I may say thousands, who might be easily saved." Just such assertions as these from prominent surgeons induce indiscriminate surgery. The number of cases we should have to submit to laparotomy to no purpose would be very large were we to satisfy the demands of these surgeons and perform an immediate exploratory operation in all doubtful cases. Moreover, this is much easier said than done. Patients complain of comparatively little trouble which may be occasioned by an incipient carcinoma, or equally as well by a neurosis, gastritis, erosion, ulcer, gastroptosis, cholelithiasis, or by disturbed gastric function originating in disorders of remote organs. When we recall that two thirds of all chronic diseases of the stomach belong to the type of the neuroses or functional disorders, we can readily understand why the internist hesitates when the surgeon demands exploratory incision. Considering all the points of the examination, careful observation and in some cases rational internal treatment are required in order to form an opinion. The procedures necessary for making a positive diagnosis in some cases are beset with difficulties, because patients usually object to frequent and detailed examinations and for that reason may not return. If the ailment has a tendency to exacerbate, all the attempts to stimulate the appetite failing, if vomiting refuses to be controlled, and the body weight does not show an increase, suspicion may well concentrate upon carcinoma, and we are obliged to advise an exploratory laparotomy, even if no tumor is palpable. If, on the other hand, there is an increase in the weight of one or two pounds every week, should the appetite reassert itself and the patient's appearance and sensation of well being improve, if the unfavorable symptoms decrease, particularly the amount of hydrochloric acid increasing, we may in most cases exclude the diagnosis of carcinoma. With all possible precaution mistaken diagnosis cannot altogether be avoided.

It must further be admitted that while exploratory laparotomy is no longer a serious operation, it is not free from danger. If we advise exploratory laparotomy in the presence of slight manifestations, we may take it for granted that in the majority of cases patients will not submit, and if after such refusal a course of internal treatment is instituted and the patients recover, we shall subject ourselves to many unjust reproaches. An important point to remember is that upon examining an opened stomach, it may be very difficult for the surgeon to interpret correctly the traces of a possible [illegible] ulcer or other healing. What is not visible to the benign frequently [illegible] to be malignant, and what seems to him malignant may simply be benign.

Carcinoma at the fundus and body of the stomach generally manifests itself only at a time so late in its development that radical operation can offer little hope. Successful resection can only be hoped for in carcinoma of the pylorus and of the lesser curvature, the latter encroaching upon the pylorus at an early stage. These cases constitute about fifty per cent. of gastric cancer. Where resection is possible it should always be done. The size of the tumor is no contraindication so long as the stomach is large.

An important question to consider is whether an operation is justified in cancer when there are metastases, but the tumor can still be removed; and whether in such a case gastroenterostomy should be the chosen operation. Though the results of gastroenterostomy in benign cases of pyloric stenosis are good they are sadly deficient in cancer, exceptional cases to the contrary notwithstanding. The average success with a gastroenterostomy in cancer is the prolongation of life for six months. Experience shows that resection gives better results. In cases with slight metastases resection should be given the preference if possible over gastroenterostomy. With the present improved technique it is possible to perform a complete resection in from one to one and a half hours.

Gastroenterostomy is only indicated in pyloric carcinoma with retention, where resection is no longer possible. If there is the slightest doubt as to the benign character of the pyloric stenosis, resection of the pylorus is indicated. The mortality for resection, according to statistics of various prominent surgeons, is between six and twenty-eight per cent., or an average of seventeen per cent. The average duration of life after a resection is from sixteen to eighteen months. Mayo reports five patients alive and healthy for more than three years after operation.

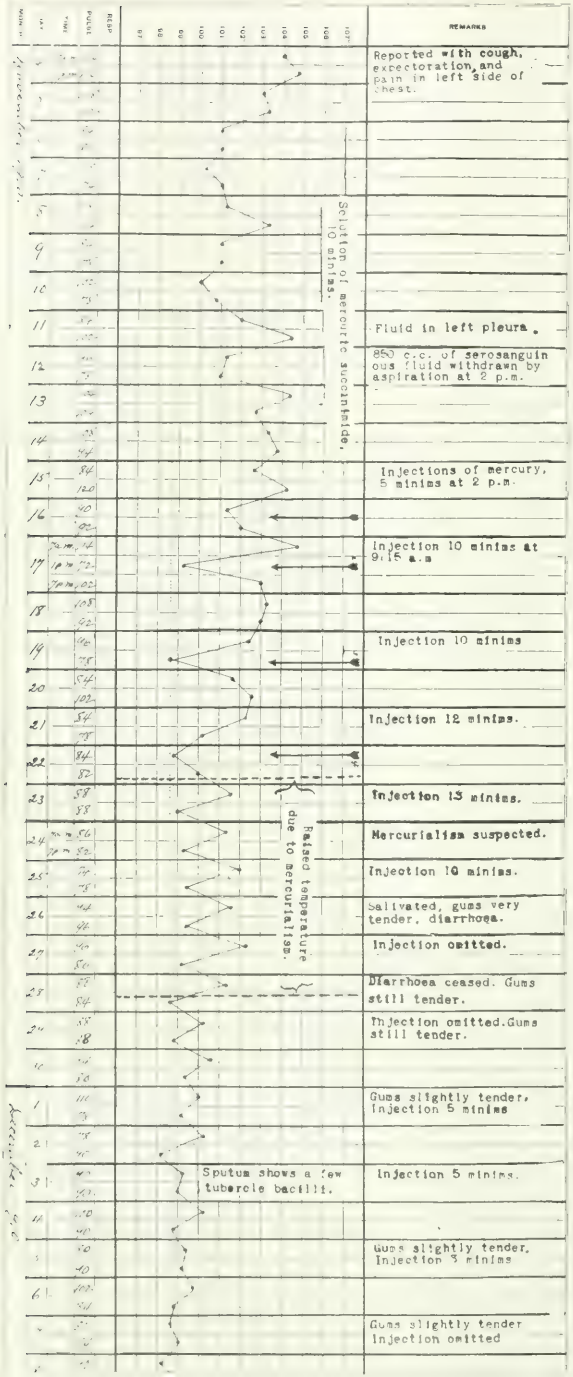
32 West Adams Avenue.

[illegible] Treatment of Tuberculosis [illegible]
Muscular Injections of Mercury.

By Barton Lisle Wright, M. D.,
Surgeon, United States Navy.

During the past three years I have reported several hundred cases of chronic tuberculosis successfully treated by this method; among them were exhibited local lesions of practically all the organs and tissues excepting the brain.

By most of the profession the results reported were considered to be due to the presence of a suppositious syphilitic complication, which being improved or cured by the administration of mercury, permitted the climatic conditions of Colorado, supplemented by sanatorium treatment, to effect the cures or improvements in the tuberculous infections noted, seemingly forgetting that up to that time the entire profession regarded syphilis complicating tu-



berculosis as a most deadly combination, and that mercury was considered absolutely contraindicated in syphilis complicated by tuberculosis. Forgetting also that many of the patients I reported were in the terminal stages of the disease, and for whom no known therapeutic agent or climatic condition capable of improving, much less of curing such cases, existed.

In my earlier papers I stated that I believed mercury had a direct destructive action upon tubercle bacilli, and that it was profoundly antitoxic in this disease, which are facts that my reported cases amply sustained.

To the question often put to me: Why? I was unable to reply in any other way than to point to my results. The now well known "chemicoaffinity" theory of Ehrlich, well demonstrated in several diseases of microorganismal origin, would seem to answer that question at the present time.

The cases reported by myself and others demonstrate the fact that tubercle bacilli have a strong affinity for the succinimide and bichloride of mercury; I have reported a number of cases in which three or four injections of one or the other of these salts caused the tubercle bacilli to disappear from the sputum and fæces, and the cessation of the most profound toxæmia.

The following case most emphatically and unquestionably demonstrates the parasitotropic and antitoxic properties of mercury in relation to tuberculosis.

From the sudden onset of his illness, November 4, 1910, until his discharge to duty, December 26, 1910, the patient was subjected to the most trying climatic conditions possible, viz.: The North Atlantic ocean in winter. Two weeks were spent in crossing, three weeks at anchor in the harbor of Brest, France, during which time it rained continuously, and three weeks at Gravesend, England, where the weather was but little better.

His immediate surroundings were the steel walls of the small isolation ward (nine feet by thirteen feet by eight feet) of the *U. S. S. Nebraska*, the ceiling of which was three feet below the water line, with forced ventilation from the second deck above, supplemented by a port twelve inches in diameter, which was the only source of natural light, the room being dark and gloomy at all times, in spite of a single sixteen candle power incandescent lamp kept burning.

These conditions were surely not conducive to the welfare of the pa-

tient, but rather in themselves were a serious handicap to overcome by the drug administered in addition to the virulent and pernicious infection for which the textbooks state "there is no human aid."

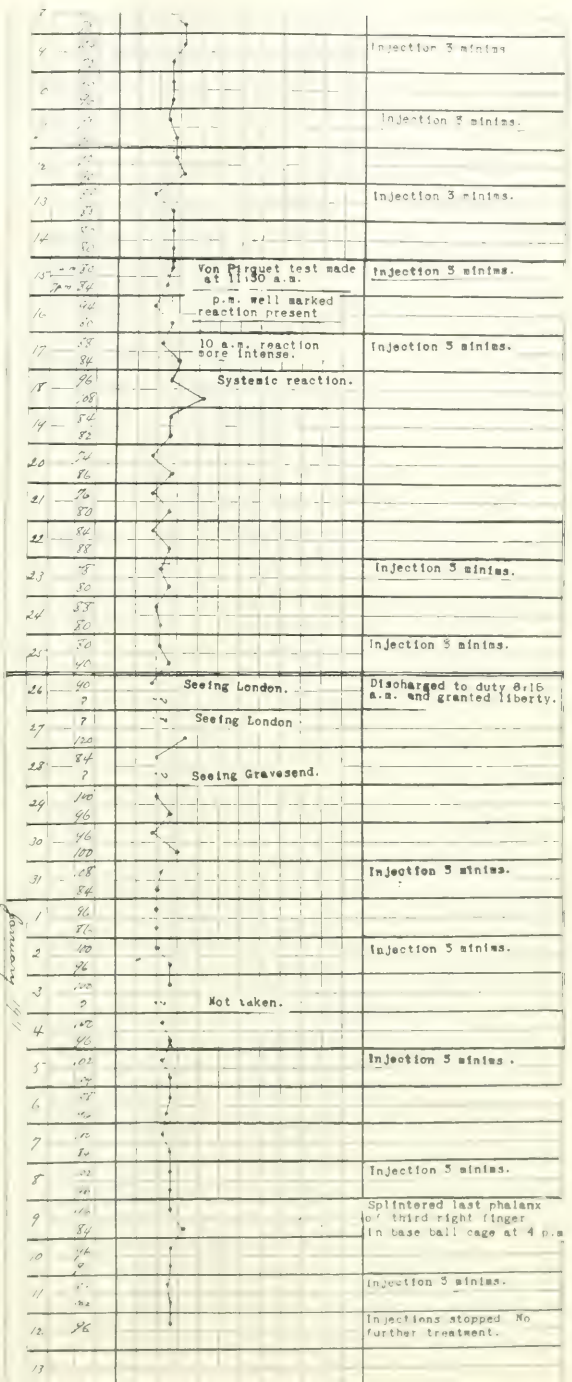
My confidence in the efficacy of mercury is well demonstrated by the fact that I did not transfer this patient to the hospital upon our arrival at Brest on November 15, 1910, but voluntarily and willingly assumed the full responsibility for his life.

From our knowledge of the action of mercury in syphilis considerable time would have to elapse before the improvement in the luetic condition would to any degree favorably affect a coexisting tuberculous infection, more especially one of acute and virulent type. It would, therefore, be the height of absurdity to say that the brilliant results obtained in this case were due to the curative effects of mercury upon a possible but not probable syphilitic complication. Indeed, I have no hesitancy in saying that had this patient had a preexisting syphilis, the results would in all probability have been reversed, for from personal observation I am convinced that patients suffering from tuberculosis complicated by syphilis do not do as well as patients with uncomplicated tuberculosis when treated with mercury. It is therefore obvious and beyond question that the immediate, profound, and rapid improvement and apparent cure in this case were due solely to the parasitotropic and antitoxic properties of mercury.

The critical falls in temperature immediately following each injection on the 15th, 17th, 19th, and 21st of November, 1910 (see temperature chart), the second injection producing a fall of five and a half degrees, and the disappearance of toxic symptoms, and rapid convalescence of the patient after the fourth injection, proves the truth and correctness of this assertion most emphatically and decidedly.

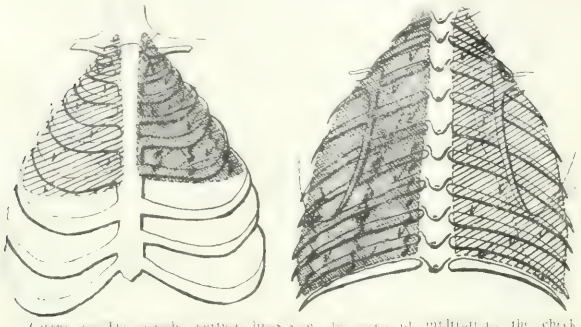
The moderate rise in temperature during the period embraced between the 22d and 28th of November was obviously due to mercurialism, as shown by ptyalism, and the subsidence of the temperature curve following the stopping of injections. That mercurialism should follow the injection of less than one grain of mercuric succinimide spread over a period of eight days would seem to preclude syphilis as a complication.

In less than eight weeks after the onset of the disease, at a time when ninety-five per cent. of these patients



are either dead or dying, and six weeks after the administration of the first injection, the patient resumed his full duties on board this ship, apparently cured.

This extraordinary and truly wonderful result, by far the most brilliant ever reported in the history of the treatment of tuberculosis, and taken in connection with the numerous cases heretofore reported by myself and others, warrants the belief that in mercury we have the chemical affinity of the tubercle bacillus, and the hope that experimentation will sooner or later develop a compound of mercury for which these organisms will have even a stronger affinity than they display for the succinimide.



Cover [illegible] the sounds, vertical lines [illegible] of infiltration [illegible] the cheek [illegible] indicate [illegible] the cross hatching [illegible] the area of consolidation, and the wavy [illegible] respiration.

Case.—Yeoman second class, United States navy.

Complaint: Cough, expectoration, and pain in the left side of chest.

Family history: Paternal grandfather died of old age; paternal grandmother living and well, seventieth year; maternal grandfather living and well; maternal grandmother living and well; father died in fiftieth year of some acute illness; mother died in childbirth in thirty-fifth year; brothers, three living and in good health; sisters, halfsister died in infancy, cause unknown.

Personal history: Born February 20, 1886, in Indiana of German descent. Had mumps and measles in fifteenth year. Amygdalitis on board the *U. S. S. Salem* in September, 1910, and follicular amygdalitis on board this ship on October 26, 1910, which lasted three days. Had never had syphilis or gonorrhœa. No other illness until present attack. The patient was twenty-four years and eight months old, of powerful physique, exceedingly active, an athlete of exceptional habits, excelling in baseball and football. His bones were large and well formed, a well arched, broad, and deep chest, muscles well developed, hard and pliable. He was five feet six inches in height, and a few days before his attack weighed 165 pounds stripped, after playing football all season. A very good idea of his previous excellent health and probable freedom from any infection of a constitutional character was presented by his teeth, none of which were missing, they were all well formed, extremely white, and in excellent condition, with only one filling, this in an upper canine broken in an accident.

Habits: Excellent. Had never used tobacco or alcoholic beverages in any form.

Present condition: On the evening of October 29th while returning to the ship he was caught in a heavy rain storm, ran for a half mile or so gaining the shelter of the ship, rubbed himself dry and went to bed. Upon arising on November 4th he was suddenly seized with sharp pains in the left chest, moderate cough with small amount of blood streaked, glary, mucoid expectoration, for which symptoms he presented himself at 8:15 sick call. His temperature was 104° F. and his pulse 104. Physical examination revealed nothing but roughened inspiration down to the second rib anteriorly in both lungs, to the second right and third left dorsal vertebræ posteriorly.

Course of the disease: By November 5th both upper lobes presented the physical signs of infiltration, the cough was worse, expectoration increased in amount and had become sanguinopurulent in character, pain in left pleura continued, the mental condition became dull and apathetic, the bowels obstinately constipated. Examination of sputum and fæces were negative for tubercle bacilli. Not having tuberculin on board none of the various tests could be made, but a tentative diagnosis of acute miliary tuberculosis of pulmonary type seemed warranted and was made.

All symptoms but those of temperature and pulse rapidly increased; by November 9th the entire left lung was consolidated and the entire right infiltrated; expectant treatment continued.

During the afternoon of the 11th physical signs of fluid in the left pleura presented themselves, temperature rose to 104.5° F., mental condition worse, patient seemed to be far away, when spoken to it was many seconds before he replied, the reply was intelligent but was made slowly and with effort. By this time patient was markedly emaciated, did not desire food, but took moderate quantities of broth and malted milk.

On the 12th being prepared for rib resection and drainage should pus be found, 850 c.c. of serosanguinous exudate was removed by aspiration. Sputum and fæces were still negative for tubercle bacilli.

On the 13th in addition to the continuance of the other symptoms, severe and drenching night sweats appeared, and occurred frequently during the twenty-four hours. Chart 1 shows the condition of lungs and pleura on this date. Tentative diagnosis changed to absolute.

On the 14th and 15th all symptoms were worse, at 2 p. m., on the latter date, the first injection, five minims (0.1 gramme) of an aqueous solution of mercuric succinimide was given, this was followed by an immediate and marked improvement in the patient's condition, on the 16th he expressed a desire for food, from this time on he ate three full meals a day, and we having arrived at Brest, he was given 1500 c.c. of fresh milk and six raw eggs daily.

On the 17th the second injection ten minims (0.2 grammes) of the solution of mercuric succinimide was given at 9.15 a. m., the temperature then being 104.8° F. and the pulse 114. At 1 p. m. the temperature had fallen to 99.2° F., more than five and a half degrees, and the pulse to 72; these critical falls in temperature followed each of the two following injections, and were obviously and unquestionably due to the destructive action of mercury upon

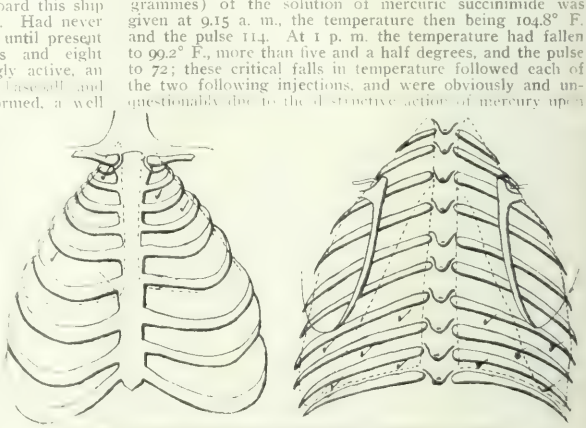


Chart 2. [illegible] edema [illegible] Lungs [illegible] discharge [illegible]

the tubercle bacilli. After the fourth injection toxic symptoms disappeared and convalescence established, the moderate rise in temperature during the next six days being due to mercurialism (see temperature chart).

So far the diagnosis rested upon the physical signs and the symptoms presented. On the 23rd the diagnosis was strengthened by the condition presented by the left eye, which the patient stated was slightly painful and tender. Examination showed a contracted pupil and congestion of the sclera and conjunctiva, the pupil was dilated, and ophthalmoscopic examination revealed several tubercles on the inner side of the disk; this condition rapidly cleared up.

By November 30th night sweats had ceased, and cough and expectoration had about disappeared, and the patient apparently had gained considerable weight. On December 5th he weighed 139 pounds, from this it was roughly estimated that on the 14th of November he could not have weighed much, if any, more than 130 pounds.

On December 3rd the diagnosis was confirmed by finding a few tubercle bacilli in the sputum, which together with the fæces had since been negative.

Desiring as much positive evidence as possible, on December 15th at 11.30 a. m., I made a von Pirquet test. Twenty-four hours later a well marked reaction was present, in forty-four hours it was more intense, on the third day the value of this reaction was enhanced by a moderate systemic reaction, the temperature rising to 100.2° F.

From the 30th of November to December 26th the patient made an uneventful but rapid recovery, and on the latter date was discharged to duty apparently cured. Chart No. 2 shows the condition of his lungs at that time, his weight (stripped) being 148 pounds.

Since his discharge he had been performing his full duties, spent forty hours seeing London, five or six more in Gravesend, was using dumbbells, and practising baseball in the cage, where on January 9th he splintered the distal phalanx of the third finger of his right hand, which caused a slight rise of temperature that evening.

He now (January 12, 1911) weighs 163 pounds, stripped, and the only remaining evidence of his virulent and pernicious illness is a rapid pulse.

The date of each injection and the dose is given under the column of remarks on the temperature chart

SOME LABORATORY NOTES ON THE PRESENCE OF THE FATS AND LIPOIDS IN THE LESION OF RHINOSCLEROMA AND ON VARIATIONS IN ITS BACTERIOLOGY.

By Jonathan Wright, M. D.,
New York.

and Lawrence W[illegible] M. D.
New York.

(From the [illegible] and the Throat Hospital.)

Having had the opportunity to study by laboratory methods, in various ways, the cases of Rhinoscleroma lately reported by Güntzer,[1] Braun,[2] Durkee,[3] and Smith,[4] and other cases not yet on record, which have applied for treatment at the Manhattan Eye, Ear, and Throat Hospital in the last few years, we have thought it permissible to publish those parts of our notes that deal with certain unfamiliar aspects of the pathology and bacteriology of the disease, referring the reader for general information as to the affection, hitherto considered of great rarity in this country, to the excellent and comprehensive monograph of Dr. Güntzer.

The histology of the lesion is fairly well known, and when all the characteristics which distinguish it from that of other granulomata are present it would seem that this composite picture, furnished by the [illegible] pathognomonic, or even more so, than the minute anatomy of tubercle is for the diagnosis of phthisis. As with tubercle, there is hardly any one cell character or cell derivation, which may be said to be by itself of satisfactory differential diagnostic value, yet all taken together, neither rhinoscleroma nor phthisis depend solely on the demonstration of the bacilli in the tissue for diagnosis. Certainly in rhinoscleroma, as we have seen it, the morbid tissue changes are as a whole *sui generis*. As an illustration of the findings, we quote from a recent report by one of us on a bit of tissue from Dr. Smith's case:

Case No. 4574. The tissue from the nostril of the man in whose blood from the lesion the bacillus of Frisch was demonstrated shows a typical structure, characteristic of rhinoscleroma. Large extents of organized granulation tissue, filled with the cellular products of inflammation, show very little, comparatively, of nuclear fragmentation and no areas of coagulation necrosis characteristic either of syphilis or of tuberculosis and no attempts at repair, so that simple inflammation, syphilis, and tuberculosis may all be ruled out. Under high power objectives, large areas of the so called foam cells are seen, that is cells derived from the endothelium or perhaps from the lymphocytes or the plasma cells whose cell bodies are much overgrown, and whose cytoplasm between the nucleus and the periphery, marked distinctly by a cell membrane, has fallen away, leaving granules and threads which give the areas the peculiar lacelike appearance described by Mikulicz. Here and there throughout this kind of tissue are larger and smaller globular bodies, for the most part free from the cells, which are usually called hyaline degeneration bodies, or Russel bodies. In all probability, the material is derived from the broken down cytoplasm referred to, which in a fluid colloid state has coalesced into globules. There are [illegible]

Without going into the minute anatomy more in detail, such changes manifestly are due to a proliferation and a degeneration of the cytoplasm of the plasma cells, a sort of coagulation necrosis, in which all the cell is not destroyed, which is in contrast to the more total destruction seen in a syphilitic or tuberculous lesion; this in extended areas, when they exist, sufficiently distinguished it from the more common pathological changes referred to. It will, of course, be understood that this scleromatous tissue usually presents some areas indistinguishable from those seen in the lesions of syphilis and of tuberculosis and not infrequently a number of fragments, removed for diagnosis, present indications of a syphilitic import. Yet the line of distinction which separates the lesion of scleroma from that of tuberculosis and syphilis is much more sharply drawn than the histological line between the latter.

The tissue necrosis, both in syphilis and in tuberculosis, is well known to be accompanied by a plentiful deposit of fatty matter in dense extracellular masses, amidst the amorphous material and within the cells bordering on the degenerated areas, and in the form of intracellular granules in the lymph spaces.

Since recently we have been more or less engaged in the laboratory with the technique of the tinctorial reaction of the fats and lipoids in various tissues, chiefly tonsillar, and in various tissue lesions, and since we are unfamiliar with any account of these fatlike bodies in the degenerated tissues of rhinoscleroma, we have thought notes on the appearances worthy of record.

Dr. Smith's case showed the various characteristic histological changes in the most typical way, though it presented certain bacteriological features of an exceptional nature to which reference will be made later. It was chiefly tissue removed from this case which was employed for the study here recorded.

The technique used to demonstrate the various phases of the fats and lipoids in the tissue may be ascertained by a reference to articles recently published[5] and in the course of publication by Dr. Wright in this *Journal*.

An investigation of the fat contents, of the soap, of the cholesterin, and the lecithin shows for the neutral fat a large number of loose granules in the tissue and although these are by no means confined to the areas of foam degeneration it seems very likely that much of it has come from the broken down cytoplasm of these cells. In addition, there are a number of neutral fat stipple cells or granulocytes, the wandering lymphocytes of the blood, seen in the tissues and in the bloodvessels, all having a double nucleus as is the rule with these cells in all the tissue yet examined for them with the Sudan III stain.

The cholesterin stain of Dietrich shows these stipple cells of a different shape and in a mononuclear condition, few in number and with faint granules, but seen, as the neutral fat lymphocytes were, in the bloodvessel lumina as well as in the tissues. A few larger globules were seen loose in the tissues and a cell, containing intermediate forms between these large independent extranuclear globules and the smaller intranuclear granules of the stipple cells was noted as containing cholesterin.

The most striking feature is seen with the soap stain, as used in other work by Dr. Wright. The red blood cells did not take the neutral fat stain with their usual avidity. The regular rule has not been departed from for these cells with the cholesterin stain which shows plainly, but the *soap* stain exhibits an unusual avidity of all the structures, hitherto mentioned as concerned in the lesion, for it. The intracellular globules and transition stage from the granules to the globules is especially well marked, and the smaller granules of the stipple cells not less so. The soap stain persists in these structures after it has all been washed out of the red blood cells, in the process of distinguishing the soap from the cholesterin, but before the distinction has been carried to that degree the black color of the soap is so marked in some of the stipple cells as to hide the nucleus and sometimes the nucleus itself seems saturated with it, so that these lymphocytes are represented by mere black blurs which can only be identified by comparison with other cells in which the features are not thus entirely obscured. This condition of intracellular soap is exceptional in our experience as yet, though it is too early in the history of this method of microchemical investigation to know how much emphasis to place on the phenomenon.

In the course of the preparation of this report, the recent paper of Lamar and Flexner[6] comes to our notice. They have shown that soap formation is evidently an important step in the bacteriolytic fight of the cells against the pneumococcus in resolving pneumonia and have obtained some therapeutic success in the use of antipneumococcic serum in infected rats by adding sodium oleate and boric acid to it. It is interesting in this connection to add independent testimony to the existence of soap in a rhinoscleromatous lesion, in unusual amounts. It is not a striking feature at all in lymphoid hypertrophy which may be looked upon as an inflammatory tissue not essentially of bacterial origin.[7]

The Mikulicz bodies of so called hyaline degeneration were not differentiated by any of the staining processes for the fats and the lipoids. The larger globules free in the tissue such as noted for the cholesterin stain were not seen with the soap stain.

There is reason to think that the cholesterin exists as a soap, cholesteryl oleate, but that is apparently not the form of soap here present since the cholesterin stain is not absorbed in amounts unusual in normal tissues.

Lecithin stains of the tissues by Ciaccio's method reveal his so called "lecithin cells" with the pale pink globules in the cell bodies of the lymphocyte or plasma cells. A few of these globules are seen free. A few binuclear lecithin stipple cells are seen which have taken the stain. We have therefore, in this scleromatous tissue, demonstrated the neutral fat, the cholesterin, and the lecithin, but not in amounts exceptional at least in hyperplastic tissue. This is a tissue in which there is much degeneration of the cytoplasm of the plasma cells. This evidently has set free the neutral fat granules in the connective tissue, but they are not excessive. The lipoids, cholesterin, and lecithin are less in evidence than in normal tonsil tissue. The interesting point is that an *intra vitam* degeneration of cell protoplasm has not led to accumulation of fat and the lipoids as is the case in the degeneration of the protoplasm incidental to the coagulation necrosis of syphilitic and tuberculous lesions, at least for neutral fat. Of further interest is the significant association of soap in an infectious granuloma.

A limited amount of tissue was put through the various formulæ of the osmic acid process, chiefly as a matter of comparison with previous observations made with that method on necrotic areas in syphilis and tuberculosis. The amount of fat thus demonstrated was in marked contrast to that of the latter lesions. None of it was intracellular, and with the exception of a few globules and a moderate amount of shapeless masses of very small size, there was none of it extracellular, while in tertiary syphilitic and tuberculous areas large amounts are regularly seen at the borders of and in the necrotic mass itself, deeply stained with osmic acid, and the intracellular granules and droplets in the partly crumbling protoplasm of the cell bodies are abundant.

Complement fixation in rhinoscleroma—Goldzieher and Neuber[8] have used the Bordet Gengou phenomenon of complement fixation for differentiating the bacillus of Frisch from others of the same group, and they conclude that it is to be regarded as distinct from bacillus of Friedländer.

Since this organism may be constantly recovered

[illegible]

Acutely inflamed tonsils have subsequently shown large numbers of stary granulocytes.

[illegible] Goldzieher und Neuber [illegible]

from the lesions of the disease and since it grows copiously and characteristically on simple media, it seems an ideal field for the method of complement fixation. Since also the condition is chronic, the accumulation of antibodies in the serum of the individual is to be expected.

The technique employed by Goldzieher was the original Wassermann method, while ours has been the Noguchi modification. The bacillus was isolated in pure culture from each of the cases and grown on agar slants for from three to four days. A suspension was then made in nine per cent. salt solution which on account of the profuse surface growth plainly consisted of as nearly pure bacterial cells and their products, with as little admixture of foreign bodies as it is possible to obtain under any circumstances.

This suspension was thoroughly shaken, incubated again for twenty-four hours, ground in an agate mortar, and heated to 60° C. for 30 minutes. It was found, however, that the grinding and heating were unnecessary.

To determine the amount of this suspension which it is necessary to use in order to obtain antigenic action, that is, the titre of the antigen, two series of tubes were prepared, the front row, containing one drop of serum from a case of rhinoscleroma plus 0.5 c.c. of fresh guineapig serum as complement and the rear row containing complement alone. To the first tube of each series was added one drop of the bacterial emulsion, to the second two drops and so on until the point was reached at which the bacterial suspension itself produced inhibition of the hæmolysis shown by the set of rear tubes. This is the anticomplementary point of the antigen or suspension, while the lowest number of drops which causes inhibition in the presence of serum is the minimal dose. One drop more than this was the amount used as antigen.

The patient's serum was inactivated at 60°C. for thirty minutes before use. The hæmolytic system was rabbit serum sensitized for human red cells, and a one per cent. solution suspension of human reds.

In performing the actual tests, two series of tubes were used, the front row containing patient's serum plus complement, plus antigen, and the rear row for controls containing no antigen. The front row showed inhibition of hæmolysis since the patient's serum combining with the antigen should fix the complement, while in the rear row the absence of antigen allowed no fixation and hæmolysis occurred.

A considerable series of tests were made, using two distinct samples of each patient's serum and two cultures, obtained at different times.

Case A showed complement fixation, using antigen of Case A and Case B. Case B likewise inhibited hæmolysis with antigen of B and A. Cases A and B likewise showed fixation of complement by antigen, made from Friedländer's bacillus, obtained from another laboratory.

The fixation in all these instances was stronger with homologous than with heterologous antigens and sera, that is serum A plus the bacillary emulsion isolated from the Case A produced more marked inhibition of hæmolysis than serum A plus bacillary emulsion of Case B.

A second culture of Friedländer's bacillus, differing slightly culturally, did not give inhibition of homologous in an amount itself anticomplementary.

The third case of rhinoscleroma (Case C) showed an organism, differing from the first two in being an active gas producer. Suspensions of this bacillus gave fixation of complement well with the sera of Cases A and B and also with its own serum, though to a lesser degree.

This patient had clinically a very mild infection and one which was nearly healed, so that the degree of hæmolysis corresponded with the grade of infection. Bacillus A likewise gave a weak inhibition of hæmolysis with this serum of Case C.

Seven normal sera gave no inhibition with A or B.

In view of these results, the method of complement fixation, so far as it goes, shows the identity of *Bacillus rhinoscleromatos* or the bacillus of Frisch and that of Friedländer, contrary to the opinion of Goldzieher and Neuber.[9]

44 West Forty-fifth Street.

THE RELATION OF GALLSTONES TO CANCER OF THE BILE TRACT.*

By John A. McGlinn, A. B., M. D.,
Philadelphia,
Gynæcologist of St. Agnes Hospital.

So much is being written about cancer that it seems there is hardly an excuse for still further burdening the literature of the subject unless one has some matter of real scientific merit to impart. On the other hand, lessons which are of ancient learning are not fully understood or appreciated, and any paper which will serve, even in a modest way, to awaken anew an interest in the subject is timely.

The relation of gallstones to cancer of the biliary passages is well understood. Moynihan states: "One of the most serious sequelæ of cholelithiasis is malignant disease of the gallbladder or of the ducts. The close relation between gallstones and malignant disease has never lacked recognition, though opinions have differed as to which is the cause and which the effect. Opinion is now universally in favor of the view that it is the irritation of the gallstones that determines the incidence of cancer, the view that was first supported by Klebs. In his record of cases Courvoisier found the following results: Of eighty-four cases of primary cancer of the gallbladder, there were seventy-two in which stones were found; in two others stones had been passed in the motions. In the remaining ten no mention of stones is made; in four of these there were certain pathological changes: Scarring of the duodenal papilla, stricture thereof, and dilatation of all the bile passages, which indicated, unquestionably, the former presence of calculi."

Siegert investigated cases both of primary and secondary cancer. Gallstones were present in ninety-five per cent. of the cases of primary cancer. In secondary cancer stones were found in only 15.4 per cent. of the cases. Rolleston collected thirteen

[illegible] County

two cases, or exactly the same percentage as did Siegert. Musser, in 1889, reported one hundred cases of primary cancer of the gallbladder verified by post mortem examinations. Gallstones were present in sixty-nine per cent. of the cases. In thirty cases collected by Jayle, stones were found in 76.6 per cent. Brodowski is quoted as having studied forty cases of primary cancer and found stones in all.

In studying these reports, where the exact number of cases are quoted, we find 254 cases of primary cancer of the gallbladder with stones present in 210, or 82.7 per cent. Of secondary cancer there were twenty-six cases with stones present in four, or 15.4 per cent. It will be seen that stones were present in a great majority of the cases of primary cancer of the gallbladder, but in only a small percentage of the cases of secondary cancer. It would seem from these cases that it is the gallstones which are the cause of cancer and not the cancer the cause of the stones.

Moynihan further states: "Primary carcinoma of the bile ducts is far less commonly seen than cancer of the gallbladder, and the growth is not so clearly shown in post mortem records. A specimen of primary columnar celled carcinoma of the bileducts due to gallstone irritation is in the museum of the Charing Cross Hospital (No. 1332)."

Rolleston found stones present in four out of eleven examined. He considers that calculi are less commonly associated with cancer of the bileducts than with cancer of the gallbladder, but admits the possibility of the passage of gallstones after the development of the growth and before the death of the patient. Courvoisier reports two cases of cancer of the common duct due to the irritation of stones.

The present report is made from a study of over nine thousand post mortem records in the Philadelphia General Hospital. In the report I have included cancer of the liver, pancreas, and duodenum, on account of their close relationship to the biliary passages. In all there are records of 456 cases of cancer. The post mortem records of the cases of cancer of the gallbladder and ducts are as follows:

GALLBLADDER.

Pathological No. 1752 B. White; age, sixty-three. Gall-[illegible] in gallbladder. Metastases to liver and retro-[illegible] peritoneal lymph nodes.

Pathological No. 1922 B. White; male; age, sixty-eight. No stones present. Metastases to liver and retroperitoneal lymph nodes.

Pathological No. 1242 B. White; female; age, fifty-nine. Gallstones in gallbladder.

[illegible] No. [illegible] [illegible] eight. Gallstones in cystic duct.

[illegible] two. Gallstones in gallbladder. Involvement of liver.

Pathological No. 6145 A. White; female; age, sixty-five. No stones present. Metastases to liver and pancreas.

Pathological No. 4916 A. White; female; age, sixty. Gallstones in gallbladder. Metastases to liver, omentum, spleen, right kidney.

Pathological No. 5185 A. White; female; age, sixty. Gallstones in gallbladder and cystic duct.

Pathological No. 5304 A. White; male; age, eighty. No stones present. Metastases to left adrenal and liver.

Pathological No. 88 A. White; female; age, seventy-[illegible]

Pathological No. 434 A. White; male; age, sixty-five. Biliary sand in gallbladder. Stones in cystic duct. Metastases to liver.

BILEDUCTS.

Pathological No. 1022 A. White; male; age, sixty-five. Cancer of common duct. Stones in common duct. Fistula between gallbladder and colon. Metastases to colon, lungs, spleen, and skin.

Pathological No. 839 B. White; male; age, seventy-two. Cancer of cystic duct. No stones present. Metastases to liver, kidneys, appendix, mesentery, mesenteric, and gastrohepatic lymph nodes, diaphragm, and lungs.

Pathological No. 3037 A. White; male; age, fifty-nine. Cancer of common duct. Stones in common duct and cystic duct and gallbladder. Metastases to gallbladder, liver, and pancreas.

Pathological No. 3213 A. White; female; age, seventy-nine. Cancer of cystic duct. Gallstones in cystic duct. Metastases to liver, lungs, circumbronchial and gastrohepatic lymph nodes.

Pathological No. 3895 A. White; male; age, thirty-six. Cancer of hepatic duct. No stones present.

In this series the liver was the site of primary cancer in twenty-six cases. Gallstones were present in the gallbladder in three cases and in the cystic duct in one case.

The pancreas was the site of primary cancer in thirty-six cases. Gallstones were present in the gallbladder in four cases and in the gallbladder and all the bileducts in one case.

In recapitulating we find that gallstones were present in eight of the eleven cases of primary cancer of the gallbladder. In primary cancer of the bileducts stones were present in three of the five cases.

In the entire series of over 9,000 post mortem examinations gallstones were found in 507 cases.

Studying these few cases it would seem that gallstones play an important part in the ætiology of cancer of the gallbladder and bileducts, but in cancer of the liver and pancreas they are only incidental. They occurred no more frequently of these two latter organs than in cancer of more remote organs. There was a record of but one case of cancer of the duodenum; stones were not present.

Williams holds that gallstones play no part in the causation of cancer. He states that they are the most frequent lesion found post mortem and are found more frequently in association with cancer, irrespective of the site, than in any other pathological lesion. He explains this to fit his theory of overfeeding as the cause of cancer; asserting that gallstones, too, are due to over indulgence of nitrogenuous food with sedentary habits.

Of course we may find as the result of further investigations that there is a specific cause of cancer, and we will have to discard all our present notions of its ætiology. We do know now, however, from experimental work that irritation plays an important part in the production and development of the disease, and it is fair to presume in the light of published reports that gallstones, from their constant irritation, are factors in the causation of cancer of the biliary passages.

A significant fact, in proof of this, is that in secondary cancer of the gallbladder and ducts, stones are very rarely present.

If we accept the theory of irritation as a cause of cancer we can learn an important lesson in the [illegible] of the disease. I firmly believe that practically all the time and energy spent in inculcating

the lessons of the necessity of early diagnosis are well nigh wasted. No matter how early visceral cancer may be diagnosticated very few cases can be cured. The time to cure cancer is before it develops; in other words, we should teach how to prevent cancer. If gallstones are the cause of cancer of the biliary passages, then, if the stones were removed early, cancer would not develop. While it is said that gallstones may exist for an indefinite time and produce no symptoms, and thus render their diagnosis difficult or impossible, I cannot fully agree with the statement. That gallstones may exist and produce no symptoms directly referable to the biliary passages is no doubt true, but that they produce no lesions of adjacent organs with definite symptoms is, I believe, a fallacy. The inability to diagnosticate gallstones, or at least to suspect their presence, is due in great part to a lack of appreciation of their complications. In a paper read before the Pennsylvania State Medical Society, in October, 1910, I showed that in the series of 507 gallstone cases studied from the post mortem records of the Philadelphia General Hospital practically all gave definite associated pathological lesions of adjacent organs. I drew the conclusion that gallstones were always a surgical condition; that the only way to prevent the complications of gallstones was to remove them, and the only way to properly remove them was by surgery.

As to cancer of the biliary passages so I believe this principle of prevention should be applied to other organs of the body. If it is true that seventy-five per cent. of gastric carcinomata are preceded by gastric ulcer, then every gastric ulcer operated on should be treated by removal of the ulcer bearing area and the operation of gastroenterostomy for this condition discarded. In cancer of the cervix uteri we know that the great majority of the cases are preceded by a laceration of the cervix. While we might repair or amputate many a cervix where, in the light of future events, the operation might be considered to have been unnecessary, cancer of the cervix would be a rare condition if every woman nearing the menopause had a good cervix with no pathological changes in it to produce irritation.

It took many years to convince the profession, and the members are not all convinced yet, of the fact that early appendicitis is a surgical condition. While many thousand healthy appendices have been removed, the saving of life has been large enough to compensate for all the unnecessary operations. So with cancer, while no doubt many an unnecessary operation would be performed to remove irritation the results would be adequate.

113 South Twentieth Street.

[illegible] IRRIGATION TREATMENT [illegible] SEPTIC ABORTION.

By Henry Will[illegible]
New York.

The prevalence of abortion, the frequency of septic abortion, and its high mortality and still higher morbidity, must justify this paper. Concerning its frequency we have little reliable knowledge, that is of a character which might enable us to express it as we do the birth rate [illegible] it is not so difficult to estimate with more or less accuracy. For example, an estimate based upon one hundred of my cases taken consecutively shows an average of four abortions to three births. This of itself would indicate a number of abortions thirty-three per cent. in excess of labors, assuming the records to be correct and a fair example of conditions generally. But allowing for the reticence so often displayed by women upon this subject, together with the early abortions so often overlooked, it is only fair to assume that the percentage of abortions over labors is still greater. Obviously this large number of miscarriages are not of spontaneous occurrence, for Williams estimates that about fifteen per cent. of conceptions end prematurely from spontaneous cause, so that if this estimate is only approximately correct, it still leaves the balance to be accounted for. This can only be done by attributing the balance to deliberate induction for the purpose of avoiding maternity.

It is more difficult to estimate the number of septic abortions because for one thing there is a difference of opinion as to what constitutes a septic case, and secondly because the medical man is by no means always called in on these cases, at least not until the patient is desperately ill. It is for this reason that so many moribund patients are received in the hospitals. Inquiry into the various means resorted to in an effort to induce abortion to a great extent accounts for the prevalence of this complication. Women who attempt to induce abortion upon themselves are prone to resort to a curious variety of implements, among which the pencil, penholder, knitting needle, and hat pin are common examples. These implements are plunged blindly into the vagina, and while they are undoubtedly often successful, it is also a fact, as medical records show, that they are also responsible for many cases of severe sepsis and fatal accidents.

Concerning the methods of the average abortionist, the majority of which appear to be made up of midwives, investigation has recently demonstrated that as operators they are none too clean, that antisepsis is their stronghold and asepsis almost unknown and certainly not understood. The favorite methods seem to be the catheter, the sponge tent, irritating injections, electricity, rupturing the membranes in late cases, the uterine sound, etc. It is safe to say that the anatomical knowledge of this class is as scant as their knowledge of asepsis, so that when we consider this together with the fact that it is often a difficult matter for an inexperienced physician, notwithstanding his anatomical knowledge, to pass a uterine sound, it is not difficult to realize that these cases must be largely complicated. Again, once the abortion is begun and the fee collected these operators lose all interest in their patients, who are sent home to shift for themselves as best they can, with instructions to call in a physician if their case becomes complicated. It is under these circumstances that the medical profession gets the greater part of this variety of practice.

One might safely say that no septic abortion leaves its victim in as good a health as she was previous to that abortion. Atrophic and sclerotic changes in the [illegible]

placements, adhesions, subinvolution, and vague tubal and ovarian disorders, each with its train of subjective symptoms, are to be cited as among the milder complications, or diffuse pelvic suppuration with extensive adhesions, pyemic and metastatic conditions as among the more severe. What the actual mortality of septic abortion is, we do not know, nor are there any reliable means of investigation. The nature of these cases is such as prompt the patient's family and very often the physician to suppress the actual facts, but based upon what reliable data we can command there is little doubt but what it is large.

The object to be aimed at in the induction of abortion is to secure an *empty uterus*, and any treatment that falls short of this empty uterus fails in its object, since it subjects the patient to subsequent dangers. It is not sufficient that the treatment excites labor pains or creates a flow of blood, nor is it sufficient that the fœtus be expelled, for while this may satisfy the patient, since it precludes the possibility of maternity, it should not satisfy the attending physician, since herein lies the danger. It is safe to say that death never takes place from the physical process of expelling a fœtus, nor does this process cause any perceptible morbidity. On the other hand, retained fœtal tissue exposes the patient to the two dangers that threaten her at this stage, that is, hæmorrhage and infection, the latter of which is directly responsible for morbidity and mortality in almost every instance.

There are well established conditions under which we are justified in inducing abortion, so that it is perhaps advisable to take up its aseptic induction before dealing with the septic cases. In inducing an abortion we should bear in mind that we are dealing with an organ that is primarily sterile, and that, if we are to maintain it in this sterile condition, everything that comes in contact with the uterus directly or indirectly must also be sterile. The slightest deviation from this rule invites infection. In other words, a procedure of this sort must be conducted with the same degree of asepsis as would be employed in a laparotomy. The actual induction of abortion is a simple matter to the skillful gynæcologist, for which purpose it is sufficient to insert a foreign body within the uterine cavity such as a strip of gauze in early pregnancy, or one or more soft rubber catheters of various sizes dependent upon the period of gestation. This procedure soon excites uterine contractions, the results of which are cervical dilatation and subsequent discharge of the uterine contents in a more or less complete state. Up to this point there is no possibility of infection if complete asepsis is observed, to which end the vulva should be shaved; the vulva, vagina, and cervix should be thoroughly scrubbed and irrigated with the same care as would be resorted to in plastic work upon the perinæum. The instruments, hands, dressings, gowns, etc., must, of course, be equally sterile. It is advisable, except in very early pregnancy, to allow the fœtus to discharge itself. This insures a well dilated cervix, good subsequent drainage, and also an easily detached placenta.

To abandon active treatment at this stage, even though there is no infection, is to invite this complication, for it must be remembered that pathogenic bacteria are ever present in the vagina in spite of our scrubbing and douching, from which source any retained tissue is readily infected. On the other hand, a clean and well contracted uterus has unappreciated power of resisting germ invasion; besides, if infection does occur, active treatment must then be resorted to, and finally because the treatment here advocated will under proper conditions never result in infection, consequently have no mortality, little or no morbidity, and will greatly shorten the convalescence. I refer here to immediate curettage for the purpose of insuring an empty organ. This is not a difficult procedure for one with a little experience, and when carried out at this stage while dilatation is good and when the uterine muscles are actively contracted is far easier than the same operation upon an infected organ with muscles relaxed and paralyzed by the sepsis. Under the former conditions the operation involves but little risk, for there being no infection present there is consequently no danger in opening up the vessels or allowing the entrance of bacteria into the blood or lymphatics, and a contracted uterine wall insures against perforation except in the presence of utter carelessness and ignorance. On the other hand, once the case is septic the very reverse holds good. If our only object in treating these patients is to preserve their lives without regard to the subsequent state of their health, we might be justified in postponing the curettage until infection takes place, and many cases would escape the operation, but those so unfortunate as to become infected would each and every one carry some result of the infection to her grave.

The technique of curettage under these circumstances varies in no respect from the same operation under other conditions except that cervical dilatation is present, and that since we are dealing with a large cavity a large curette should be used. The size of the curette will naturally vary with the size of the uterus, but in every case should be as large as can be conveniently used. Thus in curetting a uterus following labor at term an instrument whose blade measures two inches across might be advantageously employed, whereas in a case of real early abortion an extremely small instrument is necessary. The operation should not be abandoned until good uterine contraction is secured, for which purpose hot intrauterine irrigations and bimanual massage are useful. Under aseptic conditions this operation is without danger of infection, under other conditions it had better not be attempted. The remarkable speed and smoothness with which convalescence takes place under these circumstances leaves nothing to be desired. Patients not subjected to this immediate curettage often convalesce with equal rapidity, but oftener the reverse is the case. This will occur in every case in which the uterus is not empty, the symptoms of which are continued hæmorrhage and pain. These continue until the retained tissue is expelled, during which time the patient is always threatened with infection and incidentally loses much blood unnecessarily.

Septic abortion in the sense here used includes all cases of infection within the uterus, from the mild so called sapræmic ones to the most severe cases of pelvic phlegmon and septichæmia. To regard saprophytic infection in any other light than an incipient

sepsis is to invite that sepsis, for even conceding the experienced man's ability to distinguish these sapræmic cases we have no means that will enable us to say that this mild case will not become a severe one if treated conservatively, which practically means left to itself. On the other hand, these same cases treated actively, that is, curetted, clear up immediately. In fact, the results under curettage are so prompt as to suggest that the diagnosis of sapræmia depends upon the facility with which it clears up under this operation.

The question of treating these septic abortions hinges entirely upon the use of the curette. Polak (*Surgery, Gynæcology and Obstetrics,* vol. xi, p. 49) draws conclusions in this connection from a study of some two hundred cases of puerperal sepsis, comparing the results between the cases curetted and those not curetted before admission to the institution. His conclusions would be warranted were it not for the fact that the failure of curettage in this series merely emphasizes the severity of this group, for had any of these curetted cases improved as a result of the operation it would not have been necessary to send the patients to an institution. So that the curetted cases in Polak's series represent only the failures from this operation. In order for conclusions of this sort to be equitable and unbiased it would be necessary to take a series of uncuretted cases received in the institution, curette half, and compare results. However, it is not fair to draw conclusions from hospital cases of this type because they are almost always received in a bad state and frequently only when moribund, whereas the general practitioner sees them at an earlier period and it is not difficult to conceive a procedure of value early in the infection but inert at a later period.

Note the objections urged against the curette: 1. Dangers of perforation. 2. Certainty of breaking down the Metchnikoff "granulation wall." 3. It opens up the vessels of the uterine wall, permitting the entrance of bacteria and toxines into the blood. 4. Failure of curettage.

1. Heineck, from a search of the world's literature of the past twelve years, succeeded in collecting 153 cases of uterine perforation, of which forty-one were the result of the use of the curette. This by no means represents the total number of perforations from this cause, but considering the enormous popularity that this operation enjoys, particularly among occasional operators, is it not rather remarkable that only forty-one cases of perforation could be attributed directly to the curette? Objectors to curettage conceding the necessity for emptying the uterus as a rule recommend digital exploration. Now digital exploration in septic abortion of necessity demands a greater degree of dilatation than does curettage, yet Heineck's series shows thirty perforations as a result of the use of the uterine dilator.

2. We must admit the existence of Metchnikoff's "granulation wall," not, however, as a special defensive process peculiar to the uterus alone, but only as a local evidence of the phenomena of inflammation in the course of which nature causes the infecting agents to be surrounded by leucocytes. This so called wall may be likened to the shell of a canoe, very effective until the shell is punctured, but punctured the balance of the shell will hardly keep the water out. The existence of fever and rapid pulse, the existence of adhesions in the pelvis, and the presence of bacteria in the blood, are each conclusive evidence that this wall is ineffective and has been breached.

3. It is stated that curettage opens up arteries, veins, and lymphatics, thus opening up fresh channels for the entrance of bacteria and toxines into the blood. Conceding that the hæmorrhage incident to curettage is proof of this assertion it is pertinent to note from what source this additional germ and toxine absorption takes place. Certainly not from the bacteria that have penetrated beyond the surface, consequently from those within the uterine cavity, and that is in the lochia. Then why leave the lochia within the cavity? By what process of reasoning do obstetricians and gynæcologists justify their ignoring of the lochia with its untold millions of virulent bacteria and their deadly toxines contained, as it is, in a relaxed vascular organ possessing extraordinary absorptive powers and protected only by an ineffective wall of leucocytes? How absurd it is to argue that because some of the germs have passed this barrier it is useless to remove the rest or a large part of them. The fact that the actual presence of bacteria in the blood does not necessarily influence the prognosis of the disease, indicates that this "protecting wall" is by no means Nature's only defense, and that under certain unknown conditions she is able to cope with bacteria and destroy them even though they be in the blood. But this by no means justifies us in ignoring the source from which both germs and toxines are elaborated unhampered by the leucocytes and from which the blood stream and lymphatics may and do receive unlimited additional reinforcements.

4. The curette undoubtedly often fails to cure a puerperal sepsis. In fact the curette can of itself never do more than remove any retained fœtal tissue in sterile cases, or infected and necrosed uterine and fœtal tissue in septic cases. In doing this in sterile cases it precludes the possibility of infection, since it leaves nothing within the uterus upon which germ growth can obtain a foothold. In so much as the removal of this infected fœtal and necrosed uterine tissue, which constitutes an ideal germ culture media, is of value, of just so much value is curettage. It has no power to remove or destroy the infection. *The curette's value lies in its early use,* and the earlier it is used the more effective it is; inversely, the more it is delayed the less effective. Vineberg states that almost in every case of criminal abortion that resists curettage the patient dies, but he might also have stated that if these patients had been curetted early enough they would all be cured. This necessarily indicates that it is not the *curettage* that is at fault, but the *time* of curettage. One might say the same of appendectomy.

"Scarcely second in importance to the surgical procedures which have been mentioned (curettage) are those measures of treatment which have for their object the neutralization or destruction of poisons which have become absorbed into the blood," says Pinkham (*Journal of Obstetrics,* v. 61, p. 416). This author refers to hypodermoclysis and intra-

venous transfusion. I do not wish to depreciate these procedures whose value in surgical shock and hæmorrhage are beyond question, but Vineberg's statement concerning the mortality when curettage fails tends to cast a doubt upon the value of salt solution injections in puerperal infection. The principles upon which intravenous injections are based are such as to make them utterly unable to do more than temporarily relieve the profound shock that is so often an element of the more desperate cases, but by no process of reasoning are we justified in believing that the injections in any manner either neutralize or destroy the poisons, nor does clinical experience bear out this claim.

One of the chief objections to curettage is that it opens up innumerable bloodvessels and lymphatics, and that this leads to additional toxine absorption. This objection necessarily concedes two facts: 1. That toxines are contained *within the uterine cavity;* and, 2, that absorption of *toxines contained within the uterine cavity* takes place. But who is prepared with facts to tell us how much or how little toxine absorption takes place under any circumstances? What proof have we that before curettage, or without curettage, the toxine absorption from the uterine contents is not an important element in the disease? In the absence of this knowledge, but with a full knowledge of the toxic nature of the lochia, the absorbing powers of the uterus and the "scarcely secondary importance" (Pinkham) of toxine absorption in this disease, why waste our efforts in futile attempts to neutralize or destroy the toxines in the blood when, perhaps, by keeping the uterine cavity empty of lochia we can prevent absorption to a degree sufficient to decide the conflict in favor of the patient?

If absorption from the uterine cavity is an important element in puerperal sepsis, we should naturally expect this absorption to be in proportion to the extent of intrauterine surface exposed to the lochia, thus in sepsis following labor at term or late miscarriage we would expect the absorptive element to be in excess of the same element in a case of sepsis following early abortion. It would take up too much space to go into this matter in detail at this time. Suffice it to say, that as a matter of fact, septic abortion, occurring during the early periods of pregnancy, almost always tends toward the inflammatory or lymphatic type, whereas sepsis, occurring after labor or late miscarriage, tends toward the toxæmic form. Of course, both elements, inflammatory and toxic, exist in every case, as they do in every other inflammatory condition of the body, but in these puerperal cases of the later periods of gestation containing, as they do, extensive intrauterine surfaces exposed to the toxic-laden lochia, the toxæmia is greatly in excess at times, so much so, as to kill the patient before the inflammatory processes manifest themselves.

Finally, if absorption from the lochia is an important factor in the production of the toxæmic element of a puerperal sepsis, it is to be expected that if we can maintain the uterine cavity empty of lochia as we can by continuous or frequent irrigations, we should note improvement in the condition of the patient in proportion to the importance that absorption from this source exerts. In other words, the proof of the value of this procedure lies in the results of its clinical application. As a supplement to the previously reported cases (*New York Medical Journal*, June 19, 1909) I here briefly report four additional cases, all following induced abortion, for which reason I have taken it upon myself to discuss the treatment of abortion at some length.

Case VIII. Miss B., August 19, 1909. Septic abortion of about the sixth month of gestation in an unmarried girl of sixteen years of age. Undoubtedly criminally induced although no admission to that effect was obtained. Patient first seen on the eighth day after the delivery. Temperature, 103.2° F.; pulse, 145; respiration, 24. Appearance characteristically bad. Locally a purulent lochia without excessive odor, lacerated and sloughing cervix, adherent and relaxed uterus with intrauterine measurement of eight inches. Lochia taken from the uterine cavity showed streptococci in chains of fair size. Leucocytes, 16,000. The patient was immediately curetted and this followed by a copious intrauterine douche and a loose vaginal pack inserted. A blood culture taken at this time proved negative.

Ninth day. Temperature, 103° F.; pulse, 145; respiration, 24. Taken midday.

Tenth day. Temperature, 102.8° F.; pulse, 142; respiration, 26. Severe chill during the afternoon.

Eleventh day. Temperature, 103.6° F.; pulse, 156; respiration, 26. Chill, tubes inserted, irrigation every two hours.

Twelfth day. Temperature, 103.4° F.; pulse, 160; respiration, 28. Condition bad, vomiting, no distention, irrigations hourly.

Thirteenth day. Temperature, 104.2° F.; pulse, 160; respiration, 30. Continuous irrigation.

Fourteenth day. Temperature, 103.2 F.; pulse, 148; respiration, 26. Discharge foul smelling and profuse.

Fifteenth day. Temperature, 103° F.; pulse, 142; respiration, 26. Leucocytes 26,000.

Sixteenth day. Temperature, 102.2° F.; pulse, 136; respiration, 26.

Seventeenth day. Temperature, 101.6° F.; pulse, 128; respiration, 28. Pain in lower abdomen, patient placed on table, tubes removed and fresh ones inserted, intrauterine measurement five and one half inches. Irrigations hourly. Pelvic induration.

Eighteenth day. Temperature, 101.2° F.; pulse, 120; respiration, 26.

Twenty-second day. Temperature, 99.6° F.; pulse, 86; respiration, 24. Irrigations discontinued, uterus measured four inches.

Twenty-sixth day. Temperature, 100.6° F.; pulse, 94; respiration, 28. Pelvic abscess drained through vaginal vault obtaining about six ounces of pus.

Thirtieth day. Temperature, 98.6° F.; pulse, 80; respiration, 22. Profuse vaginal discharge.

Thirty-eighth day. Temperature, normal. Patient discharged; uterus well involuted; slight vaginal discharge.

Comment: This patient, examined about six months later, showed a freely movable uterus. Menstruation almost painless, but somewhat profuse. A moderate leucorrhœa was still present. This is a case in which the curettage failed, as indicated by the progressive increase in pulse rate, chills, and vomiting, and, according to Vineberg, is one of that class of cases that usually prove fatal.

Case X. November 18, 1909. Mrs. O., age thirty-two, multipara, four children, two miscarriages all uncomplicated (?). Present history pertained to a miscarriage of about four and one half months, reluctantly gave a history of having visited a midwife six times in the course of five weeks, during which visits instruments were used. About a week ago, immediately after the last visit to the midwife, she had a violent chill shortly after which the pains began and delivery was completed in the course of a few hours. The fœtus was described as "soft and rotten" with a peculiar "sharp odor." The placenta "came away in pieces." She had daily chills for the next three days. I

was consulted on the fifth day and found a small, poorly nourished woman, appearance rather bad, loose bowels, no abdominal distention or muscular rigidity. Temperature, 101.4° F.; pulse, 146, and of poor quality; respiration, 24. Locally, an old lacerated perinæum, enlarged and lacerated cervix well dilated, lochia semipurulent and profuse with a rather slight but characteristic odor. Intrauterine examination made bimanually disclosed a relaxed organ containing considerable placental tissue; intrauterine measurement, six and one half inches. She was immediately curetted, this was preceded by a copious intrauterine douche and followed by a light vaginal pack of iodoform gauze. Patient had a severe chill while still on the table and another about an hour later. Gauze removed. Evening temperature, 105.2° F.; pulse, 156; respiration, 28. The following day the noon temperature was 102.4° F.; pulse, 142; respiration, 24. Lochia showed streptococci infection.

Seventh day. Temperature, 103.6° F.; pulse, 150; respiration, 24

Eighth day. Temperature, 102.2° F.; pulse, 154; respiration, 28. Tubes inserted, irrigations hourly, uterus adherent inflamed mass on right side, blood count, 14,000 leucocytes.

Ninth day. Temperature, 102.4° F.; pulse, 150; respiration, 28. Returning fluid cloudy.

Tenth day. Temperature, 103.2° F.; pulse, 154; respiration, 28.

Eleventh day. Temperature, 103° F.; pulse, 150; respiration, 26.

Twelfth day. Temperature, 101.4° F.; pulse, 144; respiration, 26. Appearance somewhat improved.

Thirteenth day. Temperature, 100.2° F.; pulse, 128; respiration, 22. Tubes changed, uterus measured five inches, irrigations every three hours.

Fourteenth day. Temperature, 100.2° F.; pulse, 118; respiration, 20. Lochia profuse, purulent. Leucocytes, 18,000.

Fifteenth day. Temperature, 99.8° F.; pulse, 112; respiration, 20. Tubes removed.

Seventeenth day. Temperature, 99.4° F.; pulse, 92; respiration, 22. Much irritating and foul discharge, vaginal douches every three hours.

Twenty-fourth day. Temperature, 100.2° F.; pulse 84; respiration 24. Uterus contracted and well involuted pelvis filled with inflammatory mass.

Twenty-ninth day. Temperature, 101.4° F.; pulse, 100; respiration, 26. Vaginal vault opened, two ounces of pus [illegible].

Thirtieth day. Temperature, 98.6° F.; pulse, 82; respiration, 20. Patient discharged on thirty-eighth day.

Case XI. This patient was a young actress, age twenty-four, unmarried, three previous miscarriages. While traveling from one town to another she had submitted to the treatment of three different individuals for the purpose of inducing abortion but without the desired result. She was about four months pregnant. She was feeling and [illegible] and returned to New York on February 18, 1910. While on the train she began to flow and on arrival at the hotel [illegible] with the hotel physician and it was decided to curette the patient at once. Temperature, 104.4° F.; pulse, 110; respiration, 26. This was carefully done but was followed by a severe chill. The following day the temperature was 101.2° F.; pulse, 110; respiration, 20. Did not see the patient again until five days later when I was again called. There were three chills on this the seventh day and one on [illegible] pain, blood culture showed cocci (not identified) leucocyte count 16,000. Temperature, 101.2° F.; pulse, 160; respiration, 32. Condition generally bad. Locally, uterus much relaxed and walls very thin, containing much necrotic tissue. Lochia entirely purulent. Pelvic inflammatory mass extending from one broad ligament to the other involving the entire cul-de-sac. It was desirable to remove the patient to a hospital but in view of her bad condition and excessively rapid pulse it was decided to await a more favorable time. Tubes were inserted and continuous irrigation instituted at once. This was supplemented with salt solution given both subcutaneously and per rectum. The next day the temperature was 103° F.; pulse, 140; respiration, 24. Patient removed to a private hospital [illegible]

Ninth day. Temperature, 103.4° F.; pulse, 148; respiration, 26. Taken at midday.

Tenth day. Temperature, 102.8° F.; pulse, 140; respiration, 26.

Eleventh day. Temperature, 101.4° F.; pulse, 132; respiration, 24.

Twelfth day. Temperature, 101° F.; pulse, 132; respiration, 24. Irrigation hourly.

Thirteenth day. Temperature, 100.8° F.; pulse, 118; respiration, 24. Tubes removed. Uterus rigidly involved in large inflammatory mass. Cavity measured four and a half inches. Discharge foul. Fresh tubes inserted. Irrigations continued hourly. Blood count, 21,000 white blood corpuscles.

Fourteenth day. Temperature, 101.2° F.; pulse, 112; respiration, 26.

Seventeenth day. Temperature, 100.6° F.; pulse, 94; respiration, 28. Irrigation discontinued, tubes removed.

Twentieth day. Temperature, 101.2° F.; pulse, 100; respiration, 28. Cul-de-sac opened, very little pus.

Patient discharged forty-six days after curettage with temperature and pulse normal but looking rather poorly and with a pelvic inflammatory mass and a uterus adherent in retroflexion.

Comment: This patient was not recurretted because, 1, I was fairly certain that the uterus contained no fœtal tissue; 2, of the extremely thin and relaxed walls; and, 3, of the extremely septic condition, as indicated by temperature 101.2° F., pulse 160. It was on account of this last fact that continuous irrigation was instituted at once. This case illustrates the advisability of postponing the draining of pelvic abscesses of this class until either distinct fluctuation is detected, or, at least, as long as the patient's condition warrants.

Case XII. May, 1910. This is a case of a young woman of good family who, finding herself pregnant, sought the services of an accommodating individual who inserted a catheter and sent her home, where after much pain and hæmorrhage she was delivered of a four or five month fœtus. The necessity for secrecy prompted her to appear at breakfast the next morning, during which she had a severe hæmorrhage, fainted, was carried to her bed and the state of affairs discovered by her mother. Their family physician called in, gave ergot in large doses. Three days later the temperature rose; and the next day a piece of placental tissue was expelled. I was consulted on the fifteenth day and found a typical case of profound sepsis, characteristic facies, temperature 105.2° F., pulse 166. Abdominal distention, vomiting, chills, adherent and relaxed uterus. Patient was carefully curetted, the uterine copiously irrigated. The vaginal vault was widely opened, liberating considerable pus. The abscess cavity irrigated and packed lightly with iodoform gauze. Tubes were inserted into the uterine cavity and continuous irrigation instituted at once.

Improvement was manifest almost at once, for by evening her mind had cleared perceptibly, her eyes brightened, temperature 104.6° F., pulse 150. This I did not attribute to the irrigations but rather to the liberation of the pent up pus. A blood count at this time showed 18,000 white cells. Uterine discharge contained streptococci.

Sixteenth day. Temperature, 103.6° F.; pulse, 146; respiration, 24 (taken at noon).

Seventeenth day. Temperature, 103.2° F.; pulse, 144; respiration, 24.

Eighteenth day. Temperature, 102.8° F.; pulse, 140; respiration, 24. Bowels moved naturally. Pallor marked.

Nineteenth day. Temperature, 101.4° F.; pulse, 128; respiration, 20. Irrigations every two hours.

Twentieth day. Temperature, 100.6° F.; pulse, 110; respiration, 20. Abscess dressing removed, cavity irrigated. Tubes removed, fresh ones inserted. Uterus well involuted, measuring four inches.

Twenty-second day. Temperature, 99.4° F.; pulse, 90; respiration, 18. Irrigations discontinued, tubes removed.

Twenty-fourth day. Temperature, 99° F.; pulse, 90; respiration, 20. Abscess dressing removed.

Withdrew from the case.

[illegible]

perfect health, aside from a rather profuse leucorrhœa. Menstruation normal. This patient was so desperately ill as to not warrant awaiting the results of curettage before beginning the irrigations. It is a case in which the inflammatory and toxæmic elements about balance, and while much of the improvement was undoubtedly due to the draining of the pelvic abscess, yet, in view of her serious condition, I am inclined to give credit for some of her recovery to the checking of absorption as the result of the irrigations.

It will be observed that the irrigation treatment was only resorted to when it was evident that the curettage was destined to fail to control the progress of the infection, and when, according to Vineberg, these patients almost invariably die. This excessive mortality is conclusive proof of the futility of medication in its various forms, intravenous and subcutaneous injections of salt or other solutions, nuclein, silver inunctions (Credé), and in fact every known procedure; and while the irrigation treatment is not in any sense advocated as a sure cure, it is the writer's belief that if this treatment is instituted as soon as we have reason to believe that the curettage is destined to fail, it will prove of distinct value, more so than any other procedure that we know of, without in any way interfering with or inhibiting the use of the other procedures.

This treatment is at least rational and direct, aiming, as it does, at the most virulent element of the infection, the poison absorption. Pathogenic bacteria deprived of their toxines are as harmless as a rattlesnake deprived of its venom; so that, if by any means we can deprive the bacteria of their poisons, or a part of their poisons, the benefit must be in proportion to the amount of poison disposed of. The irrigation treatment obviously has no effect upon the production of toxines by the bacteria, but inasmuch as absorption of these poisons from the uterine cavity is an element in the disease, in just so much is this treatment of value, for there can be no doubt but what continuous irrigation of the uterine cavity effectively stops all absorption from that cavity, since it keeps it continually empty of all poison and incidentally carries away immense numbers of virulent bacteria, which is a matter of no small importance.

241 West One Hundred and First Street.

INDIVIDUAL IMMUNITY.*

By William Lintz, M.D.,
Brooklyn, N. Y.

So tremendous has been the outburst of work during the last few years upon this subject, so great the accumulation of data upon a wholly new order, so appalling the array of new terms introduced, so diverse the views of individual workers, that when in addition the solution is still unsettled, the unessential matter not having yet undergone precipitation, there is no branch of medicine more difficult to follow, to comprehend, and to master.

Immunity may be broadly defined as the process by which the body develops its defensive forces and wages war against substances introduced into the system which are deleterious to its welfare. It is generally divided into *natural* and *acquired*. *Natural*, when the power of resisting any specific infection is the natural heritage of a race or species; *acquired*, when a natural state of susceptibility is transformed by various causes into a condition of greater or less resistance. Furthermore, natural immunity may be characteristic to (a) *species*, as is well exemplified by leprosy and syphilis, which occur in man but not spontaneously in the lower animals; may be characteristic to (b) *races;* the appalling ravages of tuberculosis among the Negroes, American Indians, and Eskimos are classical examples of lack of immunity; and finally characteristic to (c) *individuals* of the same race, as manifested when several persons are exposed to an infection, there will always be some who escape the disease. Furthermore, of those affected difference in severity occurs as a result of difference in resistance to the disease.

Acquired immunity may be either (a) active or (b) passive. In the active form the cells of the body are stimulated by the infectious agent to generate protective substances, and immunity is thus due to the direct participation of the organism concerned, and depends upon increased cell activity. An example of this form of immunity is smallpox, which may be obtained, either by an attack of the disease due to natural exposure, or by the deliberate inoculation of dried material from pustules into the nostrils, according to a common practice in England in the eighteenth century, introduced from the Orient by Lady Montague, or by the now common method of vaccination with cow pox virus. Active acquired immunity may result from: 1, an attack of the disease after natural exposure; 2, by the incorporation into the animal body of sublethal doses of living fully virulent bacteria; 3, living bacteria of diminished virulence; 4, dead bacteria; 5, bacterial products secreted or excreted during the life of the microbes; 6, products arising from the disintegration of the cells after death; or, 7, by the incorporation of certain microorganisms or their products, which are not associated in any way with the production of the specific infection. To the last category belongs, for example, the use of yeast in certain pyogenic infections, and perhaps the retarding effect of streptococcus infection upon certain kinds of tumors. The increased resistance of the organism so treated is ascribed to the antagonism of the bacteria or their products, but this phenomenon may be ascribed, it seems to me, with greater plausibility to the increased leucocytosis resulting from the injection of proteid substances; a saline infusion will produce the same result (Isaaf's resisting stage).

In the passive form, on the other hand, the tissues of the immunized individual take no share in the manufacture of the protective substances, the immune bodies being formed by another animal and transferred to the individual to be protected. For it is the horse that is actively immunized by the injection of increasing doses of diphtheria or tetanus toxine; it is his cells that elaborate the antitoxines, and which is found in his blood. The recipient of the serum containing antitoxine is merely passively immunized.

When we endeavor to explain the principles of

* Read before the Kings County Medical Society.

immunity we are confronted with two different views, namely, that of the German school headed by Paul Ehrlich, and that of the French school headed by Metchnikoff.

Ehrlich's conception of the structure of a normal body cell is that it consists of a central molecular complex, the *Leistungskern*, giving the cell its definite characteristics and special properties. Associated with this central group, analogous to the benzol ring of chemistry, are other molecular combinations, which have the specific function of entering into combinations with extracellular material and are called receptors or side chains. The assimilation of food is due to a chemical union between the receptors and nutrient materials brought to them by the blood and lymph stream, which food products are thus incorporated into the protoplasm of the cell. In order for a nutrient molecule to enter into the metabolism of the cell, it must be able to satisfy the affinity of a receptor; but toxic substances may be of such composition that they, like food material, can combine with certain receptors and thus enter and damage the cell.

Ehrlich has demonstrated that the toxine molecule has two forms of affinities; a haptophor group, which combines with the receptor, and a toxophor group, which damages the cell after its union. If the cell is greatly damaged by the toxophor group it dies, if but slightly, as in artificial immunization or the early stages of a disease, the cell being deprived of the useful receptor proceeds, according to Weigert's law of inertia, to regenerate them. As is usual in pathological processes, there is an over production of receptors, the surplus being cast off into the circulation. These cast off receptors, which Ehrlich calls *haptines*, constitute antitoxines or immune bodies, which retain their combining power with the toxine that has produced them, the resulting union formed being a chemically inert substance. Thus we see that so long as the receptor is joined to the cell it is not an antitoxine, but on the other hand an element of vulnerability. The antitoxine, free in the blood of the animal which produced it, is available, on the transference of the blood serum to another individual, whose blood contains the toxine which produced that specific antitoxine. This explains why some diseases occur but rarely more than once in the same individual, for the protection secured in active immunization, though less immediate, yet is more prolonged than in the passive, since in the latter the available antitoxine is limited to the dose, and is not replenished as in active immunity by continued cell activity of the individual himself.

Continuing along these lines, Ehrlich distinguishes three orders of receptors in the cell, whether for the assimilation of food or seizing of toxine molecules. The relatively simple toxines and ferments are anchored by a receptor of the first order, a side chain possessing simply a haptophorous complex to which the toxine becomes anchored by its haptophore. This explains why antitoxines are specific in their action—diphtheria antitoxine having no effect on tetanus toxines and *vice versa*, for the antitoxine has haptophorous properties which unite only with haptophorous groups of certain definite toxines. In this category belong the antiferments to the normal enzymes of the body, and, as shown by Weinland, the reason why the digestive organs do not digest themselves is because the cells of the gastric mucosa contain an antipepsin, and Pollack has demonstrated that pancreatic extract contains an antiferment against the digestive action of the pancreas.

Receptors of the second order include agglutinins and precipitins. Agglutination consists in the clumping and cessation of motility of free bacteria suspended in physiological salt solution or broth, when there is added to the same some of the homologous serum, i. e. serum of an animal which has been inoculated with bacteria of the same species. The immune substance in the serum causing this phenomenon is the agglutinin, which is a cast off cell receptor, an overproduction resulting from the action of the agglutinogen of the invading bacteria. From this observation resulted the invaluable Widal reaction or more correctly the Grünbaum reaction, for the latter discovered it first. It is here interesting to note, as demonstrated recently by von Leube and others, that raising the body temperature by means of hot baths is a most effective measure of arousing this reaction, causing an increase or even a reappearance of agglutinins in blood of patients recovered from typhoid. This is an interesting bit of corroborative evidence that fever is of itself a helpful influence in increasing the reaction against infection.

In 1897 Krauss pointed out, that when the germ free filtrates from broth cultures of bacteria are mixed with the respective antisera produced by animal inoculation, the formation of a powdery precipitate occurs, which is approximately specific in its nature, the filtrate of a typhoid culture giving a precipitate with typhoid immune serum, but not, for example, with cholera immune serum. The substance in the immune serum that provokes precipitation has been termed precipitin, and of them a large number have been developed, resulting in practical application for purposes of distinguishing various meats, for example, horse meat from beef, and for medico-legal purposes. For the serum of an animal which has been injected with human blood, produces a precipitate when mixed with human blood, but has no such effect upon the blood of lower animals. A simple, delicate, and highly trustworthy method for distinguishing human blood stains is thus afforded. Nuttall has established the interesting fact that the precipitin produced by human blood will throw down a precipitate not only in human blood but also in the blood of the ourang outang, gorilla, and the chimpanzee, thus proving that we are all "of the same blood," and genetically allied, and which data he wants us to accept as new and convincing evidence of the cousinship between man and the higher apes.

The side chains which anchor precipitins and agglutinins, possess both a haptophore and a zymophore group.

The most important, perhaps, of Ehrlich's receptors are those of the third group, the bacteriolysins and the cytolysins. It was in 1894 that Pfeiffer and Isaaff were the first to demonstrate the bacteriolytic action of sera resulting from repeated bacterial injections into animals. This lytic action of the serum is due to immune substances called bacteriolysins, which, like antitoxines, are specific, i. e. a

serum that is highly lytic for the typhoid bacillus may be without lytic effect for the cholera vibrios and *vice versa*. Not only are bacteria thus destroyed, but Ehrlich and Bordet have demonstrated the formation of cytolysins, i. e. the development in the organism of substances which protected against and destroyed the cells of other species, or of other individuals of the same species, these being developed as the result of progressive inoculation of the particular order of cells.

The cytolytic and bactericidal power of serum depends upon the presence of two substances in the blood, amboceptor and complement. Amboceptor is thermostable, or heat resisting, not being destroyed by 56° C., a temperature to which complement readily yields and is therefore thermolabile. Complement is a normal constituent of all blood serum, but is richer in some sera than in others. Numerous observations by Morgenroth, Abbot, Corini, and others indicate that in the course of disease the amount of complement may become greatly reduced and that through their relative absence protective sera fail to antagonize bacteria. Also the failure of bactericidal sera may be due to lack of complement in human sera adapted to amboceptors produced in bodies of lower animals. Complements may be increased by the injection of indifferent substances such as broth, blood plasma, etc. The receptors of the third order have two affinities, one for the foreign corpuscles or cells and one for complement.

It is the study of this particular order of receptors that has resulted in the Wassermann reaction.

Along the line of Ehrlich's receptor theory, Welsch has introduced the conception of the throwing off of antibodies by pathogenic microorganisms within the body of the host. These substances Bail has termed aggressins. Just as the cells of the host generate substances antagonistic to the cells of the invading parasites and their products, so the parasites by a similar mechanism may produce amboceptor with affinities for certain tissue cells. In other words, were we bacteria, we would regard the patient's antibodies as toxines; and our own toxines as protective antibodies or at least, as preparatory digestive ferments.

We are sure that as by Mendeljeff's theory the chemists and physicists have been able to predict and discover new elements, so, by this theory we have been able to predict with confidence the existence and properties of a series of antibodies, and put them to practical application, as the Bordet-Gengou phenomenon, vaccine therapy, meistagmin reaction, etc. When such a statement can be made regarding any theory it is obvious that it not complete it approximates to the truth.

When we come to consider the phagocytic conception of immunity we find that Metchnikoff believes immunity to be due to certain cells of the organism which have the power of actively taking up foreign particles organized and living, organic and inorganic, and that this process of phagocytosis is primarily nutritional, a means whereby the individual cell gains food material; that particles so taken up if unfitted for assimilation are discharged; if capable of affording food material, stimulate the formation of a digestive vacuole around them, in which vacuole we have indications of the presence of digestive ferments, and lying there in the fluid the foreign matter is seen to undergo solution, until all that remains are a few granules of unassimilable debris which become eventually cast out. Among such foreign bodies these phagocytes are able to take up the various microbes, both animal and vegetable microbes.

There is, indeed, not a single disease due to known animal or vegetable microbes where there is definite reaction on the part of the organism, in which, at one time or other of its course, phagocytosis and that often very extensive, has not been observed. Metchnikoff divides these into macrophages or large phagocytes and microphages or small phagocytes. The macrophages include the large lymphocytes, endothelial, and connective tissue cells. The polymorphonuclear leucocytes are the microphages.

Just as the amœba and the infusoria make a choice from among the small organisms that surround them, so the phagocytes choose bodies which are best suited for their use. Among the infectious microorganisms the macrophages have a special predilection for those that set up chronic diseases, such as leprosy, tuberculosis, and actinomycosis, and also those which are of animal nature, such as the malarial parasite, the parasite of Texas fever, and the trypanosomata. The microphages, on the other hand, appear to play their "devouring" part especially in acute infectious disease.

Metchnikoff explains this extraordinary discrepancy between the bactericidal power of the body fluids and immunity by the circumstance that the microbicidal substances exist in the living animal within the phagocytes, and only escape from them after the cells have been injured, the digestive ferments being liberated into the plasma are able to act upon bacteria in an extracellular manner.

In the light of our present knowledge one can hardly accept either the phagocytic or side chain theory to the entire exclusion of the other, both seem to participate in the process of immunity.

There may be here someone who has been so unfortunate as to have an immediate fatal result follow upon the second injection of diphtheria antitoxine (or any other), the patient going into a violent shock, marked dyspnœa, and death resulting. This is apt to be the outcome if the first dose is particularly small, and the interval between it and the second injection somewhat prolonged, say from ten to twelve days. Instead of being rendered immune the very opposite result has been brought about, the patient has been "sensitized," rendered much more susceptible to the foreign serum. This process is called anaphylaxis. The tuberculin and mullein reactions belong to this category. Such sensitization is so wholly opposed to our experience in immunity that a totally different explanation would seem necessary. The most rational explanation is the one offered by Vaughn and Wheeler, who suppose that when any protein substance is injected into the body it is broken up into a toxic and a nontoxic component by an enzyme which is present in small amount in the body. At the first injection the disintegration taking place slowly, the organism is but slightly or not at all affected. By the time the second injection is given, however, considerably larger

quantities of the splitting enzyme have been elaborated, so that the liberation of a large amount of the toxic component is immediately brought about, and produces sudden death. But why do we obtain these anaphylactic results only when the preliminary injection is relatively minute, and why under ordinary conditions of exhibiting a first dose of fair size do we on the contrary gain immunity to the whole protein? Without going into detail into the numerous experiments which Besredka has shown and Vaughn confirms, it has been proved that where a large preliminary dose is given the organism becomes immunized to the whole protein and not merely to its nonpoisonous moiety.

[illegible] St. Mark's Avenue.

PNEUMOTHORAX WITH ACUTE ABDOMINAL SYMPTOMS.

By E. J. G. Beardsley, M. D.,
Philadelphia,

[illegible]
College Hospital; Assistant Physician to the Philadelphia General Hospital.

It is well known that certain pulmonary and pleural conditions, as the onset of a lobar pneumonia or pleurisy, particularly when affecting children or aged persons, will sometimes cause abdominal pain and distress, and this is particularly true if that portion of the pleura covering the diaphragm is involved. The writer does not remember having read or heard stated, however, that the onset of an acute pneumothorax may cause violent abdominal symptoms which may closely simulate those of perforative peritonitis. The onset and course of the symptoms of pneumothorax in the patient whose history is here recited differed so materially from those commonly observed that the case is deemed worthy of record. The patient was studied at the Philadelphia General Hospital in the service of Dr. Samuel Rhoads, through whose courtesy the report is made.

The patient [illegible] years. He was admitted to the wards for the tuberculous in October, 1910, suffering from an advanced stage of pulmonary tuberculosis and was thought at this time to also be suffering from intestinal tuberculosis.

Physical diagnosis revealed that the right lung was infiltrated throughout while at the apex there were the signs of a small cavity. Examination of the upper lobe of the left lung indicated that this lobe had been almost completely converted into one large cavity while the lower lobe gave physical signs indicating infiltration throughout the lobe.

The progress of the disease was rapid and the patient was much weakened by attacks of diarrhœa which proved difficult to control.

Two days before the patient's death he was seized with a sudden, sharp, and exceedingly severe pain in the left side of the abdomen directly opposite the umbilicus. The writer saw the patient two hours after the onset of the pain and found him sitting in bed with his head bent forward between his knees and groaning with pain. His face, body, and extremities were covered with cold perspiration, and his countenance indicated intense suffering. The patient stated that the pain developed very suddenly and felt as though a knife had been thrust into the abdomen. He indicated the spot near the umbilicus where the pain was first felt but stated that since the onset of the acute pain there had developed general pain in the left side of the abdomen. The temperature of the patient was subnormal while the pulse was 140. There was no dyspnœa and the respirations were only slightly quickened. It was impossible to make a satisfactory examination at this time because of the patient's restlessness and fear of additional pain through any change in position. It was easily ascertained, however, that the left side of the slightly distended abdomen was more rigid than the right while the slightest pressure on the left side caused severe pain. One half grain of morphine was administered hypodermically to render the patient comfortable. An hour later the man was again examined and was found comparatively free from pain, although any movement of the abdomen caused distress. The abdomen was much distended and was rigid, particularly on the left side, while the entire abdomen was tender. A tentative diagnosis of rupture of a tuberculous ulcer was made but the patient's general condition prevented any thought of operative interference.

The patient died two days after the onset of the acute symptoms and during this period remained in much the same condition as when first examined except that the abdomen became slightly more distended. At no time was the patient dyspnœic.

Autopsy revealed no rupture of the many tuberculous ulcers present, and there was no evidence of peritonitis but an explanation of the acute abdominal symptoms was found in the discovery of an extensive left sided pneumothorax. The absence of any considerable amount of fluid in the pleural sac apparently confirmed the view that the pneumothorax had existed but a short time. The heart was considerably displaced to the right, the apex corresponding with the right lateral sternal line.

It is clearly to be seen that had even a casual examination of the chest been made after the onset of the acute symptoms, the apex beat would have been discovered in the abnormal position and the correct diagnosis made, but the writer was misled by the severity of the abdominal symptoms and very carelessly neglected the complete examination of the chest.

It is of interest to note that in a recent article[1] on pneumothorax, by the late Dr. W. B. Stanton, of sixty-one cases recorded, none of the patients are reported to have experienced abdominal pain, while only one is stated to have been free from dyspnœa.

2030 Chestnut Street.

PINWORMS AND CARAWAY SEED IN INFANTILE APPENDIX

By Ignatius Kornblüh, M. D.,
New York.

The patient in question was brought to me suffering from a right inguinal scrotal hernia. He was twenty-one months old and quite well developed for his age. He was breast fed up to the third month, received the bottle and breast up to the eighth month, and thereafter was allowed to enjoy, in addition to the breast and bottle milk, also a liberal supply of everything the parents used to eat. He was particularly fond of rye bread with caraway seed. About a month ago he had a slight attack of indigestion which subsided promptly on a few doses of calomel.

Upon my advice the child was sent to the Philanthropin Hospital for operation, which was performed on the 20th of January by Dr. E. W. Peterson. Noticing during the Bassini operation that the appendix was about four inches in length, Dr. Peterson deemed it advisable to remove the appendix. The external appearance of the appendix seemed perfectly normal, but on opening it we were surprised to find eight living pinworms and one caraway seed, the latter imbedded in a slight inflammatory exudate.

This case adds another example of the innocuous-

of foreign bodies in the appendix as long as it remains free from infection by pathogenic bacteria. It also illustrates the urgency of promptly removing pinworms before they get a chance to invade the appendix. That bread with caraway seed is not a suitable food for infants, is, of course, self understood.

[illegible] EIGHTY-FIRST STREET.

Correspondence.

LETTER FROM LONDON

Abstract of Malignant Stricture of the Œsophagus: Nursing Pageant

LONDON, February 28, 1911.

At a recent meeting of the Medical Society of London Dr. William Hill gave a demonstration of his methods of treating malignant stricture of the œsophagus. He said that the treatment of primary cancer of the œsophagus was nearly always palliative, for the relief of dysphagia and pain. The only cases in which operation had hitherto been successful were in all probability not instances of primary disease in the œsophagus, but of invasion of the disease from the pharynx and larynx, and in these cases certain operations, such as total laryngectomy together with partial excision of the deep pharynx and of a small segment of the adjacent cervical œsophagus, had often been successful. With early recognition by means of the more general adoption of exact endoscopic methods of diagnosis, together with improvements in operative technique, an occasional successful œsophagectomy might be regarded as possible in time. Kilian had diagnosticated and successfully removed a small sarcoma of the gullet by endoœsophageal measures through the œsophagoscope. The only external operative treatment which had been and was still extensively practised was the strictly palliative operation of gastrostomy, but there were two other endoœsophageal measures—viz., intubation and radium—which would in the near future render the necessity of resorting to gastrostomy a much more exceptional event than it was to-day. Before dealing in detail with these special procedures, he passed under rapid review such palliative measures as treatment by drugs, e. g., iodides, iodipin, and fibrolysin, which, like serum therapy, were not often even of temporary value. Of drugs acting locally, spirit of ether broke up frothy mucus in the gullet by reducing surface tension; astringents, like adrenalin, cocaine, and turpentine, were of little use; local anodynes, like morphine, chloretone, and orthoform, were sometimes useful for pain in cancer high up. They rarely, however, enabled one to dispense with hypodermic injections of morphine, atropine, etc., in very painful cases.

Lavage of the gullet in cases of dilatation above a stricture was the best means of removing decomposing substances, but glycerin of boric acid and of carbolic acid and similar preparations were also useful as disinfectants and deodorants. Hydrogen peroxide was contraindicated. Caustics were generally inadvisable, even when applied endoscopically to tight strictures. Relief of dysphagia by the x rays had been alleged in a few instances where the disease was high up. The question of diet was of great importance. The passing of blind bougies undoubtedly gave relief to dysphagia, but was not free from danger even in expert hands. The permanent detention of a small gum elastic oroœsophageal catheter or feeding tube had been advocated. Mackenzie was the first to use an entirely intraœsophageal permanent intubation tube of gum elastic held in position by strings. This was later superseded by Symonds's gum elastic intraœsophageal funnel, an appliance of great utility, which could, by the aid of the œsophagoscope, be much more easily inserted than formerly.

James Berry was the first to employ permanent soft red rubber oroœsophageal tubes of small calibre, which were, however, difficult of introduction. Symonds improved on Berry's method by introducing a red rubber oroœsophageal catheter shaped like a Jacques urethral catheter, which was more easily introduced by a whalebone guide inserted into the eye near the distal extremity. Dr. Hill had modified this instrument so as to prevent its being easily ejected by coughing or vomiting, and had found it most useful. It obviated the need for gastrostomy in many cases. This method was indicated in cases which were unsuitable for the employment of Symonds's funnel.

Dr. Hill then spoke of the employment of radium. He and Dr. Finzi had treated twenty-two cases by this method, using from twenty to fifty milligrammes for periods varying from twelve to twenty-eight hours, repeated in some instances as many as six times. They alleged four temporary cures. In six other cases there was quite remarkable improvement, and in seven further cases there was a substantial improvement, and only in five cases was there no improvement. Mr. L. B. Rawling, in the subsequent discussion, gave several reasons for preferring gastrostomy to other methods of treatment.

Under the auspices of the National Council of Trained Nurses of Great Britain and Ireland, a pageant illustrating the evolution of trained nursing was performed on February 18th. The object of the pageant was to arouse public interest in Lord Ampthill's bill for the State registration of nurses. About 120 nurses took part in the spectacle, which demonstrated in a striking fashion the gradual evolution of the modern highly trained nurse from the pious Sisters of Mercy of early Christian times. One of the chief features was a procession of the Immortals, headed by "Hygeia" and supported by "Science" and the "Spirit of Nursing." The procession included not only representatives of the ancient nursing orders, both male and female, but also such characters as Rohere, the founder of Saint Bartholomew's Hospital, and St. Catherine of Siena, a fourteenth century plague attendant, attired in the hooded cloak and beaked mask, which formed the customary garb of all who approached a plague stricken patient. A welcome touch of humor was added by a spirited rendering of two persons who are almost as famous as the foregoing, Betsy Prig and the immortal Mrs. Gamp. An imposing array of hospital matrons, headed by Miss Isla Stewart, followed the historical characters, and they were

followed by representatives of every branch of the nursing profession, including nurses attached to the services and government departments, county councils, poor law authorities, and foreign missions. Bringing up the rear was a band of nurses bearing banners, who demanded the right of protection and recognition by the State. The pageant, which was organized by Mrs. Bedford Fenwick and Miss M. Mollett, matron of South Hants Infirmary, was enthusiastically received by a large audience, a considerable proportion of which consisted of members of the nursing profession.

LETTER FROM EDINBURGH

Sir James Crichton Browne on Aviation—Lord Guthrie on Women Doctors.—Glasgow and the Consumption Crusade—A Clergyman on Medicated Wines

EDINBURGH, *February 28, 1911*

At the dinner of the Edinburgh Royal Medical Society, on February 15th, Sir James Crichton Browne was the principal guest. Dr. F. R. Fraser presided. In replying to the toast of his health, Sir James referred to some of the members of the society who were to the fore in the days when he was president. There was one name which, out of a sense of justice, he should like to mention—James Bell Pettigrew, who became Chandos professor of medicine in the University of St. Andrews, and who was admitted to the Royal Medical Society immediately after he had won the Goodsir gold medal for his essay on the Muscular Structure of the Heart. It was within the speaker's recollection that at a discussion at one of the society's meetings Pettigrew vaguely and indefinitely adumbrated his theory of flight, and his discovery of the figure of eight movements of the wings of birds and insects—a discovery which, it seemed to him, lay at the root of modern aviation. In 1873, Pettigrew published his book on Animal Locomotion, a work which was anticipatory of much that had been accomplished and of much that was to come. It certainly seemed, Sir James proceeded, that there must be a great future for any one who made a machine with birdlike wings, but it needed a continuation of Pettigrew's experiments by a capable man with plenty of money behind him. In the marvelous development that had taken place in aviation it was strange that there had never been the slightest mention of that great pioneer, and he wanted to have it on record when the history of aviation was written that one, at least, of the germs of it was planted in the Royal Medical Society. Pettigrew continued his experiments down to the period of his death, three years ago, and he had left voluminous notes behind him. These notes should be examined by some competent authority, because he was convinced that they contained many valuable suggestions.

At the annual meeting of subscribers to the Edinburgh Hospital and Dispensary for Women and Children, held last week, Lord Guthrie, in moving the adoption of the report, made some remarks upon the study of medicine by women. The object of the institution, he stated, was medical and surgical work for women by women, and he believed there was room for such work. Women might be wrong in preferring their own sex, but they had nothing to do with that. There was a large number of women who preferred their own sex, but, then, there were women who preferred to be attended by men, and they must cater for both. They were bound to see that women got a chance of showing what they were fit for as doctors and surgeons. They had to establish themselves in the confidence of their sisters, and they had not entirely done that yet, but they were doing it. They were on their trial. Already women had shown that they had a definite part in the medical world, and it was for them to show that they were capable of attaining to the same height of eminence as few men attained to, as physicians, as surgeons, as doctors, or as writers. But they ought to have a chance of showing whether they could do it or not.

On February 16th the Glasgow Town Council rejected by a large majority the Edinburgh proposal that the National Memorial to King Edward VII should take the form known as the "Holyrood Scheme," referred to in a previous letter. Glasgow is strongly in favor of the memorial taking the form of a crusade against consumption.

At a meeting of the United Free Church Presbytery of Linlithgow and Falkirk, held recently, the Rev. John Muirhead, in submitting the report of the Temperance Committee, made some strong remarks against the use of medicated wines. There was, he said, no form of drinking which wrought such havoc, especially among women, as these supposed strength and health giving forms of medicated wines. The strength they gave was purely alcoholic, and the percentage of alcohol in some of them was greater than in ordinary wines. It is gratifying to note the reverend gentleman's strictures, for it has been said that some of the largest consumers of these wines are to be found among his own profession—ministers who preach temperance, and believe that they practise it, not knowing the composition of these widely advertised so called medicines.

Therapeutical Notes.

Internal Medication in Bronchitis.—Gimbert and Bucquoy (*Bulletin général de thérapeutique*, February 15, 1911) prescribe, in the internal treatment of bronchitis, a daily dose of thirty minims of tincture of eucalyptus in a mucilaginous vehicle, or four capsules each containing eight minims of eucalyptol, or oil of myrtle in capsules containing 2½ minims of the oil, every three hours.

Lancereaux (*loc. cit.*) prescribes sodium hyposulphite:

℞ Sodium hyposulphite . . . . . 5i.
Syrup of eucalyptus . . . . . ℥ i.
Distilled water . . . . . ad 3vi.
M. et Sig. One tablespoonful [illegible]

Intestinal Poisons and Arteriosclerosis.—According to Metchnikoff (*Annales de l'Institut Pasteur*, October 25, 1910, and *Revue de thérapeutique*,

March 1, 1911) the digestive tube is constantly elaborating poisons of microbic origin, which are capable in time of setting up "physiological arteriosclerosis." To restrain the production of the toxines Metchnikoff prescribes a mixed diet of animal and vegetable substances and the administration of lactic acid bacilli.

Spray and Inhalant in Bronchopneumonia.—Constant Paul is cited in *Bulletin général de thérapeutique* for February 15, 1911, as the author of the following spray and inhalant for use in the treatment of bronchopneumonia:

℞ Carbolic acid, ...gr. lxxv;
Thymol, ...gr. xxx;
Alcohol, ...5v;
Water, ...5iii.
Ft. solutio.

Skoda (*loc. cit.*) recommends the inhalation of the hot vapors of the following mixture:

℞ Oil of turpentine, ...3ss;
Water, ...5xxxi.
M.

Robin prefers the use of a spray of allyl iodide combined with hydrofluosilicic acid and oil of cajuput, as follows:

℞ Allyl iodide, ...gr. xx to gr. xlv;
Hydrofluosilicic acid, ...gr. xxx to 5i.
Oil of cajuput, ...3iiss;
Mucilage of Irish moss, ...sufficient to emulsify;
Boiling water, ...ad 5xxxii.
M. ft. emulsio.

Immediate Treatment of Flatulent Distention of the Abdomen.—According to the *Practitioner* for March, 1911, the pressing requirement is to alleviate the suffering of the patient, and the following prescription, given as directed, will afford the relief so urgently needed. The cause of the trouble must afterward be dealt with systematically:

℞ Tincture of belladonna, ...mx
Tincture of nux vomica, ...mx
Tincture of opium, ...mi;
Compound tincture of cardamom, ...miii
Aromatic spirit of ammonia, ...mxv;
Peppermint water, ...5i.
M. ft. Tales doses No. xxiv.
Sig.: A teaspoonful to be taken every hour for six doses.

The Use of Sodium Salicylate as an Antipyretic.—Stark, in the *Practitioner* for March, 1911, speaks of the antipyretic properties of sodium salicylate. The best prescription for the treatment of the "common cold," in his opinion is the following:

℞ Sodium salicylate, ...gr. x;
Aromatic spirit of ammonia, ...5ss;
Tincture of belladonna, ...mv;
Chloroform water, ...ad 5i.
M. Sig.: Every two hours.

In the most common type of influenza, with a very sudden onset, severe headache, acute pain in the limbs, and a furred tongue, sodium salicylate is, he says, the best drug to use. He affirms, from frequent and severe personal experience of the disease, that to give quinine to a patient who presents the given clinical picture is to add to his discomfort. After a mercurial purge, administration of the following cuts short the disease in two days:

℞ Sodium salicylate, ...gr. x;
Potassium bicarbonate, ...gr. x;
Tincture of nux vomica, ...mx;
Chloroform, ...ad 5i.
M. Sig.: Every two or four hours.

In the treatment of biliousness sodium salicylate forces the liver to secrete more bile, and this may explain its value in relieving so called "bilious headache." The following, taken at the onset of the headache, generally gives rapid relief:

℞ Sodium salicylate, ...gr. x;
Potassium bromide, ...gr. xx;
Chloroform water, ...ad 5i.
M. Sig.: Every four hours.

The relief of the pains of rheumatic fever by salicylate of sodium is a commonplace, but the drug is most valuable as an analgesic in many other conditions. Thus the acute pains of the many forms of fibrositis are quickly relieved by the drug in combination with antipyrine:

℞ Antipyrine, ...gr. x;
Sodium salicylate, ...gr. x;
Tincture of nux vomica, ...mx;
Chloroform water, ...ad 5i.
M. Sig.: Every four hours.

Probably no drug has any specific influence on mumps, but in cases attended by rise of temperature and severe pain, sodium salicylate is the most effective remedy. Stark says he has used it freely in two epidemics of mumps and has found it most valuable. Its excretion in the saliva, with its antiseptic action on the unknown bacteria of the disease, probably accounts for its action. It should be combined with an alkali as in the following prescription:

℞ Sodium salicylate, ...gr. v;
Sodium bicarbonate, ...gr. v;
Saccharin, ...q. s.;
Water, ...ad 5ss.
M. Sig.: Every four hours.

A New Dermatological Paste.—A new zinc oxide paste for use in certain conditions in which an absorbent is indicated is mentioned by Dreuw (*Monatshefte für praktische Dermatologie*, 52, No. 3) as originating with Unna. Its composition is as follows:

℞ Zinc oxide, ...5iss.
Precipitated silica, ...gr. xxx.
Benzoinated lard, ...5vii.
M. ft. unguent.

This paste has a greater attraction for capillary moisture than the well known Lassar's paste of the following composition:

℞ Zinc oxide, }
Starch, }
Petrolatum, } .....equal parts.
Wool fat, ...}
M. ft. unguent.

The use of the paste, which Dr. Dreuw calls cement paste, is recommended in the treatment of eczema madidans and other dermatoses characterized by supersecretion of moisture, the precipitated silica being credited with excellent absorbent and drying properties. Various medicinal agents may be incorporated with the basic paste, as ichthyol, sulphur, tar, pyrogallol, etc.

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DR. YAMEI KIN.

Nearly twenty-four years ago, in our issue for July 2, 1887, we published the graduation thesis, entitled The Photomicrography of Histological Subjects, of a young Chinese woman who had shortly before taken her medical degree from the Woman's Medical College of the New York Infirmary for Women and Children. It was our privilege to meet the young woman, and from conversation with her, from the evident merits of her thesis, and from the excellence of its photographic illustrations we at once became convinced that an important future lay before her; consequently we devoted an editorial article to her. As events have amply justified our conviction with regard to her, and as she is now going back to China after a sojourn of two months or more in New York, during which time we have again been permitted to talk with her, it occurs to us that many of our readers will be interested in such further information as we are now able to give them.

In her girlish days here in New York Dr. Kin was familiarly known as "May King," and it was under the name of "Y. May King" that she published her thesis with us, but good care was taken to have her name correctly written on her diploma. Though she is now a widow, her name is still Kin on account of the Chinese custom for a widow to resume her maiden name. At the time of her graduation she was petite, of attractive appearance, and an animated talker. In spite of [illegible] she has lost none of her personal graces, and she is all the more interesting in conversation on account of increased experience. She talks rapidly, with little gestures and changes of facial expression, and we know of nobody whose English is freer from faults.

Dr. Kin's present visit to the United States—really her third, for she was here for a short time nine years ago—may serve to direct attention to the awakening which China is undergoing at the present time. This awakening embraces all fields of human activity, more particularly those in which science and the mechanical arts play a part. In the field of medicine the Chinese Empire has been particularly backward. The science and art of modern medicine have been slow to make their way against the conservative traditions prevailing, but the entering wedge inserted by the medical missionaries is beginning to open the field to western medicine. The Chinese government itself is taking up the question of medical education and administration and is doing much to encourage the practice of medicine on sound scientific lines.

After service with medical missions in southern China, Japan, Hawaii, and Manchuria, Dr. Kin was some years ago invited to enter the government service, and her visit to the United States is partly concerned with the enlargement and equipment of hospitals in the Province of Chili. As superintendent of the Hospital and School for Women at Tien-Sin, she has supervision of a large hospital and also of a foundling asylum which have for the most part been equipped under her direction with American supplies and appliances.

Since Dr. Kin's arrival in the United States she has made several public addresses, and has been the recipient of many courtesies from her sister practitioners in this country. These compliments have been fitly bestowed, for the Chinese Empire may point with just pride to the intellectual equipment and professional attainment of Dr. Kin as evidence that the Chinese mind, and more particularly the mind of the Chinese woman in so far as Dr. Kin may represent it, is quite competent to assimilate and profit by the best that modern scientific medicine has to offer.

It is gratifying to note that Dr. Kin retains her good opinion of the educational resources of our country, as may be inferred from the fact that she has a son at school in Manlius, N. Y., whence, as we understand her, he is in due time to be transferred to some of our institutions that give a technical training, her expectation being that ultimately he will become a chemist and return to China to enter upon a chemical career.

TUBERCULOUS DISEASE OF THE BASE OF THE LUNG.

The common localization of tuberculous disease in the pulmonary apex is a matter of current observation, but this localization does not always occur, and Horand (*Thèse de Lyon*, 1910) points out that the infection, if looked for only in the apex during the development of the disease, will lead to much diagnostic confusion, because one will thus overlook a tuberculous process beginning in the base of the organ. Such an oversight would be all the more regrettable because one would overlook the disease in a stage when it was still possible to cure it.

It is not difficult to recognize the type of the affection at the base of the lung, whether it occurs with the syndrome of pulmonary congestion, pleurocongestion, or splenopneumonia; it is quite sufficient to bear in mind always that under these clinical manifestations tuberculous disease may already be starting on its evolution. It will usually be an easy matter to eliminate the various pulmonary affections which may give rise to some evident clinical manifestation, such as the cardiac lung, active or passive œdema, diffuse pulmonary sclerosis with pleural adhesions, pulmonary syphilis, and cancer of the lung and pleura. It is quite important to search for all the little signs and not to neglect the information offered by the laboratory.

The prognosis is a delicate matter, but, generally speaking, tuberculous processes have a more favorable evolution when occurring at the base than in the apex. A relative benignity can be attributed to a pneumonic process so long as it remains localized at the base of the lung, but the same cannot be said when it assumes an erratic character and when it becomes situated in the apex of the organ. The treatment of pulmonary disease at the base is the same as for any other type, but, as one is dealing with acute accidents seated in a certain part of the lung and usually distinctly localized, a rapid decision must be made in order to prevent the spread of the process.

SALVARSAN.

The translation is very well done, and Dr. Wolvarsan appeared on the market. It was an English translation, by Abraham L. Wolbarst, of. New York, of Wilhelm Wechselmann's *Die Behandlung der Syphilis mit Dioxydiamidoarsenobenzol*, which appeared about three months before. The book is introduced by a preface written by Professor Ehrlich in November, 1910. Ehrlich states that Wechselmann was one of the first men who tried salvarsan in a large hospital and was also one of the first to emphasize the value of the new remedy in malignant syphilis. Ehrlich accepts Wechselmann's explanation of local recurrence after treatment with salvarsan, which is explained to be due to spirochætal foci which cannot be reached by the remedy on account of an imperfect vascular supply. Ehrlich, furthermore, states that Wechselmann's method of neutral suspension greatly assisted in introducing "606."

After a short review of Ehrlich's chemotherapy and of Hata's experiments on animals with dioxydiamidoarsenobenzol, Wechselmann gives a résumé of his experiments and of the results achieved by him in 1,400 cases. It may interest the reader to know, by the way, that while the preparation and development of "606" were exclusively Ehrlich's idea, the experimentation on animals he left to Dr. Hata, who had joined his staff in the beginning of 1909.

Concerning the Wassermann reaction, Wechselmann calls attention to the fact that the reaction can become negative only from six to seven weeks after the injection; but Wechselmann is not able to come to a definite conclusion in reference to the proportion of the change of a negative Wassermann reaction into a positive. Wechselmann's final conclusions are conservative, although he is very enthusiastic about the future of salvarsan in the treatment of syphilis.

The translation is very well done, and Dr. Wolbarst has added a list of references from the American and British literature, a list of authors, and an index. The colored illustrations are beautifully executed and the publishers, the Rebman Company, of New York, whose typography in this work is excellent, refer to the plates in a printed slip which has been pasted on the cover in a place where some book lovers like to put their *ex libris*. This slip reads: "The printed colored plates contained in this book are subject, according to the new tariff, to an import duty of over forty-five per cent. They cannot be produced in this country. The German publisher is protected by an Act of Congress and is permitted to import his German publications containing these same plates free of duty. Who is protected? This is what our government does for education and scientific research."

We congratulate the publishers and translator on the splendid work accomplished. We are very glad to see that the translator has used the German expression "amido." It must be remembered that the German biochemists use "amido" for NH_2 and "amino" for NH, while in England and America the expressions among the chemists are "amino" for NH_2 and "imino" for NH. By changing from the German "amido" to the English "amino" a confusion would certainly result which should be avoid-

ed. Perhaps the Eighth International Congress of Applied Chemistry, which will meet "under the patronage of His Excellency, the President of the United States," in New York, in September, 1912, will attend to the chemical nomenclature, which nomenclature seems to need uniformity and correction as much as our own medical nomenclature.

SALVARSAN IN THE TREATMENT OF PEMPHIGUS.

Dioxydiamidoarsenobenzol, as a derivative of arsenic, has interested the dermatologist. We thus find that Loeb has employed salvarsan successfully in verrucæ vulgares and in lichen planus; his report appeared in the *Münchener medizinische Wochenschrift*, 1910, 30, p. 1580. In the same journal (1910, 49, p. 2526) Gioseffi describes his experiment with salvarsan in leprosy, with poor results. Schwabe speaks of his encouraging results obtained from salvarsan in the treatment of psoriasis and lichen ruber planus (*Ibidem*, 1910, 36, p. 1877). Richard L. Sutton has employed Ehrlich's new remedy in pemphigus chronicus, and gives a review of the case in the *Boston Medical and Surgical Journal* of March 9, 1911. At the time of examination the patients showed over three hundred vesicles and bullæ on the body and limbs, while the intervening areas were almost covered with scabs, crusts, and oozing bases of recently ruptured blisters of various sizes. After one subcutaneous injection of 0.6 gramme of salvarsan, into the interscapular region, no new lesion developed after the first twelve hours, all subjective symptoms practically disappeared after forty-eight hours, and at the end of the sixth day the patient's skin was nearly entirely healed. Sutton remarks that a positive statement can at present not be made. It may be found advisable to repeat the injection; but so far, one dose of salvarsan has done more in six days than could be secured by any other means in six months. He concludes that "the result points more clearly to a parasitic factor in the ætiology of chronic pemphigus than any other evidence that we now possess."

SCIATICA AND SYPHILIS.

For a long time Fournier has insisted upon the reality of sciatic neuralgia of the secondary period of syphilis. According to Lortat-Jacob and Sabaréanu (*Presse médicale*, June 18, 1910), one meets in many of the cases with the clinical type of radicular sciatica, and in its pathogenesis a meningeal participation must be admitted. That there are early syphilitic meningitides is to-day amply demonstrated. The tertiary period of syphilis also gives rise to many instances of sciatica. Gummata and exostoses can readily involve the sciatic nerve in the region of its radicles, but usually a radicular sciatica is the product of meningeal lesions. On the other hand, tertiary syphilis may produce an interstitial neuritis in the roots and trunk of the sciatic nerve. According to Lortat-Jacob and Sabaréanu, every case of radicular sciatica which is not the result of mechanical compression, a toxic (tuberculous) infection, or a chronic (alcoholic) intoxication is not an essential disease, but symptomatic of a radicular and meningeal localization arising during the evolution of a latent or unrecognized syphilis. Usually the syndrome is happily influenced by specific treatment.

McBURNEY'S AND LANZ'S POINTS.

In numerous and carefully conducted experiments on the cadaver, Garau (*Lyon chirurgical*, May, 1910) has demonstrated that in eleven per cent. the base of the appendix is found nearer to McBurney's than to Lanz's point. In two per cent. it was found equally distant from Lanz's and McBurney's points. In eighty-seven per cent. of the subjects examined, the appendicular base was nearer to Lanz's point than to that of McBurney.

From these facts it may be assumed that Lanz's point is the true anatomical landmark for the appendix, but that McBurney's point should retain its great diagnostic value in pathological processes arising in the appendix. It is the point of maximum pain, the reason for which may be explained as follows. McBurney's point represents the cutaneous region corresponding to the medullary segment to which the sensory nerves extend from the ileocæcal segment, including the appendix, and thus, when these organs are the seat of an inflammatory process, hyperæsthesia of the cutaneous area supplied by these nerves is the result.

PROPOSED MEDICAL LEGISLATION.

A number of bills has been introduced in the New York State Legislature which are deserving of attention by medical men. We have commented on a few of these proposed measures as they have made their appearance, and the importance of scrutinizing them with a view to either supporting or opposing them need not be emphasized. Among the bills now pending in the Legislature is one having for its object the restriction of the sale of hypodermic needles, so that these should not be sold except on the written order of a physician, another

bill proposes to restore the right of physicians to practise pharmacy under certain conditions, while an effort is being made to pass a bill which will deprive the Department of Health of the City of New York of the right to issue local ordinances where the regulation of the sale of drugs and medicines is concerned. The first named bill has the support of pharmacists, but it will doubtless be opposed by nurses and others who have heretofore experienced no difficulty in purchasing needles anywhere. It is hardly necessary to say that the proposed Health Department measure will meet with the active opposition of many physicians who will be quick to resent any attempt at interference with the functions of the local board of health.

Obituary.

WILLIAM WARREN POTTER, M. D., of Buffalo, N. Y.

Dr. Potter died on Tuesday, March 14, 1911. Born in Strykersville, N. Y., on December 31, 1838, he was graduated from the Buffalo University Medical College in 1859. For two years he practised medicine in Cowlesville, N. Y., when, in 1861, he joined the Federal Army as assistant surgeon. He served with the army of the Potomac, was in Libby Prison for three weeks, but was exchanged, saw active service during the entire war, and was finally in charge of the First Hospital Division of the Second Army Corps, with the rank of lieutenant colonel of volunteers. After the war he settled in Buffalo, where he had practised since. In 1888 he became editor of the *Buffalo Medical Journal*. He was an active member of the American Association of Obstetricians and Gynæcologists and of other medical societies, and for several years he had taken a prominent part in the work of the New York State Examining Board. His memory of campaign incidents in the civil war was remarkable, and his reminiscences were always of unfailing interest. He was a man of decided geniality, much liked by those who knew him.

THEODOR ESCHERICH, M. D.

The well known Austrian pædiatrist, Theodor Escherich, died in Vienna on February 15th. Born on November 20, 1857, in Ansbach, Bavaria, he studied at Strassburg, Würzburg, Berlin, and Vienna, and was graduated in 1881. In 1886 he was recognized as Privatdozent for pædiatrics in the University of Munich. Four years later he was called to the University of Graz as assistant professor, where he was appointed to the chair in 1894. Since 1902 he has held the chair of pædiatrics in the University of Vienna. Escherich contributed much to our knowledge of pædiatrics and was one of the leading pædiatrists of Germany.

News Items.

The Public Health Service.—The bill which was introduced into Congress to change the name of the United States Public Health and Marine Hospital Service to the Public Health Service, and to increase the pay of the officers of this service, failed to pass.

A Naval Medical Reserve Corps.—Although an effort was made to include in the Naval Appropriation bill legislation the creation of a Naval Medical Reserve Corps along the lines of the Army Medical Reserve Corps, the matter was not voted upon.

The Women's Medical Association of Pittsburgh, Pa., has elected the following officers to serve for the ensuing year: President, Dr. Caroline Marshall; vice-president, Dr. Bertha Dornbush; treasurer, Dr. Johanna Baltrusaitis; secretary, Dr. Elizabeth Anderson.

A Solarium for the Methodist Hospital, Philadelphia.—Plans are being prepared for a large solarium, which is to be added to the Methodist Hospital, at Broad and Wolf Streets, Philadelphia. The estimated cost is $20,000, and the work of construction will be begun very soon.

A New Children's Hospital in Brooklyn.—Plans have been filed for the erection of a hospital for children at Clarkson Street and Albany Avenue, Brooklyn, which will constitute a part of the Kings County Hospital group. The plans provide for a four story brick structure, and the estimated cost is $143,000.

The Last Harvey Lecture.—On Saturday evening, April 1st, at half past eight o'clock, Dr. S. Weir Mitchell, of Philadelphia, will deliver the last lecture of the season, at the New York Academy of Medicine. The subject is William Harvey, the Discoverer of the Circulation of the Blood. Ladies are invited.

Additions to the Medico-Chirurgical College, Philadelphia.—Plans are being prepared for an additional story to the Medico-Chirurgical College building, on the north side of Cherry Street. Directly opposite, on the south side of Cherry Street, will be erected a one story dispensary building, 60 by 180 feet.

A Public Lecture at the New York Academy of Medicine.—As previously announced, Dr. J. W. Goodsell will deliver a lecture at the New York Academy of Medicine, on Thursday, March 30th, at 8:30 o'clock, his subject being With Peary on the Dash for the Pole. All who are interested are invited to attend.

The Superintendency of Bloomingdale.—Dr. William L. Russell has resigned as medical superintendent of the Long Island State Hospital for the Insane, at Flatbush, Brooklyn, to become superintendent of the Bloomingdale Asylum, White Plains. Dr. Russell's resignation will take effect at once and he will assume his new duties at Bloomingdale on May 1st.

Epidemic Infantile Paralysis and Its Regulation by the State Authorities was the subject discussed at a meeting of the Society of Medical Jurisprudence, held at the New York Academy of Medicine on Monday evening, March 13th. The paper of the evening was read by Dr. B. Sachs, and the discussion was opened by Dr. Smith Ely Jelliffe and Dr. L. Pierce Clark.

The Middleton Goldsmith Lecture of the New York Pathological Society will be delivered at the New York Academy of Medicine on Saturday evening, March 18th, at 8:30 o'clock, by Professor Frank P. Underhill, of Yale University. The subject will be: A Consideration of Some Chemical Transformations of Proteins and their Possible Bearing on Problems in Pathology.

P. and S. Alumni Dine.—The annual dinner of the Long Island Alumni Association of the College of Physicians and Surgeons of New York was held on Sunday evening, March 12th. Dr. B. B. Gallaudet, professor of surgery at the College of Physicians and Surgeons, was the guest of honor. Dr. James P. Glynn, president of the association, presided, and about seventy-five members and guests were present.

Gift to the Hospital for Deformities and Joint Diseases.—Alfred M. Heinsheimer, whose brother recently died and left $1,000,000 to charity, has given $10,000 to the Hospital for Deformities and Joint Diseases, as an endowment fund to aid in the equipment and maintenance of the institution.

To Investigate Sleeping Sickness in Rhodesia.—It is stated that the British South Africa Company has decided to appoint a special commission to investigate the sleeping sickness in Rhodesia. The commission will consist of Dr. Aylmer May, of Northern Rhodesia, Dr. A. Kinghorn, of Liverpool, Mr. H. Leach, of Northern Rhodesia, Mr. O. Silverlock, entomologist, and Mr. Jollyman, bacteriologist, idency of Dr. L. Rehn, of Frankfort a.M.

Personal.—Dr. Clarence J. Marshall, professor of veterinary medicine at the University of Pennsylvania, has been appointed State veterinarian.

The vacancy in the board of consulting scientific experts to the Secretary of Agriculture, caused by the death of Dr. Christian A. Herter, has been filled by the appointment of Dr. Theobald Smith, of Harvard University.

Dr. James C. Hepburn, of East Orange, N. J., who is said to be the oldest living alumnus of Princeton University, celebrated his ninety-sixth birthday on Monday, March 13th.

The Crawford W. Long Infirmary.—The women of Georgia have undertaken to raise funds to build and maintain an infirmary for the University of Georgia, at Athens, as a permanent memorial to Dr. Crawford W. Long, the discoverer of anæsthesia. Dr. Long was educated at this institution, and lived and practised medicine for many years in the town of Athens. A local committee of ladies, with Mrs. M. A. Lipscomb as chairman, has issued an appeal for funds to all physicians and to the general public. They hope to raise the sum of $50,000, half to be used in erecting a building and half as an endowment fund for its maintenance.

A Special Course in Urethroscopy at the Philadelphia Polyclinic.—A special course in urethroscopy, cystoscopy, ureteral catheterization, and the diagnosis of functional kidney diseases will begin on April 3d at the Philadelphia Polyclinic and College for Graduates in Medicine. The course consists of six weekly lectures and demonstrations, with practice in urethroscopy on patients, besides practical drill in the manipulation of the cystoscope. The duration of the course is six weeks, and the demonstrations are held on Wednesday afternoons, between five and six o'clock, and at such additional hours as may be determined [illegible]. The fee is $20.

The Triprofessional Medical Society of New York will hold a stated meeting at the Hotel Astor on Tuesday evening, March 21st, at 8:30 o'clock. Dr. G. K. Dickinson will read a paper on the Hysteropexies, which will be discussed by Dr. A. Ernest Gallant, Dr. Hermann Fischer, Dr. E. S. Gushee, and Dr. J. Moran. Dr. I. L. Nascher will read a paper entitled Sources of Error in the Diagnosis of Senile Cases, which will be discussed by Dr. Heinrich Stern, Dr. Henry Russell, and Dr. J. Gutfreund. An interesting feature of the programme will be a demonstration of Assmy's apparatus for the intravenous administration of salvarsan, by Dr. Julius J. Valentine and Dr. Terry M. Townsend.

A Symposium on Gastrointestinal Intoxication constituted the programme at a regular meeting of the Section in Medicine of the Buffalo Academy of Medicine, held on Tuesday evening, March 14th. The paper of the evening was read by Dr. Allen A. Jones, and was discussed from various points of view as follows: The viewpoint of the internist, by Dr. Julius Ullman; the surgeon, by Dr. George B. Tyler; the obstetrician, by Dr. F. C. Goldborough; the neurologist, by Dr. J. W. Putnam; the psychiatrist, by Dr. A. W. Hurd; the pædiatrist, by Dr. Jacob S. Otto; the dermatologist, by Dr. Grover W. Wende; the otorhinologist, by Dr. George F. Cott; and the ophthalmologist, by Dr. Lee M. Francis.

The Medical Association of the Greater City of New York.—A stated meeting of the association will be held in Du Bois Hall, New York Academy of Medicine, on Monday evening, March 20th, at 8:30 o'clock. The programme will include the following papers: An Adjustable Foot Brace for Patients Sitting up in Bed, by Dr. A. Ernest Gallant; How May We Make Our Scientific Nomenclature More Accurate? by Dr. Achilles Rose; The Chemical Relationship of Diabetes, Gout, and Cystinuria, [illegible] deavors in the Treatment of Diabetes, by Dr. Heinrich Meyers; Cystinuria, by Dr. Frederic E. Sondern. There [illegible]

The New York Polyclinic Medical School and Hospital gave a dinner on Saturday evening, March 11th, at the Waldorf-Astoria, which was attended by nearly a hundred New York physicians. The chief subject discussed was the new school and hospital now in course of construction in Fiftieth Street, between Eighth and Ninth Avenues. This new establishment, which is expected to be the best equipped institution of its kind in America, will probably be ready for occupancy the first of next year. Among those who spoke at the dinner were Dr. Robert C. Myles, Dr. John A. Wyeth, Dr. J. Riddle Goffe, Dr. William Van V. Hayes, Dr. Daniel A. Sinclair, Dr. Andrew R. Robinson, Dr. Charles H. Chetwood, and Dr. Francis J. Quinlan.

Medical Legislation.—Among the measures adopted by the Sixty-first Congress was an act relating to the Medical Corps of the United States Army, as follows:

Be it enacted, etc., That the Act approved June 22, 1910, entitled, "An act providing for the retirement of certain medical officers of the Army," be, and the same is hereby, amended as follows:

Strike out the words, "in the War of the Rebellion," following the words, "enlisted man," in said act, so that the act as amended will read:

"Be it enacted, etc., That any officer of the Medical Reserve Corps who shall have reached the age of seventy years, and whose total active service in the Army of the United States, Regular or Volunteer, as such officer, and as contract or acting assistant surgeon, and as an enlisted man, shall equal forty years, may thereupon, in the discretion of the President, be placed upon the retired list of the Army, with the rank, pay and allowances of a first lieutenant."

Medical Conferences.—A series of medical conferences, arranged by the New York Educational Alliance, with the endorsement of the Comitia Minora of the New York County Medical Society and the council of the New York Academy of Medicine, is being held in the auditorium of the Educational Alliance, 197 East Broadway, New York. The first lecture was given on Thursday, March 2d, by Dr. John O. Polak, of Brooklyn, on Medical and Legal Aspects of Abortion. On Thursday, March 9th, Dr. James Pedersen, of Manhattan, delivered an address on Sanitary and Moral Prophylaxis. The third conference in the series was held on Thursday evening, March 16th, the subject of the evening, The Physician's Duty in Obstetrical Cases, being presented by Dr. George L. Brodhead, of Manhattan. The remainder of the series is as follows: Thursday, March 30th, Gynæcological Operations by the General Practitioner, by Dr. H. C. Coe; Sunday, April 9th, Lodge and Contract Practice, by Dr. A. A. Berg; Monday, April 17th, Medical Ethics and their Application to Practice, by Dr. William M. Polk; Sunday, April 23d, The Secret Divison of Fees, by Dr. J. Brettauer; Thursday, April 27th, Abuses of Hospital and Dispensary Practice, by Dr. S. S. Goldwater. These lectures are for physicians only, who will be admitted on presentation of their cards. No tickets are required.

China Up To Date.—Dr. Yamei Kin, superintendent of the Imperial Chinese Hospital and School for Women, at Tien Sin, China, delivered an interesting illustrated lecture before the Amacasin Club at Yonkers, on Monday evening, March 13th, on China Up to Date. Dr. Kin, who was educated in the United States and was graduated from the Women's Medical School of Cornell University, has had a very wide experience in medical and sanitary work in China, Japan and Hawaii, and her lecture was illustrated with numerous lantern slides showing the countries through which she had traveled, the people, and the medical and eleemosynary institutions. Her experiences during the plague outbreak three years ago were also touched on. She drew a vivid contrast between conditions existing twenty-five years ago and those now existing in coastal China. The influence of European civilization has not as yet made much headway in the interior. She pointed out, however, that though nominally an autocracy the government had really been intensely democratic, for there was no machinery to enforce the edicts issued by the Emperor beyond the argument of the local magistrates who promulgated these edicts by word of mouth to the leading citizens in the community. Dr. Yamei Kin brought with her a young woman who is to take up the study of medicine here and expects to return to her post at Tien Sin within the next fortnight.

Poliomyelitis in the United States.—Statistics gathered from thirty-one States by the United States Public Health and Marine Service show that during the year 1910 there were 5,093 cases of poliomyelitis reported, with 825 deaths. Pennsylvania had 1,097 cases, with 172 deaths, Indiana 630 cases, with 161 deaths, and Massachusetts 688 cases. No reports were received from New York. Many other reports were incomplete, so that the deduction drawn from these statistics would be misleading.

The Plague Situation in China.—Mail advices to the State Department from American Consular officers state that the plague is continuing its ravages in China. It is estimated that 20,000 people have succumbed in the cities and towns north of Changchun, in the Harbin consulate district, since the outbreak of the epidemic. In the city of Harbin and its suburb, Fuchiatien, a total of 6,014, including 50 Europeans, died up to February 11th. The disease is playing havoc with the Chinese troops at Changchun, according to Japanese statistics, 350 deaths among them being reported up to January 26th, the daily death rate of the town being 50.

Meningitis from Greece.—A representative of the United States Public Health and Marine Hospital Service will probably be sent to Quarantine, New York, to assist Health Officer Doty in his investigation of meningitis coming from Greece. It is said that during the past two years nearly all the spinal meningitis which has come into this country has been aboard Greek ships, and it is thought by some that the disease may be indigenous to Greece. During the past two weeks, two steamships, one the Greek steamer *Patris* and the other the Austrian steamer *Martha Washington*, were held up at Quarantine because of several cases of meningitis on board. On the *Patris* there were six deaths from the disease, and five serious cases which were transferred to the Quarantine Hospital.

Vital Statistics of New York.—During the week ending March 4, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,663, corresponding to an annual death rate of 17.41 in a thousand of population, as compared with a rate of 18.18 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 18.38; the Bronx, 17.27; Brooklyn, 17.11; Queens, 10.92; Richmond, 20.39. There were 138 stillbirths. The deaths of children under five years of age numbered 462, of whom 321 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 60; over five years of age, 61. There were 200 deaths from pulmonary tuberculosis, 19 from bronchitis, 164 from pneumonia, 129 from bronchopneumonia, 114 from Bright's disease, 162 from organic heart diseases, and 77 from congenital debility and malformations. There were 14 deaths from suicide, 3 from homicide, and 64 due to accidents. One thousand nine hundred and ninety-three marriages and 2,637 births were reported during the week.

Society Meetings for the Coming Week:

MONDAY, *March 20th.*—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Hartford, Conn., Medical Society; Elmira, N. Y., Clinical Society.

TUESDAY, *March 21st.*—New York Academy of Medicine (Section in Medicine); Buffalo Academy of Medicine (Section in Pathology); Triprofessional Medical Society of New York; Medical Society of the County of Kings; Medical Society of Westchester, N. Y.; Psychiatric Society of Ward's Island, New York; Syracuse, N. Y., Academy of Medicine; Binghamton, N. Y., Academy of Medicine; Clinical Society of the Elizabeth, N. J., General Hospital.

WEDNESDAY, *March 22d.*—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society; The Medical Union, Buffalo.

THURSDAY, *March 23d.*—New York Academy of Medicine (Section in Obstetrics and Gynæcology); Hospital Graduates' Club, New York; New York Celtic Medical Society; East Side Physicians' Association, of New York; Bronx Medical Association.

FRIDAY, *March 24th.*—Academy of Pathological Science, New York; New York Society of German Physicians; New York Clinical Society; Manhattan Medical Society.

SATURDAY, *March 25th.*—West End Medical Society; New York Medical and Surgical Society; Harvard Medical Society; Lenox Medical and Surgical Society.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending March 11, 1911:

	March 4th.		March 11th.	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonalis	647	200	548	185
Diphtheria and croup	356	9	348	11
Measles	188	6	541	14
Scarlet fever	268	7	551	28
Smallpox				
Varicella	208	..	162	
Typhoid fever	30	..	26	5
Whooping cough	116	00	92	8
Cerebrospinal meningitis	6	9	8	3
Total	2,421	283	2,249	284

The Health of Chicago.—During the week ending March 4, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago; Typhoid fever, 9 cases, 6 deaths; measles, 195 cases, 5 deaths; whooping cough, 18 cases, 1 death; scarlet fever, 164 cases, 10 deaths; diphtheria, 153 cases, 26 deaths; chickenpox, 81 cases, 0 deaths; tuberculosis, 126 cases, 78 deaths; pneumonia, 24 cases, 126 deaths. There were 7 cases of German measles, 3 of smallpox, 1 of cerebrospinal meningitis, and 75 of contagious diseases of minor importance reported, making the total 856 cases, as compared with 924 for the preceding week, and 969 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 34, and there were 35 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 181, of whom 115 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 651, corresponding to an annual death rate of 15.2 in a thousand of population, as compared with a rate of 15.8 for the preceding week, and a rate of 16.9 for the corresponding period in 1910.

Annual Convention of the Women's Medical Society.—The fifth annual meeting of the Women's Medical Society of New York State was held in the New York Academy of Medicine on Friday, March 10th, under the presidency of Dr. Mary B. Jewett, of New York. Every other year the society meets in New York, and in the alternate years the meetings are held in the larger cities up the State. Next year's meeting will be held in Buffalo. The first session was opened at 9:30 a. m. Dr. Anginette Parry, chairman of the Committee of Arrangements, delivered the address of welcome, and Dr. E. M. Cushier, of Manhattan, and Dr. Eliza M. Mosher, of Brooklyn, delivered memorial addresses in honor of Dr. Elizabeth Blackwell, and her sister, Dr. Emily Blackwell, pioneers among women in the medical profession, both of whom died within the year. The rest of the morning session was devoted to papers by Dr. Mary Rushmore, of New York, and Dr. Frances Cohen, of Yonkers. The afternoon session was devoted entirely to the reading and discussion of scientific papers, among those presenting papers being Dr. Eveline P. Ballentine, of Rochester; Dr. Mary Gage-Day, of Kingston; Dr. Sarah J. McNutt, of New York; Dr. Isabel M. Meader, of Watertown; Dr. Jane L. Berry, of New York, and Dr. Grace Peckham Murray, of New York. In the evening the annual dinner was served at the Hotel Leonori. Dr. Eliza M. Mosher presided, and among those who responded to toasts were Dr. Grace Peckham Murray, Dr. Yamei Kin, Dr. Mary Lawson Neff, Dr. Elizabeth B. Thelberg, Dr. Ruth Webster Lathrop, Dr. Rosalie Slaughter Morton, Dr. Margaret M. York, and Mrs. Cynthia Westover Alden. Mrs. Cynthia Westover Alden was the only woman not in the profession who took part in the exercises. She attended the meetings as president of the International Sunshire Society and as founder of the Hospitals for Blind Babies at Bay Ridge and Summit, N. J. These officers were elected: Honorary president, Dr. Eliza M. Mosher, Brooklyn; president, Dr. Grace Peckham Murray, Manhattan; first vice-president, Dr. Helena J. C. Kuhlman, Buffalo; second vice-president, Dr. Anginette Parry, Manhattan; third vice-president, Dr. Evelyn Garrigue, Manhattan; secretary, Dr. Eveline P. Ballintine, Rochester; treasurer, Dr. Marion Craig Potter, Rochester. Among the guests of the society were Dr. Rosetta Sherwood Hale, of Pyong, Corea, of the Medical Missions of the Methodist Episcopal Church, and Dr. Eliza Corbett, of Washington, sister of Dr. Harvey W. Wiley.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL

March [illegible], 1913

1. On the Independence of Intestinal Indigestion on Gastric Disturbances, By A. E. Austin.
2. On the Possible Effect upon the Auditory Labyrinth of Ehrlich-Hata Remedy in the Treatment of Syphilis, By G. Alexander.
3. The Treatment of Fistula in Ano, By T. Chittenden Hill.
4. Salvarsan ("606") in the Treatment of Chronic Pemphigus, By Richard L. Sutton.

1. On the Dependence of Intestinal Indigestion on Gastric Disturbances.—Austin remarks from his observation on five cases that diarrhœa does not always accompany an achylia nor a hypochlorhydria, nor, from the presence of connective tissue in the stool, can we always deduce the state of the gastric juice. Furthermore, while hyperchlorhydria is usually accompanied by constipation, we may have diarrhœa, or the bowels may be regular, while with gastric myasthenia constipation is the rule, as it is in supersecretion. A functional chronic catarrh of the small intestine may exist associated with any of these gastric conditions, with excessive or no free hydrochloric acid and with increased or impaired motility, so that we can only say that improperly prepared food is poured into the small intestine which either on account of this extra burden or on account of some antecedent inflammatory disturbance undergoes a functional impairment that usually manifests itself by the increased motility.

2. Salvarsan in Syphilitic Ear Cases.—Alexander recommends caution in cases of acute syphilitic disease of the auditory nerve. Especially is caution in the use of the remedy to be recommended in the presence of acute or chronic disease of the auditory nerve in cases of recent syphilis, as here it is to be feared that the ear symptoms will be made worse. It appears to make no difference whether the disease of the auditory nerve is of itself of syphilitic origin or not. An unfavorable influence is also to be feared in cases of acute syphilitic affection of the auditory nerve in old cases of syphilis or latent chronic syphilis. In cases of hereditary syphilis it is also to be recommended in the presence of acute manifestations of trouble with the auditory nerve to wait before giving the Ehrlich-Hata injection. On the other hand, there are a large number of cases of ear disease in which the dangers from the arsenobenzol injection cannot be considered as dependent upon it. Here belong the cases of chronic syphilitic affection of the auditory nerve with slight diminution of hearing power and considerable tinnitus, as well as the cases of chronic labyrinth dizziness. In these cases he had good results from treatment before the time when "606" achieved good results. The Ehrlich-Hata has a good effect in cases of chronic labyrinth disease in chronic syphilis. The good results reported by Professor Urbantschitsch in one case of hereditary syphilis and in two cases of cochlear disease and chronic syphilis should encourage us to proceed farther along the path already laid out.

4. Salvarsan in Chronic Pemphigus.—See our editorial on the subject on page 535 of the issue of March 18th.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

March [illegible], 1913

1. Cæsarean Section, with Special Reference to Time of Operation and Its Technique, By Lewis S. McMurtry.
2. Mobilization of Joints by Means of the Rubber Bandage, By A. C. Strachauer.
3. Control of Pasteurization, By Gottfried Koehler and F. O. Tonney.
4. Injuries of Abdominal Viscera without External Signs of Violence, By Henry H. Sherk.
5. The Secret Commission Evil, By J. P. Lord.
6. Treatment of Anteflexion of the Uterus, By Henry T. Byford.
7. Importance of the Autopsy and Other Pathological Anatomical Examinations, By Hans Chiari.
8. A Method of Treating the Prostatic Utricle, By J. T. Gerahty.
9. An Improved Gravity Apparatus for the Intravenous Injection of Salvarsan, By Joseph L. Boehm.
10. Sanitary Inspection of Oyster Grounds in the United States, By C. A. Fuller.
11. The Plague in North China, By J. J. Mullowney.
12. A Handy Pocket Case for Blood Pipettes and Solutions, By Walter S. Sutten.
13. Pneumococchæmia; Bilateral Empyema; Recovery, By A. Aronston and Harry Olsar.
14. Fracture of the Clavicle. Its Diagnosis by Transmission of Respiratory Sound, By Seward Erdman.
15. Tumor Implantations in the Developing Embryo, By Peyton Rous and James B. Murphy.
16. Primary Orchitis with Secondary Parotiditis, By J. F. Torpey.
17. The Stimulation of Adrenal Secretion by Emotional Excitement, By W. B. Cannon and D. De La Paz.
18. Report of Case of Paralysis of the Bladder Illustrating the Importance of Catheterization before Operation, By H. J. Relihan and J. Simon.
19. A Case of Enteritis from Trichocephalus Dispar, By Benjamin Newton Wade.

1. Cæsarean Operation.—McMurtry reviews the history of Cæsarean section. In 1882 Sänger made his epochal contribution to the technique of Cæsarean section. The operation as practised by Sänger consisted of the median abdominal incision midway of the abdomen; turning the uterus out of the abdomen before opening it; two or three sutures were placed at the upper angle of the abdominal incision and tied after the uterus was delivered to protect the subjacent peritonæum; a sheet of rubber was then placed beneath the uterus to protect the lower peritonæum; the cervix was constricted with rubber tubing to control hæmorrhage; the uterus was incised through its anterior wall vertically; fœtus and placenta delivered; the rubber tube removed as soon as uterine contraction obtained; the uterine sutures were of silk; before any of the sutures were tied the uterine cavity was washed out with an antiseptic solution, and the uterine cervix dilated to insure drainage. The uterus was then returned to the abdomen, and the abdominal incision closed. This method has been simplified by experience. It is established that the primary Cæsarean operation in skilled hands has a mortality quite as low as uncomplicated ovariotomy and clean hysteromyomectomy. With repeated examinations, cervical dilatation, and application of forceps, carried out with crude and desultory observance of aseptic precautions, the mortality of abdominal hysterotomy is unnecessarily increased. The cooperation of the surgeon and the general

practitioner is necessary to correct this fatal error.

4. **Abdominal Injuries.**—Sherk says that any injury that has been subjected to external violence of such nature as could, either directly or indirectly, produce injury to any of the abdominal viscera, should be given the most careful examination, and be kept under close observation for several days. Any symptom, no matter how slight, referable to the abdomen, must be considered as a sign of possible visceral injury when it follows the receipt of any violence, regardless of the point of impact or the extent of the external force. The degree of violence bears no relation to the extent or severity of the resulting injury. A most thorough investigation as to the exact details of the accident is important as an aid in determining the possibility and the nature of any injury. Blows, kicks, and crushing violence produce most of the intestinal injuries, compressive force is the most common cause of trauma of the liver, and concussion is responsible for most of the splenic ruptures. The presence or absence of peristalsis is of the utmost importance from a diagnostic or prognostic standpoint. Its early presence indicates that the abdomen or its contents have received some shock or violence. The persistence of recurrence of this sign is conclusive proof of internal or visceral injury. A decided lessening of peristalsis is a danger signal if it occurs more than three or four hours after the accident. Active peristalsis is always encouraging in the presence of any abdominal injury. There are no symptoms that are pathognomonic, most of them being common to all injuries, but, in general, progressively increasing shock indicates trauma of the solid organs, while early symptoms of peritonitis follow tears of the stomach or intestine. Pain as an initial symptom is important only in that it calls attention to the fact that an injury may have occurred and that it may, by its location, indicate the possible site of the trauma. Shock possesses no real diagnostic value except as to its progress or course, which is of the utmost importance.

6. **Treatment of Anteflexion of the Uterus.**—Byford describes his technique in treating anteflexion of the uterus as follows: The patient takes a copious normal salt douche before leaving home for the office. After the introduction and adjustment of a sterile bivalve speculum, the vaginal fornices and cervix are swabbed out thoroughly with a five per cent. solution of phenol, and the sound, after having been curved to suit the case, is dipped into the same solution immediately before being passed. Sometimes it is necessary to steady the cervix with vulsellum, but the vaginal fornices are often so small that the expanded speculum puts them on the stretch and keeps the cervix from receding too far. Before removing the speculum he disinfects the uterine cavity, introduces a dry sterile wool tampon under the cervix, and leaves the latter for twelve or twenty-four hours for its dilating effect on the vaginal fornices. The patient withdraws it by means of an attached thread and uses a copious normal salt vaginal douche. The greatest objection to the treatment is that it is painful. He reduces this objection somewhat by passing the sound frequently at first, i. e., by not giving the cervix time to contract too firmly between times. As the tendency to rapid, firm contraction diminishes, the dilatations can be made at longer intervals without increase of pain. He dilates as widely each time as the patient will tolerate because the greater each dilatation and stimulation the greater the effect on development. The tedium of the treatment is not as great as one might suppose, because, after the dilatations are a month apart, they occupy but little of the patient's time and attention, and can then be continued as long as desirable. The temporary pain of one or two treatments each month is more easily and willingly borne than the monthly dysmenorrhœa, the more so as the patient knows that they will soon become less frequent. The pain ceases the moment the sound is withdrawn.

11. **The Plague in North China.** See MISCELLANY, p. 554.

MEDICAL RECORD.

1. Pelvic Cellulitis and Pelvic Abscess: Their Varieties; with Report of Cases Seen in New York City. By A. Caccini.
2. A New Variant for Ventral Hemiopia-try. By Arpad G. Gerster.
3. Hypodermic Injections of Salicylates in Rheumatism. By Samuel Seibert.
4. The Treatment of Acute Mania. By Charles P. Noble.
5. Unilateral Chyluria Caused by the Filaria Sanguinis Hominis Treated by 606. By Paul M. Pilcher and James T. Pilcher.
6. Artificial Muscles in the Early Treatment of Infantile Paralysis: A New Method. By Robert O. Meisenbach.
7. The Climatic Indications of Egypt in Otology and Laryngology. By Goldmann.

3. Hypodermic Injections of Salicylates in Rheumatism.—Seibert uses in acute rheumatic infection of joints, heart, pericardium, pleura, and central nervous system (chorea), 10 c.c. of a twenty per cent. sterilized solution of fresh sodium salicylate to 100 pounds of body weight. This is injected fifteen minutes after an appropriate cocaine solution has been injected under the same spot. If the injections are made earlier than this the solution will cause pain. This is repeated every twelve hours. In severe cases, with many localizations of the rheumatic process, the dose may be increased to 15 c.c. of the solution to 100 pounds of body weight. He considers it essential to the success of this treatment that these doses be used. Smaller doses will be without effect. The effect may be noticed within three hours after the first injection. Joint stiffness, pain, fever, and pulse rate diminish and the general feeling of the patient improves. If the injections are continued regularly every twelve hours the improvement also continues; if they are omitted for twenty-four hours in severe cases the symptoms will grow worse; but in milder cases the improvement may continue, proving that a sufficient amount of the salicylate had already been injected to destroy all rheumatic organisms in that case. In chronic cases 10 c.c. to 100 pounds of body weight of the following oily solution are injected every twenty-four hours: Salicylic acid, ten grammes; sesame oil, eighty grammes; pure alcohol, five grammes; gum camphor, five grammes. This mixture is sterilized before the alcohol is added, but must not be exposed

the air, as the alcohol will evaporate and the salicylic acid crystals will precipitate. This ten per cent. oily solution of salicylic acid acts better in chronic cases than the twenty per cent. watery solution of sodium salicylate, most likely because it is less quickly absorbed from the point of injection and less speedily eliminated by the kidneys. For the same reasons the twenty per cent. watery sodium salicylate solution is more suitable for acute cases where prompt and strong germicidal action is required. The effect of the injection in chronic cases is noticed sooner where multiple localizations of the rheumatic process are present than where but one joint is affected. In the former, pain and stiffness usually improve after the first, in the latter, after the third injection. The addition of camphor (from five to twenty per cent.) has been found beneficial in stimulating the heart, especially in pericarditic and endocarditic cases. The weaker the heart, the more camphor was given in the oil. Like in his experience in pneumonia patients, overstimulation or other toxic symptoms from the camphor were never seen, although as much as forty-five grains of pure camphor had been injected in one injection, and this repeated daily for a week. The entire absence of all the toxic symptoms which are sometimes seen when salicylates are given by mouth, is one of the pleasantest features of this method of treatment. A spot outside of the median line of the thigh is disinfected by a few drops of fresh iodine tincture. Through this, the sterilized cocaine solution (⅛ grain in 30 drops) is injected under the skin. After waiting fully fifteen minutes the salicylate solution may be injected, the skin being raised high up with the left hand, so that none of the solution is pressed into (instead of below) the skin, which might cause sloughing. The watery solution must be boiled directly before the injecting; the salicylic oil remains sterile after the first boiling. The small as well as the large syringe must be boiled directly before using. The large syringe must be entirely of glass (Luer) without rubber washers, which become brittle on coming in contact with oil. The standard 10 c.c. Luer syringe will hold 15 c.c. When injecting the oil a larger calibre needle is necessary, and the syringe must be carefully cleaned with ether after using, to remove all particles of the solution adhering to the barrel and piston and insure smooth gliding during the next injection. Abscesses are due to faulty sterilization, and sloughing of the skin to faulty technique. The author has not seen either.

5. **Unilateral Chyluria Caused by the Filaria Sanguinis Hominis Treated by "606."**—Paul M. [illegible] and James T. Pilcher report a case of *Filaria sanguinis hominis* representing the symptoms of unilateral chyluria treated by an injection of [illegible] six-tenths gramme of arsenic was administered hypodermatically by Dr. James Winfield. The reaction was evidenced only by a rather severe headache and a general sensation of tingling, especially in the fingers, lasting two days. After this injection the urine remained unchanged for the first twenty-four hours; during the succeeding forty-eight hours the urine became perfectly clear for the first time since the injection of the [illegible] months before. Suddenly, however, from the sixty-eighth to the seventy-second hour, the urine became markedly chylous and contained large numbers of seemingly dead filariæ of both embryonic and adult forms, the latter so large as not to need a microscope for demonstration, resembling white threads in appearance; after the seventy-second hour the turbidity ceased until at the time of discharge only an intermittent opacity was present, and no filariæ were demonstrable. Blood smears taken continuously from the twenty-fourth hour after injection with "606" to time of discharge, that is, for one week, were all negative as far as finding any filariæ was concerned, whereas before the injection there was no trouble in finding the filariæ in the midnight specimens. One interesting observation was that with the disappearance of so many filariæ from the blood, whether lifeless or not, there was no marked shock or reaction on the part of the patient.

6. **Artificial Muscles in Infantile Paralysis.**—Meisenbach states that by the use of artificial muscles the lost power may be supplied temporarily until the paralyzed muscles have recovered. The force exerted by them simulates the normal better than any other method. Contractures of opposing groups may be prevented. The rubber over the affected muscles causes a local stimulation which is noted by active hyperæmia and perspiration of the skin beneath the artificial muscle. Its use does not immobolize the joint, nor does it interfere with other prescribed treatment, namely, passive motion, massage, or electrical contractions. Its efficiency is continuous and its simplicity does not interfere with the clothing or bathing. It is not intended to be used in advanced cases after the contractions have taken place. For the construction of artificial muscles an ordinary rubber dam is used, which can be procured at any rubber store. The thickness of the rubber varies, but its strength should be in proportion to the work of the muscles which it reinforces. The dam is cut into strips from 2 to 4 cm. in width and from 12 to 24 cm. in length. At each end of these strips pieces of zinc oxide adhesive plaster are attached, which grip the ends of the rubber to the extent of about 4 cm. and extend from 10 to 12 cm. beyond the rubber. The adhesive plaster coming in contact with the rubber should grasp the rubber on all sides and should be clasped in a vise or compressed with a mallet, so as to prevent breaking away when tension is applied. If necessary the adhesive may be slightly heated over a flame. The method is chiefly applicable to the ankle, the knee, the wrist, and shoulder joints. One end of the artificial muscle is applied over a joint corresponding approximately to the origin of the muscle and the other at the insertion of the muscle.

[illegible]

Disease and Dropsy, with Fibrillation of the Auricles

7. A Note on "Sensory Tetany," "Vasomotor Tetany," Acroparæsthesia, and Raynaud's Symptoms, By F. Parkes Weber.
8. A Review of the Operations for Stone in the Male Bladder, By William F. Haslam.

1. **Distinctive Diagnosis in Cases of Albuminuria.**—French speaks of the acetic acid and boiling test and the cold nitric acid test for distinctive diagnosis of albuminuria. In arriving at a diagnosis of the precise cause of albuminuria in any given case, it is essential that a microscopical examination of the centrifugalized deposit from the urine should be made. Whatever else may be found, the first question to be answered is—Are renal tube casts present, as well as albumin, or not? All cases of albuminuria may be divided into three main groups: Cases with renal tube casts; cases with renal tube casts and with pus; and cases without renal tube casts. He finally takes up albuminuria in febrile conditions, in heart failure conditions, and so called physiological albuminuria of young people.

4. **Radium and Cancer.**—Morton states that some varieties of cancer are much more responsive to radium than others. With few exceptions it is in the slow growing cases that it acts best, and in which a diminution in size may be expected. Unfortunately we have no statistics of the number of cases in which it fails. That failure occurs not infrequently even with large quantities of radium is well known. We know also that it does not always cure the comparatively benign rodent ulcer or prevent its recurrence. At present the position of radium therapy seems to be that while it is of undoubted value in many cases, its chief function is in aiding and not in excluding the other recognized methods of treatment. Until it can be proved that relapse and metastasis are not more common after regression from radium than after excision, the method must be reserved for those cases in which operation is contraindicated and for recurrences. Apart from the question of the curative effect of radium, there is one point of practical importance which deserves attention. It is that in the cases in which radium acts beneficially it acts at once. Within fourteen days of the beginning of the treatment an unquestionable diminution in size will be found in all cases in which radium is able to exert a regressive effect. Occasionally this decrease is seen as early as the third or fourth day. If no improvement is apparent in this time further treatment is useless, except, perhaps, for its palliative effect. There appears to be no other certain means of foretelling in the individual case the result of radium treatment, and he has found this test application very useful in determining the advisability of a prolonged and necessarily expensive course of treatment. It will be of still greater value, if radium fulfils expectations and its results are found to be permanent, in deciding the question of operation.

5. **Röntgen Rays in Malaria.**—Skinner and Carson remark that their experience has been that the application of x rays in cases of malarial fever relieves splenic pain and reduces recent engorgement; that the temperature falls and does not usually rise again; and that recovery is not attended by the anæmia usually present in cases treated with quinine. They have not had to fall back upon quinine in cases treated by the x rays, while they have had cases which resisted quinine and yielded promptly to the rays (quinine being discontinued). They have five cases of chronic induration of malarial spleen under treatment, but the progress made has not been sufficiently marked to enable the authors to make any definite statement as to the special value of x rays in such cases. But they are so impressed with the results in malarial fever cases that they hope that their experiences may be sustained by others, and on a more extended scale.

6. **Thyreoid Extract in Cancer.**—Jones observes that physiologists have shown that thyreoid secretion has a powerful action upon proteid catabolism, as shown by increased nitrogenous excretion and loss of body weight. They have further shown that it lowers the blood pressure, causing increased circulation of lymph. This increased lymph circulation renders the blood more watery, and causes dehydration of the tissues. These two physiological actions appear to Jones to offer some explanation of the beneficial action of thyreoid extract in certain cases of cancer. The increased proteid catabolism might act in two ways. In the first place, it would shorten the life history of the cancer cells by stimulating catabolic processes in them, and thereby favor degenerative processes and fibrosis of the central mass of the growth. In the second place, its influence upon the connective tissue immediately adjacent to the cancer focus is probably still more important. By its stimulation of proteid metabolism within the connective tissue cells, its acceleration of lymph flow and dehydration of the tissue, it would modify the increased cellularity of the subcancerous zone of connective tissue which, according to Bonney, is so favorable to cancerous invasion, by converting it into fibrotic connective tissue, and thereby arrest the centrifugal growth of the growing edge. By this dual action of quickened life cycle of the cancer cells and fibrosis of the connective tissue around, a negative phase of the growth is obtained.

LANCET

February 25, 1911

1. The Immunity Reaction in Diagnosis, especially of Tuberculosis and Syphilis, By W. d'Este Emery.
2. Operations for Stone in the Male Bladder, By William F. Haslam.
3. The Treatment of Pneumonia, By David B. Lees.
4. The Education of the Deaf: Its Present State in England, with Suggestions as to Its Future Modifications and Development, By Macleod Yearsley.
5. Note upon the Examination, with Negative Results, of the Central Nervous System in a Case of Cured Human Trypanosomiasis, By Frederick W. Mott.
6. Remarks on the Treatment of Syphilis with Dioxydiamidoarsenobenzol ("606"), By C. F. Marshall.
7. Contributions to the Physiology and Pathology of the Assimilation of Albumin, By S. A. Arany.
8. A Case of So called "Insusceptibility to Vaccination," By J. D. Steele.

1. **Immunity Reaction in Diagnosis.**—Emery says that the cure of an infective disease involves two apparently opposed factors: On the one hand, an increase in the defensive forces, so that the body tends to become immune; and, on the other, a specific raising of the sensitiveness of the body to the microbe or its toxine, so that it tends to become less immune. The latter process, though it is not always easily recognized, appears to be an essential

precursor or accompaniment of the first. It is called anaphylaxis (i. e., the opposite of prophylaxis), and its clearest illustration is seen in tuberculosis. The first effect of a tuberculous lesion is to raise the susceptibility of all parts of the body to the tuberculous toxine. Tuberculin is practically without action on a normal person; it is only when he is sensitized by a previous dose or doses that it becomes a real toxine. It would appear that this is a process in the highest degree disadvantageous to the patient, and so it is, the tuberculous fever, when not due to secondary infections, is apparently entirely an anaphylactic reaction to doses of tuberculin too small to have any action on a healthy person. But it appears that this stage is essential to the production of immunity. Both anaphylaxis and immunity are specific. A person who is sensitized or who is immune to tuberculin retains his normal susceptibility to other poisons. It follows, therefore, that either of these phenomena may serve us in diagnosis. If a clear and unequivocal demonstration of anaphylaxis or of immunity to tuberculin or to the tubercle bacillus is forthcoming, it is definite proof of an infection, present or past. Two stages —supersensitiveness and immunity—may coexist. Thus, a person who has been treated with large doses of tuberculin may contain in his blood much antituberculin, so that he may no longer react to large doses. Yet his tissues may be anaphylactic, and the disease may still spread. In some diseases the problem is an easy one, but this is not the case in tuberculosis, at least in adults. The author then takes up the antibodies, and speaks of antitoxine, precipitin, agglutinin, bacteriolysin, and opsonin; refers to the methods by which we attempt to investigate the various antibodies separately and the methods by which we are enabled to gauge the amount of all the antibodies in the serum without attempting to discriminate between the various sorts (the Ascoli and the Bordet-Gengou reactions).

3. Treatment of Pneumonia.—Lees speaks of the importance of the earliest possible discovery of the local lesion of pneumonia. The initial lesion is to be attacked by the application of two icebags, so placed as to include between them the inflamed area. As the icebag, as a weapon from without, attacks the invading pneumococci, we should use internally inhalation of antiseptic vapors. But during the whole course of penumonia special attention must be paid to the right heart. The most powerful cardiac stimulant in pneumonia is bleeding, for thereby the excessive tension in the right auricle which is paralyzing its functional action is temporarily diminished, and it is quite remarkable how promptly the auricle recovers itself when once the opportunity is given. Certain drugs can give powerful assistance to a failing heart. Of these, strychnine in hypodermic injection is much used and highly valued. Oxygen by inhalation is also often recommended. It certainly relieves cyanosis, and thus by promoting the pulmonary circulation it gives help to the heart. Alcohol has long been advocated as a cardiac stimulant, and undoubtedly, by its vasoparalytic action, it indirectly relieves the strain on a failing heart. But whether it is a direct cardiac stimulant, and, if so, in what way, is still a highly debateable pharmacological and therapeutical problem. The author finally takes up diet and the necessity of sleep.

6. Salvarsan.—Marshall states that taking into consideration the failures and limitations of arsenobenzol, the possible dangers and disasters which may follow its use, and the elaborate precautions necessary for its preparation and administration, it appears evident that if mercury is ever to be supplanted by another drug, arsenical or other, it is not by arsenobenzol, at any rate in its present form. It would have been better both for the profession and for the public if some of the workers in this field had been a little more level headed and a little less precipitate. Hata himself is more reserved and limits himself to the statement that, if not capable of effecting a clinical cure, "606" may ultimately lead to the discovery of a specific treatment for spirochætal diseases. In the present state of our knowledge there is no drug which can replace mercury in the treatment of syphilis. Although arsenobenzol causes rapid healing of certain syphilitic lesions, this effect is not constant and is often only temporary. There is no proof that an abortive cure of syphilis can be realized by this drug. If arsenobenzol is indicated at all in the treatment of syphilis, it is chiefly in those cases which are not influenced by mercury, but such cases are rare. Moreover, some cases resist the action of both drugs. The administration of arsenobenzol is attended with many risks and dangers.

BERLINER KLINISCHE WOCHENSCHRIFT

February 13, 1911

1. Treatment of Morphine Habitués, By P. Schroeder.
2. Serodiagnostic Studies of a Case of Cystadenoma Hepatis, By Schultz.
3. Treatment of Acute Catarrh of the Upper Air Passages by Inhalation of Preparations of Suprarenal Capsule, By G. Zuelzer.
4. The Practical Importance of the Albumin Reaction of the Sputum, By Mieczyslaw Gantz and Richard Hertz.
5. Experimental Studies of the Opposing Reciprocal Actions of Internal Products of Secretion, By R. Balint and B. Molnar.
6. What Happens to the Tuberculin Produced in the Body? By Josef [illegible]
7. Results Obtained with Salvarsan, By A. von Torday.
8. The Left Handed in the Common Schools of Berlin, By M. S[illegible]
9. Adalin in Ambulant Practice, By Richard Traugott.
10. The Production of Oxygen from Various Solutions of Hydrogen Peroxide by Means of Catalysis (Blood), By R. [illegible]
11. The Use of the Short Chlorethyl Narcosis, By [illegible]
12. The Nature of the Engel-Turnau Urine Reaction, By F. Boschan.
13. Reply to the Preceding Article by Dr. Boschan, By [illegible]

3. Treatment of Acute Catarrh of the Upper Air Passages.—Zuelzer states that he has obtained excellent results from the inhalation of adrenalin given by means of a nebulizer.

4. The Albumin Reaction of the Sputum.—Gantz and Hertz state that the albumin reaction of the sputum is a test that is easily made, takes little time, and is an efficient aid in the diagnosis of inflammations or œdemata of the lungs. They consider it to a certain degree specific of pulmonary troubles. The reaction is negative in bronchial catarrh, positive in pulmonary tuberculosis, more or

less distinct in both the early stages and in the later forms. Fibrous phthisis forms a possible exception. The reaction is positive in pneumonia and in infarct of the lungs and also in pulmonary œdema even of slight degree.

5. **Experimental Studies of the Action of Internal Secretions.**—Balint and Molnar find in general that in a certain dilution the expressed juice of the thyreoid acts as an adjuvant to adrenalin in certain experiments, while the expressed juice of the pancreas acts in the opposite way. Another subject studied was the effect produced in strychnine poisoning by adrenalin and these expressed juices. The results of their experiments showed that the juice of the thyreoid, like adrenalin, combatted the convulsive and lethal action of the strychnine, while the juice of the pancreas not only did not oppose the action of the strychnine, but paralyzed the antistrychnine action of the adrenalin and thyreoid juice. These effects are produced by the action of the organic products upon the contraction and dilatation of the bloodvessels. The effects produced by these juices and by adrenalin were independent of each other.

MEDIZINISCHE KLINIK

February 19, 1911.

1. Chorea Senilis, By Hermann Eichhorst.
2. Henry Head's Teaching Regarding the Sense of Temperature in the Skin, By Goldscheider.
3. The Determination of the Acidity of the Gastric Juice, By Bonniger.
4. Cases of Appendicitis Observed in the Surgical Clinic at Greifswald during the Years 1901-1910, By F. H. von Tappeiner.
5. Scapula Scaphoidea, a Frequent Anomaly of the Shoulder Blade, By William W. Graves.
6. Polycythæmia, with Special Reference to Great Venesections, By Alexander Hörder.
7. "606" in Ambulant Practice, By Albert Nagy.
8. A Lubricant for Catheters Soluble in Water, By Arthur Strauss.
9. The Vegetative (Sympathetic) and Autonymous Nervous Systems, By [illegible]

6. **Polycythæmia.**—Hörder says that polycythæmia is a clinical picture that depends on disturbances and anomalies of the circulation and an abnormal composition of the blood, and may be classed with other diseases of the blood. By systematically performed great venesections it is possible in polycythæmia to reduce the number of erythrocytes from two to four millions transiently, to control the other injuries produced by the abnormal composition of the blood and to secure an improvement in the condition of the patient.

AMERICAN JOURNAL OF SURGERY

March, 1911

[illegible]
By Joseph B. Bissell.
2. Cystoscopy and Uretheral Catheterization in Young Children, By Edwin Beer.
3. Injuries to the Kidneys, with End Results, By Paul M. Pilcher.
4. A Case of Cylindroma: With Remarks on the Removal of Orbital Tumors, By J. Herbert Claiborne and E. L. Oatman.
5. Remarks on the Surgery of Moles, Warts, Nævi, and Cysts of the Skin, By D. W. Harrington
6. Traumatic Epilepsy and Traumatic Insanity, By Graeme M. Hammond.
7. Traumatic and Accidental Herniæ as They Affect Em[illegible] and Employ[illegible] By R. W. [illegible]
8. Local Anæsthesia, By Arthur E. Hertzler.
9. An Improved Method of Intermittent Wound Irrigation, By Arthur J. Bendick.
10. A Means of Tying Knots when One End of the Suture is [illegible] By [illegible]

1. **Indications for Gastroenterostomy.**—Bissell says that the imperative stomach operations are usually called for by a series of symptoms, as follows: Severe pain, vomiting, restraint of the diaphragm, sensitiveness and tenderness over the involved point, anxious facies, fever, leucocytosis. This demand may not be for gastroenterostomy, but that operation is frequently an adjunct to whatever primary operation is necessary. The operation of election is almost always one of the varieties of gastroenterostomy, that is, gastroduodenostomy or gastrojejunostomy, anterior or posterior. The main objects to be attained by this operation are rest and drainage of the stomach, with avoidance or irritation of the lesion, whether it is in the stomach itself, in the pylorus, or in the duodenum. The disease may be such that it is impossible of a cure, but by this operation we can relieve many and severe symptoms, stop for a time at least the progress of the disease, and give the patient many weeks, months, and even years of comfort and rest. If the disease is only a simple ulcer repeated cures have followed this operation. The operation should be performed as soon as the diagnosis has been made. The question of whether to operate in cases of gastric neurosis is always of considerable interest to the stomach specialists and alienists, as well as to the interne and the surgeon. The ease with which laparotomy and gastroenterostomy can be performed and the willingness with which the patient of to-day enters upon such grave operations tend to make the medical man and the general consultant less cautious in advising this grave operation than he would be if it were attended with more immediate danger and risk to the patient. Unless there is some decided physical, chemical, and bacterial evidences of disease, such patients ought not to be operated upon.

5. **Remarks on the Surgery of Moles, Warts, Nævi, and Cysts of the Skin.**—Harrington describes his method of removal of small sebaceous cysts from under the skin and especially from beneath the scalp that has seemed very successful in several cases. Such cysts are usually adherent to the skin on their superficial side but not to the underlying tissues. There is often much difficulty in dissecting the skin off the cyst and the cyst is usually ruptured in the effort. If a straight incision is made into the cyst and a curved tenaculum hooked into the bottom of the cyst wall the sac can be drawn out through the incision as easily as the lining out of a hat. This method may have been used before but if it has he has not heard of it. The first case in which he used it was one in which an able surgeon attempted to remove a cyst of the scalp several years ago. The cyst returned in a short time. In none of the cases in which he used this method has there been a return of the cyst as far as he knows.

9. **Wound Irrigation.**—Bendick describes his method of wound irrigation. The apparatus consists of a large bottle holding from five to ten gallons, which is placed at a sufficient height above the

bed to insure a forcible flow. A few inches below the outlet is placed the interrupter from which the fluid is conveyed directly to the part. The interrupter consists of a small bottle with a rubber stopper with three openings for glass tubes, one tube to admit the fluid, another to admit air, and the third to form a syphon. A clamp or preferably a glass stop cock is used to regulate the flow. The fluid from the reservoir enters the bottle through the tube with the stop cock, and simultaneously fills the small bottle and the tube. When the bottle is filled, the fluid, still rising, fills the two tubes in the bottle until the level of the bend of the syphon is reached, after which the fluid fills the external tube of the syphon, whose action then quickly empties the bottle. When the bottle is emptied air is drawn into the syphon, thus breaking its action. The fluid then slowly fills the bottle and the cycle is repeated.

AMERICAN JOURNAL OF OBSTETRICS

March, 1911.

1. Multiple Cæsarean Section with the Results in Thirty-nine Cases Done at the New York Lying In Hospital, By R. McPherson.
2. Cæsarean Section, Twenty-seven Cases without Maternal Mortality, By G. M. Boyd.
3. Contusions of the Abdomen Resulting in Injury to the Contained Viscera, with Report of Cases, By F. H. Jackson.
4. Uterine Perforation, Laceration of the Small Intestine, Resection, Hysterorrhaphy, By S. Wiener.
5. Fibroid Tumors Complicating Pregnancy, Labor, and the Puerperium, By J. T. Johnson.
6. The Pathological Era *versus* the Physiological in the Surgical Treatment of Intraabdominal Infections, By J. W. Kennedy.
7. Simultaneous Occurrence of Adenocarcinoma and Sarcoma in the Same Uterus, By A. T. Jones.
8. Choice of Delivery in Moderately Contracted Pelves, By W. G. Dice.
9. Conservative Surgery of the Uterine Appendages, By H. S. Lott.
10. Fatal Mercurial Poisoning Due to Vaginal Introduction of Bichloride Tablets Report of Three Cases, By C. B. Schildecker.
11. Some Clinical Considerations of Pelvic and Peritoneal Tuberculosis, By C. S. Foster.
12. Split Protein Feeding, By G. F. Little.
13. Hysteria in Children, By R. H. Dysart.
14. Chronic Intestinal Indigestion in Children, By T. J. [illegible].

1. Multiple Cæsarean Section with the Results in Thirty-nine Cases Done at the New York Lying-In Hospital.—McPherson gives the opinions on this important subject, pro and con., of various American obstetricians; the weight of opinion being about equal on either side. He himself approves of the procedure and feels justified by his experience. He admits that there is danger of rupture of the uterus through the scar of the previous operation, but this danger may be eliminated by rigid asepsis, care in suturing the uterine muscle, particular attention being given to placing the sutures closely together, tying them firmly, and being sure that they surround the entire uterine wall. The edges of the peritoneum over the uterus should be overlapped, thus completely burying the uterine sutures. The endometrium should not be sutured, as it may result, should pregnancy recur, in the transformation of the mucous membrane into decidua separation of the edges of the wound, and rupture. The abdominal incision should be a high one to obviate adhesions between uterus and parietes. Those who advocate the encouragement of such adhesions seem to forget the great danger which their presence imposes upon the patient.

5. Fibroid Tumors Complicating Pregnancy, Labor, and the Puerperium.—Johnson summarizes his paper as follows: 1. The patient should be let alone, in the absence of symptoms, an operation being uncalled for simply because of the presence of a tumor, which may occasion dangerous conditions, this being especially true in the first half of pregnancy. 2. The question of emptying the uterus should be decided only after conference with competent consultants. 3. Tumors which are likely to interfere with delivery should be removed, if possible, through the vagina, without invading the uterine cavity. 4. Such obstetrical operations as may be indicated in the course of labor should also be performed through the vagina, including forceps, version, embryotomy, together with combined outside abdominal and inside vaginal efforts to elevate movable tumors out of the way of the presenting part. 5. When they are really indicated abdominal operations may be performed, including myomectomy, Cæsarean section, the Porro operation, and supravaginal hysterectomy.

8. Choice of Delivery in Moderately Contracted Pelves.—Dice thinks that every multipara who gives a history of difficult labor or still birth should be examined six weeks before term to determine the relations of pelvis and fœtal head, and weekly examinations should be made thereafter to determine whether the head can be engaged. The examination should be done under anæsthesia if necessary. Labor should be induced, if necessary, not later than the thirty-sixth week. If such a course does not give promise of delivery without the use of forceps, one should wait until term and perform a primary or early secondary Cæsarean section. Primiparæ with moderate contraction should have the test of labor, if the head can be engaged by Müller's method, and always under rigorous asepsis. If the head does not mold or advance after a few hours of good pains operation will be indicated. Pubiotomy is contraindicated in the absence of a skilled operator, especially if a difficult forceps operation will also be required. In doubtful cases Cæsarean section should be preferred. In relatively contracted pelves with very large fœtuses Cæsarean section should be preferred if the labor has been deferred beyond term. In contracted pelves in which pubiotomy and Cæsarean section are contraindicated high forceps and version are indicated as a last resort. Craniotomy is never indicated except upon a dead or dying child, in the interest of the mother.

PRACTITIONER

March, 1911

1. Cancer and the General Practitioner, By Sir [illegible].
2. The Obligation Imposed upon the General Practitioner by the Development of the Experimental Investigation of Cancer, By E. F. Bashford.
3. Some Points in the Diagnosis and Treatment of Cancer [illegible] Operation, By [illegible].
4. Some Considerations on the Absorption and Excretion [illegible], By W. [illegible] Sutton, Sanatorium, Saranac Lake, By A. Campbell Stark.

6. Some Cases of Infective Endocarditis,
By C. O. Hawthorne.
7. On the Insidious Development of Aortic Valvular Disease in Cases of Atheroma,
By Charles W. [illegible]
8. Vaccine Treatment of Seborrhœa of the Scalp,
By [illegible]
9. On Vaccine Treatment of a Case of Malignant Endocarditis (or Pneumococcic Septichæmia),
By Sydney Alexander Henry.
10. The Nervous Phenomena Occurring in Chronic Mucous Colitis, By J. Liddell.
11. Spengler's Differential Staining Methods for Tubercle Bacilli, By R. Curling Styles.
12. Athletics and the Medical Man,
By Adolphe Abrahams.
13. Dr. Johnson and the Medical Profession,
By J. D. Wynn.

4. Absorption and Excretion of Drugs.—Dixon, while speaking of the absorption and excretion of drugs, speaks also of arsenic. Thus, atoxyl is an aniline derivative which contains about twenty-four per cent. of arsenic and yet it possesses only about one fortieth the toxicity of arsenious acid. It has been used largely in the treatment of syphilis, sleeping sickness, and other protozoal diseases, but has now almost ceased to be used on account of its poisonous action on the sense organs and kidneys. The greater part of this substance after absorption is excreted in the urine unchanged, but a small amount is undoubtedly broken up in the body, and this oxidized portion would liberate its arsenic, which should then be free to act in the ordinary way. The last of these bodies, dioxydiamidoarsenobenzol, the latest specific of Ehrlich, is alleged to exert an even more powerful specific action on the organisms of syphilis, relapsing fever, and other diseases than the atoxyl group of drugs, and to be less poisonous than these. All these amidoarsenobenzol derivatives, in so far as they are not broken up in the body, exert an action like the members of the coal tar series, such as amidophenol; but a portion of each dose is oxidized in the body and the arsenic of this portion is free to exert its specific effect. Yet a mixture of arsenious acid with a suitable coal tar derivative administered to patients is far behind such a drug as atoxyl in curative power in syphilis, trypanosomiasis, or other protozoal diseases. Only one explanation appears to meet these facts, and to make clear the extraordinary toxic action these bodies exert on parasites, namely, that the parasites, directly or indirectly, are enabled to break down the molecule and so to liberate the arsenic in ionic form and the benzene derivative respectively. The ionic arsenic being set free in the neighborhood of the organism in a relative degree of concentration, and being very toxic to protozoa, is enabled to destroy them. If this is the correct explanation of the mode of action of such bodies it affords us every hope for the future treatment of all diseases caused by organisms. Mercury, for example, destroys most living organisms, but it cannot be employed to destroy living organisms in the body, since after absorption it destroys the tissues of the body before the organisms, or, in other words, the organisms are more resistant than the tissues. If, however, the mercury could be combined with some organic body, which would of course render it nonpoisonous, and if this compound were of such a nature that it could be split up by organisms, cocci, bacteria, and the like, so as to liberate the mercury locally in relative concentration, a chance would then certainly be afforded of destroying active disease by means of drugs given in medicinal doses.

10. Nervous Phenomena in Mucous Colitis.—Liddell gives his treatment of nervous phenomena in mucous colitis. In his experience the Weir Mitchell method of treatment produces no benefit; on the contrary, it is harmful, because it aggravates the intestinal trouble. The speediest and most effective method of procedure is by intestinal irrigation, and to be not only effectual but to guard against its being detrimental, certain points must be observed. The haphazard way it is sometimes done by nurses and patients is injurious and leads to an increase of catarrh. First, the fluid used for irrigation must be unirritating. Normal saline solution answers well, while plain water has an injurious effect upon the mucous membrane. Secondly, the pressure at which the fluid is delivered ought to be low and equable. A varying pressure, such as with an ordinary douche, tends to increase intestinal spasm and thus causes more irritation of the intestine. He is in favor of the sulphur waters of Harrogate. Almost from the outset of the lavage there is not only improvement observed in the intestinal but in the nervous symptoms. In cases which have not been of longer duration than a year or two the improvement in the neurasthenic condition proceeds almost always *pari passu* with the intestinal, and no further treatment is requisite, beyond obtaining and maintaining a healthy condition of the intestine. To secure this, regular exercise in the fresh air and careful dieting are essential. Also, abdominal massage and exercises, especially when given by a good Swedish gymnast, are a valuable adjunct in the treatment of the intestine. In severe cases of neurasthenia, such as occur in those with hereditary neuroses, a considerable time may elapse before health is quite reestablished. The treatment is necessarily long and several courses of douching may be required, along with additional treatment for the neurasthenic, carried out both during the course of douches and in the intervals between them.

Proceedings of Societies.

WESTERN SURGICAL ASSOCIATION.

Fourteenth Annual Meeting, Held in Chicago on December 19 and 20, 1910.

The President, Dr. John P. Lord, of Omaha, in the Chair.

Desmoid Tumors of the Abdominal Wall after Operation.—Dr. E. Wyllys Andrews, of Chicago, said he had seen only two cases of desmoid tumor in several thousand abdominal operations, both of which followed kelotomies. The rarity of this complication made it worth while to report these two cases. Most of those so far on record were of another type, and followed pregnancy or injury of the fascia above the inguinal region. Keloid was distinct from desmoid in belonging to the skin. Although originating in scar tissue, as after burns or wounds, it always remained movable with the skin, and grew outward, not into the deep fascia.

True desmoids were found, not in the skin or external cicatrix, nor in the muscles, but in the fascia and aponeurosis, especially of the abdominal wall. Nearly all the reported cases had been in women after repeated childbirth. Histologically, desmoid tumors were pure fibromata of the hard white form, like fibromata of the other parts, showing coarse whorls of cut fibres macroscopically like uterine myomata and spindle cells microscopically with numerous fibrillæ between. The cells showed oval nuclei. Myomatous and even malignant degenerations might occur, as in similar growths elsewhere, but commonly they were benign. Desmoid tumors should be removed by operation, inasmuch as the tendency was to grow larger and occasionally to start degenerative retrograde or malignant changes. Dr. Andrews then detailed the two cases that had come under his observation.

Dr. J. Clark Stewart, of Minneapolis, said the point of greatest interest in Dr. Andrews's report was the analogy which he possibly showed between desmoid tumors as to ætiology with keloid. Keloid arose largely from scar tissue. If we could show that any class of fibroid tumors also arose from the seat of traumatism, it would be an important point in their ætiology and in their analogy to keloid. He doubted whether the term desmoid should be used. Desmoid was an old clinical term which meant just one thing to him, and he thought it should be reserved for that one thing, because it had no clear clinical or pathological meaning dissociated from that one clinical condition. Originally desmoids were tumors of the posterior sheath of the rectus muscle, and he must differ with Dr. Andrews that these tumors were found in the majority of cases in the upper part of the abdomen. The majority of the reported tumors he had run across had been found in the lower half of the abdomen, and both pathologically and clinically they had very marked characteristics. Clinically they grew inward, so that ultimately they became covered only by peritonæum. They attained considerable size. Quite a number of the reported cases of desmoid tumors were undoubtedly sarcomatous, and it was hard to distinguish a sarcoma under the microscope from the ordinary desmoid, and the after history of these cases had shown several times that they were sarcomata, yet he did not think there was any question about the malignancy of desmoid tumors as originally described.

Dr. A. E. Hertzler, of Kansas City, Mo., thought it was easy to fix the pathogenesis of these desmoid tumors. Any tissue like the fascia of the external oblique or any tissue which contained a large amount of the original substance, would, when irritated long enough short of suppuration, give rise to this fibrous tissue hyperplasia. One saw the same tumors subperitoneally about the abdomen. They were histologically very much the same. Histopathologically they differed from fibroma, in that they were long, with large, oval, vacuolated cells, many round cells, and polynuclears. This point was sufficient to separate the desmoid tumor from the fibromatous tumor or any tumor analogous to sarcoma.

Dr. Andrews stated that, as to the identity of keloid with desmoid, keloid, although it appeared in scar tissue, never involved anything but skin. Keloids were confined to the skin, no matter how great the size they might attain, and were movable and free.

Nonsuppurative Osteomyelitis.—Dr. J. Clark Stewart, of Minneapolis, stated that three distinct clinical conditions might be classed under this title. First, cases of ordinary osteomyelitis, where owing to the nonvirulence of the invading germ or to unknown conditions increasing the resistance of the individual, no necrosis was caused. In such cases there was no pus, no sequestrum, but instead in a certain number marked irritative reaction was set up, and there was great overproduction of bony tissue resulting in a thickened, dense, and painful enlargement of the bone attacked. These cases were quite common, regularly recognized, and properly treated. Second, cases of injury, generally fracture, where a small piece of bone was entirely separated and died, forming about it a closed cavity of dense new bone in which it lay until absorbed, but without suppuration. These cases differed entirely from those of the first class in that the irritant which caused new production of bone was not bacterial, or at least not primarily so, but a fragment of bone which remained practically aseptic. The third class, and the one to which he especially wished to call attention, differed entirely from both of the others by having no notable beginning, but an insidious onset, although a febrile illness and a slight injury respectively antedated by two years the culmination of the disease by surgical interference. The disease was essentially chronic, but progressive and regularly misdiagnosticated and treated as rheumatism. He had seen the lesions only in the tibia, but this must be accidental, as it might as well occur elsewhere. The ætiology seemed absolutely wanting, as the two cases narrated had nothing in common, while the pathology and symptomatology were identical. This third class seemed to be of a different type of chronic osteomyelitis not recognized by the textbooks on surgery, the nearest approach to a description of them being called "chronic osteoperiostitis," which was certainly a misnomer, for in these cases the periosteum was regularly normal. Their characteristics pathologically were the transformation of the marrow cavity into a multicellular labyrinth filled with a tissue which macroscopically resembled red marrow. There was also a synchronous subperiosteal production of bone which resulted in a fusiform enlargement, the new bone being spongy and not dense. Symptomatologically they were characterized by an insidious onset, so called rheumatic pains, worse in damp weather and at night, with slight evening rise of temperature. While the two cases cited each gave a history of an acute causative agent, in neither could this be said to stand in an undoubted ætiological position, as the local symptoms in both cases occurred over two years later. What would ultimately happen in a case of this kind without operation could only be surmised. Neither case showed any apparent change during the several months it was under observation, and it seemed probable that the bone would merely remain enlarged and painful until stirred up by a fresh injury or infection, when

there would be suppuration and a sinus would be formed.

The diagnosis was easy after syphilis was excluded by the noneffect of the iodides. Tuberculous osteomyelitis regularly caused cold abscess and sinus formation, while periosteal sarcoma was generally more rapid and could be eliminated by the use of skiagrams. Fusiform enlargement of a long bone, increasing very slowly in size with point pressure tenderness in various places over the enlarged bone and slight afternoon rise of temperature, gave a characteristic picture. The treatment was opening the bone and following the morbid process each way until normal bone was reached, cleansing, drying, and filling the cavity with Moorhof's wax, or securing union by first intention.

Dr. D. S. Fairchild, of Des Moines, had seen a number of cases of this kind which seemed to have arisen from some injury to the bone, with involvement of the periosteum to some extent, but the trouble seemed to extend throughout the entire shaft of the bone, the tibia being most commonly affected because it was more subject to traumatic influences. In the cases that had come under his observation the bone had been dense; that was to say, if the condition had existed for a long time, the bone became dense throughout its entire extent. In young patients, where the disease had not been progressing for a long time, the bone was softer, and when the medullary canal was examined it was found almost entirely occluded by the proliferation of this bony tissue. These cases, it seemed to him, were more like cases of osteitis in which the inflammation had extended not only into the medullary canal and from the periosteum, but into the bone substance itself, and in the cases of long standing the bone had been very dense, so that when a gutter was tunneled out, it required a considerable amount of chiseling to do so. While these cases were not very common, yet they were common enough to constitute a matter of very considerable interest to the medical profession.

Dr. W. W. Grant, of Denver, said that the diagnosis was not made early, and that was why we did not see more of these nonsuppurative cases of osteomyelitis. It was his opinion that if we gave them time, there would be ultimately death of the part and either pus formed or a sequestrum and an involucrum. We saw these cases formerly much oftener than now, because no one thought of operation until there were several sinuses leading to the canal. That was the usual method of dealing with these cases. To-day the diagnosis could be made earlier, and if it was, operation should be done earlier, when the patient would be saved several months and years of suffering, and would finally get well with a better leg and a better looking leg. It was necessary to exclude syphilis and tuberculosis, especially in arriving at a proper diagnosis.

Dr. James E. Moore, of Minneapolis, said that the principal difficulty in diagnosis was between nonsuppurative osteomyelitis and chronic bone abscess. Therapeutic tests would eliminate syphilis. As a rule, syphilitic disease of the bone was bilateral, while nonsuppurative osteomyelitis was usually unilateral. Chronic abscess of bone was likely to be limited to one end of the diaphysis, while the condition they were discussing affected the whole diaphysis. The history of these cases was that of a low form of inflammation, with gradual enlargement, the principal symptom being pain, more particularly at night. When we came to operate in these cases we found the main part of the bone proper was eburnated, and the older surgeons amputated many of these limbs, showing how great the pain was at times. The modern treatment was that pointed out by the essayist.

Dr. Arthur T. Mann, of Minneapolis, in the last six months had had two cases of this type of osteomyelitis in which he had used the Moorhof wax. One patient was a girl, thirteen years of age who had symptoms for two years. She had been kept under observation as a charity patient by another physician, who spoke to Dr. Mann about her six months before he saw her. She had the usual symptoms of osteomyelitis in the lower third of the tibia, the pain being worse at night, and the temperature running up to 102° at times, but, as a rule, it was not so high as that. At the end of two years, when he saw her, she had a fusiform swelling at the junction of the lower third of the tibia, which was very tender. She cried at night on account of the severe pain. On opening this there was a mass more dense than cancellous tissue, but much thinner than ordinary cortical bone, so that the cortex had thinned out and the medullary cavity had filled in. In the centre of this there was pale granulation tissue. This condition lasted two years. This tissue was scooped out and the cavity filled with Moorhof's wax, and the usual closure of the wound made. There was healing by first intention. The pain stopped immediately following the operation. This was a case in which there had never been suppuration.

Dr. William H. Magie, of Duluth, spoke of a form of treatment which he had adopted in a recent case. In this case the bone had been previously troughed by himself. Recurrence took place four or five months later, when Dr. Judd, of Rochester, Minn., operated. Later the patient returned to him with all the symptoms reestablished. At the examination he found the tibia for fully eight inches enormously enlarged, so that the case really looked like one of sarcoma. He adopted the plan of not troughing the tibia, but chiseling down at the extreme end of this enlargement, and splitting it, removing one half of the tibia; then he applied skin direct upon the raw surface of the bone that he had left, after removing half of the diameter of the tibia fully eight inches in length. The wound healed perfectly by first intention, and the pain was relieved immediately. The patient had been well since and was working at his occupation in the woods as a foreman of a lumber crew.

Dr. A. E. Hertzler, of Kansas City, Mo., said that in arriving at the pathogenesis of this condition he did not think we should make a mistake if we called it a desmoid tumor of the bone. If the tumor in Dr. Andrews's case had occurred in the medullary cavity the patient would have had this trouble they were discussing. In the chronic sclerosing type of bone disease there was a milder form of infection which produced an exudate which was capable of being organized, and not as in the more

acute types, which formed an exudate which was not all organized. These conditions could be rather clearly followed out if one took the trouble of applying tinctorial chemistry to these various tissues. Rather unconsciously, he suspected, in the use of Moorhof's bone plug, we were imitating in a measure a very mild type of infection. The iodoform produced an exudate which was capable of being thrown down into a fibrillar type of fibrin, and it was by active hyperæmia acting on the substance which produced an exudate, after forming this type of fibrin, that healing was brought about.

Dr. M. L. HARRIS, of Chicago, said that in the cases belonging to the subgroup which had been described by the essayist there was no material enlargement of the bone. There was no condensation of the bony cortex. The disease usually affected the shaft of the bone. In the interior of the bone we found the red marrow which Dr. Stewart mentioned. It was very soft, almost semiliquid in some cases. These cases were characterized by extreme pain. The most interesting and typical case of that kind he had seen was in a man who had been treated for syphilis. He had visited several watering places in Europe, but returned to this country without being relieved. His pain was so severe that he was obliged to take morphine to afford relief. There was extreme pain in the shaft of the humerus. All that was necessary to do in such cases was to open the medullary cavity, remove a portion of the cortex, and relieve tension.

Primary Sarcoma of the Appendix. — Dr. EVERETT O. JONES, of Seattle, said that primary sarcoma of the appendix was an extremely rare condition. He detailed a case in which he had operated successfully, and then drew the following conclusions: 1. An accurate diagnosis before operation appeared to be impossible. In every case the symptoms were those of some type of appendicitis. 2. Pathologically the round cell sarcoma predominated, next to this was the spindle cell type. 3. Inflammatory changes either chronic or acute very frequently accompanied the growth. 4. The immediate prognosis and prospect of freedom from recurrence were very good. 5. The fact that primary sarcoma of the appendix that took its origin in an inflammatory process occurred formed a very strong additional argument for the removal of all appendices which showed evidences of inflammation.

Dr. A. E. HERTZLER had no hesitation in referring to this case as one of desmoid of the appendix, because he did not know what a desmoid was, and he did not know the nature of the appendix the essayist removed in this particular case. It was common to have microscopical pictures in these chronic gut inflammations which looked very much like sarcoma; hence the greatest care possible was necessary to make the distinction.

Dr. S. C. BEEDE, of David City, Neb., said that before hearing Dr. Hertzler's remarks he was under the impression that primary sarcoma of the appendix was a surgical curiosity, but now he was not sure that it was even a curiosity. Ever since Warren reported his case, in 1808, there had been considerable investigation carried on with a view to finding malignant disease of the appendix. In the department of pathology of St. Mary's Hospital, Rochester, Minn., of 5,000 appendices removed for disease, there were only twenty-two showing carcinoma, and there was not a single case of primary sarcoma of the appendix.

Dr. WILLIAM C. MCCARTY, of Rochester, Minn., had had the privilege of examining about 5,000 appendices which were removed in Rochester, and since that investigation was made he had extended the list to about 10,000, and in all this series he had not seen one of sarcoma of the appendix. In the first 5,000 cases examined, as Dr. Beede had just stated, there were twenty-two cases of carcinoma of the appendix. Two of these he had previously diagnosticated as endothelioma, which showed that the diagnosis between endothelioma and sarcoma was a difficult one. These were all very early cases, and in only one out of seventeen was the serosa involved.

Dr. DONALD MACRAE, of Council Bluffs, had had eight or ten cases which from macroscopic appearances and the sensation imparted to his fingers appeared to be sarcoma of the appendix, yet he agreed with Dr. Hertzler. Unfortunately, in the cases he had had the disease was not entirely confined to the appendix, but involved the cæcum, and there were adhesions which tore away like frozen meat, and the mass had a sarcomatous feel.

Dr. ARNOLD SCHWYZER, of St. Paul, said that a few years ago a patient presented himself with a large tumor of the diaphysis of the femur. Professor Kocher was to operate on this patient, believing the tumor was malignant. Sections were taken from it and examined by Professor Langhans. These sections had to be frozen, as a quick report was necessary. Professor Langhans made the positive report that the tumor was a round cell sarcoma. In the meantime, while waiting for the report, Kocher observed the tumor and found some grayish little dots here and there which appeared to him to be deteriorated tissue, and came to the conclusion that it was a case of infectious granuloma. He acted accordingly, left the femur, and saved the patient's leg. No recurrence took place. It was difficult to make a distinction between infectious granuloma and sarcoma.

Dr. EMERSON F. ROOT, of Salt Lake City, said that about six or seven years ago he had a case of what he thought was primary sarcoma of the appendix. The patient had had a chronic appendicitis for more than a year. He refused operation, but at this time for a month or two he was rapidly running down, and asked to be operated on. The operation was performed. The appendix was found to be very large, five or six inches long and an inch or more in diameter, with its lumen almost occluded. It was rather hard and very loosely attached. The cæcum was not involved to any great extent. The appendix was removed together with a small portion of the head of the cæcum. The wound healed by primary intention. Two or three months later the patient died. In this case the microscopical diagnosis was made of round cell sarcoma of the appendix.

Dr. WILLIAM JEPSON, of Sioux City, Iowa, was averse to coining new terms that did not express anything. The term desmoid tumor arose from the

fact that prior to our histological conception of what these tumors were like they were classed as having developed from hard, bandlike masses found in the rectus muscle or else in the transverse fascia. The term desmoid meant hard band, and these hard bands were found in the abdominal wall, and it was found tumors developed from them, and consequently they were called desmoids. Was there any reason why we should adhere to such a term when these tumors were strictly fibromas? That was all they were.

Dr. JONES regretted that he had not brought the sections along with him. He would say, however, that these sections were submitted to four or five pathologists in his neighborhood and all of them pronounced the disease sarcoma.

Acute Suppurative Appendicitis.—This paper, read by Dr. WILLARD BARTLETT, of St. Louis, Mo., appeared in the *New York Medical Journal* of March 4, 1911.

Surgery of the Mediastinum.—Dr. B. MERRILL RICKETTS, of Cincinnati, spoke of the progress that had been made in the surgery of this region. Strange as it might seem, the two conditions that had been operated on most frequently were abscess and dermoids. In the last ten years numerous devices had been introduced for positive and negative pressure. There had been nothing done with the Sauerbruck apparatus that could not be done without it, so that there were no special advantages attending its use. In his experience he had found that he could expose the tissues of the œsophagus, a bronchus, or any portion of the lung, pericardium, or mediastinal space without this apparatus. But surgeons now had something at their command which was of special interest and usefulness, namely, the Matas method of inflation. With this means the chest could now be opened and anything done upon the tissues within it by the method that had been suggested.

A New Principle in the Action of Antiseptics. Dr. M. G. SEETH and Dr. C. W. GOULD, of St. Louis, had developed the idea that effectiveness in the action of a germicide was predicated upon two factors: 1. The inherent power of destroying germ life, and, second, the power of penetrating tissues, blood clot, or exudate, in order to reach the bacteria. The fact was emphasized that as a rule, surgically considered, bacteria were not found free on the body surfaces, but in the depths, and the problem of reaching them was similar to the problem confronting naval ordnance experts, namely, the creation of sufficient driving force to enable a projector (germicide) to reach the vitals of a warship (protoplasm of a bacterium). This power of penetration merely expressed the physical and physiological phenomena known as osmosis. They summarized the methods used in the past for testing the efficiency of germicides, and showed that they were all untrustworthy from a surgical point of view, in that the laboratory conditions were not made to conform to those of actual experience. The powers of a germicide had not been thoroughly or correctly tested unless its osmotic properties had been taken into consideration. Their method consisted in subjecting various organisms—typhoid, colon, streptococcus, staphylococcus—to the action of various germicidal solutions. The organisms were used in simple broth cultures and they were invariably separated from the germicide by either a specially constructed celloidin membrane or by a live animal membrane skin, mesentery, omentum, or diaphragm.

Definite Knowledge Obtained by Means of the X Ray.—Dr. E. M. SALA, of Rock Island, Ill., reported twenty-two cases illustrating a variety of conditions in which the x ray had proved very useful and decidedly advantageous.

Dr. DANIEL N. EISENDRATH, of Chicago, showed a specimen which was obtained at autopsy of the bladder, ureter, and left kidney with dilated pelvis. In dissecting the specimen several phleboliths were found. These phleboliths lay close to the ureter, entering into the posterior wall of the bladder.

Dr. WILLARD BARTLETT, of St. Louis, said in regard to wiring fractures, which was touched on in the paper, given cases in which an open operation was decided upon, he wanted to speak emphatically in regard to the usefulness of the Lane plate. Since having observed Mr. Lane's work in London about six months ago, he had had occasion to screw on steel plates in from forty to fifty cases, and with the exception of fracture of the patella, of which he had had only one in this series, and with the further exception of fracture near the ends of the long bones, he believed that wire had been driven out of business by the Lane plate.

Dr. A. H. LEVINGS, of Milwaukee, wished to say a few words with reference to the treatment of fractures. He had listened with a good deal of interest to what Dr. Bartlett had said about having put on Lane plates in forty or fifty cases of fractures since he had returned from London, six months ago. He had had the pleasure of meeting Mr. Lane in Milwaukee, a few weeks ago, while he was on a visit to this country, and discussed with him the question of the universal use of these plates, and he would like to ask Dr. Bartlett whether he did not find it difficult to get patients who would allow him to operate in every case of fracture. He thought any man who had used the Lane plates in forty cases within six months must have operated in every case that had come under his observation. Where fixation was required to immobilize bone fragments that could not be otherwise immobilized, the Lane plates were infinitely better than wire, because most of the members who had examined skiagrams of fractures after they had been wired, especially of the femur, had found in many instances that the wires failed to hold the fragments in approximation, and in some instances the deformity and the displacement of the fragments had been greater after wiring than before. In regard to spiral fractures of the tibia, they were quite common. For some four or five years he had been treating all these fractures of the lower extremity without wiring, without any mechanical fixation whatever, and he had yet to find a fracture that could not be reduced and held in good approximation without the use of either Lane's plates or wire. With the collaboration of Dr. Mueller, of Chicago, some five years ago, he devised an apparatus for the mechanical extension of the leg

while a plaster cast for the purpose of immobilization was being put on the leg, and with it he had obtained excellent results.

Dr. EMERSON F. ROOT, of Salt Lake City, said that if one went before a court of justice, every juror, every person in the court room had an idea of the x ray picture, and he read it to suit himself, and this was not at all in accordance with the idea of the man who took the picture. No man was so wise that he could off hand read every x ray plate or very many x ray plates without gradually educating himself to do so, and in going before a court the person who had the x ray plates to explain should insist on having his version of the matter taken by the jury and by the court.

Dr. SALA was a firm believer in the use of the Lane plates, but they would not be a good substitute for the wire in the class of cases he had mentioned.

Primary Suture of Subparietal Rupture of the Kidney.—Dr. F. GREGORY CONNELL, of Oshkosh, Wis., after reporting an interesting case of simple subparietal rupture of the left kidney, in which he resorted to lumbar incision and suture of the kidney forty-two hours after the accident, with recovery, drew the following conclusions: 1. Owing to the rapid, recent increase in the number of reported cases, there was reason to believe that subparietal rupture of the kidney was more frequent than the literature would lead one to believe. 2. Shock, injury to other organs, and external evidence of trauma were frequently absent. 3. A history of an abdominal contusion, followed by rigidity and hæmaturia, was sufficient to lead to exposure of the organ. 4. Slight lesions and complete rupture of the kidney could not be distinguished by clinical signs or symptoms. 5. Proof of the absence of serious rupture was called for before instituting the so called expectant treatment. 6. Nephrectomy should be reserved for very extensive disintegration of the organ. 7. Conservative treatment, preferably by suture, was indicated in the majority of cases.

Dr. WILLIAM J. FRICK, of Kansas City, Mo., said that heavy blows or falls striking on or about the lumbar region should always be regarded as serious. The appearance of hæmaturia following such injury should be sufficient evidence upon which to make a diagnosis of rupture of the kidney, although the absence of hæmaturia following such injuries was not always absolute proof that the kidney had not been injured. In one case of subparietal rupture of the kidney, a complicated case, hæmaturia was very slight, although the damage to the kidney was apparently beyond repair. The patient did not live very long. The wound about the kidney was simply packed. Injuries of the kidney were nearly always followed by hæmaturia, but this was not invariably the case. In a case of gunshot wound of the kidney there was not a trace of blood in the urine to be found, macroscopically, at least, although the circumrenal space was filled with blood. When a diagnosis of rupture of the kidney was made, the kidney should be exposed by a lumbar incision, especially if it was an uncomplicated rupture of the kidney, as it was the only means we had of determining the extent of damage done to the kidney. We could not depend upon the amount of hæmaturia or any other sign. Knowing the ability of kidney tissue to repair itself, we should attempt conservative surgery in these cases. Nephrectomy should not be done unless the injury to the kidney parenchyma was so extensive as to preclude the possibility of saving enough of it to be of functional value, and unless the injury to the renal vessels was so great as to interfere seriously with the nutrition of the organ.

(To be concluded.)

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Principles and Practice of Modern Otology. By JOHN F. BARNHILL, M. D., Professor of Otology, Laryngology, and Rhinology, Indiana University School of Medicine, etc., and ERNEST DE WOLFE WALES, B. S., M. D., Clinical Professor of Otology, Laryngology, and Rhinology, Indiana University School of Medicine, etc. With 314 Original Illustrations, Many in Colors. Second Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 598. (Price, $5.50.)

On its appearance, a few years ago, *Modern Otology* was greeted in these columns as a well written and particularly well illustrated treatise on the diagnosis and treatment of diseases of the ear, and welcomed as a valuable addition to the standard textbooks on otology. In the second edition, Barnhill and Wales have brought their work up to date and have added a number of important chapters. Among these we may mention, Examination of the Functions of the Ear, which follows the standard accepted by the Eighth Otological Congress at Buda-Pesth in 1909; Operative Injury to the Facial Nerve; The Heath "conservative" Radical Mastoid Operation; and additional paragraphs on Labyrinthine Suppuration.

Diagnosis and Treatment of Diseases of Women. By HARRY STURGEON CROSSEN, M. D., Professor of Clinical Gynæcology, Washington University, Gynæcologist to the Washington University Hospital, etc. Second Edition, Revised and Enlarged. With Seven Hundred and Forty-four Engravings. St. Louis: C. V. Mosby Company, 1910. Pp. xxix-1025.

The second edition of this handsome work appears with two hundred extra pages and fifty additional illustrations, special attention being given to pelvic inflammation and tubal pregnancy. The space given to the therapeutics of functional disturbances will cause the book to be welcomed by many a general practitioner; formulæ are numerous. The index has been enlarged with careful cross references. The student is given full instructions how to approach a case from the beginning, while there is no useless padding of anatomy. A chapter on the medicolegal aspects of gynæcology concludes an excellent textbook.

Hay Fever and Paroxysmal Sneezing (Vasomotor Rhinitis). By EUGENE S. YONGE, M. D. (Edin.), Physician to the Manchester Hospital for Consumption and Diseases of the Throat. With Two Colored Plates. New York: William Wood & Co., 1910. Pp. 150. (Price, $2.)

Yonge has given a very complete and interesting account of the history of hay fever theories, with a

complete résumé of the various methods of treatment, local, constitutional, dietetic, antitoxic, and so on, and has brought the subject well past the period of Dunbar's investigations and the pollantin and immunization cures. The little book is an excellent guide which, perhaps unfortunately, came from the press just before the observations of Meltzer and others called attention to the subject of anaphylaxis and the possible practical relation of this biochemical reaction to hay fever, asthma, and other paroxysmal affections. It seems quite probable that further study of this complex vital phenomenon will before long lead to valuable suggestions in the line of prophylaxis and treatment.

[illegible] cine. By Reynold Webb Wilcox, M. A., M. D., LL. D., Professor of Medicine (retired) at the New York Postgraduate Medical School and Hospital, Consulting Physician to St. Mark's and Nassau Hospitals, etc. Third Edition. Thoroughly Revised and Enlarged. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xxv-1023. (Price, $7.50.)

Professor Wilcox has thoroughly revised and enlarged his third edition. It must be very gratifying to the author and publisher that three editions have become necessary during four years. We refer our readers to the review of the first edition, which appeared in our issue of May 25, 1907, on page 1006. Forty-three sections, devoted to as many diseases, have been added. The author has had an extensive practice, and this, in connection with twenty-five years of experience in teaching, has enabled him to write a book which is universally appreciated.

Care of the Patient. A Book for Nurses. By Alfred T. Hawes, A. M., M. D. With Six Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. vii-173. (Price, $1.)

There are a great many books on the market written professedly for nurses but also of interest to the physician. To this number Dr. Hawes has added a valuable contribution. He very rightly states that the physician outlines medical treatment and the surgeon operates, but the patient's recovery depends on the skilful performance of the details of nursing. This is a very good statement and, as the technique of the nurse must be as exact as that of the surgeon, the author has laid down instructions and rules which should be strictly followed by the nurse.

Three Contributions to the Sexual Theory. By Professor Sigmund Freud, LL. D., Vienna. Authorized Translation by A. A. Brill, Ph. B., M. D., Clinical Assistant, Department of Psychiatry and Neurology, Columbia University, Assistant in Mental Diseases, Bellevue Hospital, etc. With Introduction by James J. Putnam, M. D. New York: The Journal of Nervous and Mental Disease Publishing Company, 1910. Pp. x-91.

Dr. Putnam in his introduction to this volume seems to have accepted the author's thesis that psychoneurotic illnesses never occur with a perfectly normal sexual life; though he concedes that other sorts of emotions contribute to the result, yet he believes that some abnormality of sexual life is always present. This opinion is not accepted generally by psychiatrists, and they do not find reason to believe that the psychoneurotic consist of ithyphallic men and libidinous women, or variants of such types.

The essays included are on the sexual aberrations, infantile sexuality, and the transformation of puberty. The first essay states that "neurotics conserve the infantile state of their sexuality or return to it," so we may turn to infantile sexuality to learn this author's thesis. He states that no investigator has yet doubted the sexual nature of thumbsucking in a baby, but adds in a footnote that Moll does. It is extraordinary that our best pædiatrists do not urge such a view, or hold that it leads "even to a motor reaction in the form of an orgasm." And to hold that the babe at the mother's breast, sucked at first to unite the gratification of the "erogenous zone" of the mucous membrane of the mouth and lips with the gratification of taking nourishment, does not impress one as science, but as pornography gone to seed. The picture of the thumb sucking child looking around on his body and selecting any portion of it for pleasure sucking, "such as breast, nipple, or genitals," affords an interesting speculation in infantile contortion that must be as novel to the psychiatrist as to the pædiatrist. The erogenous action of the skin prepares us to understand the therapeutic effect of warm baths (p. 53)! So the shaking of railroad traveling is utilized by children as a nucleus for "exquisite sexual symbolism" (p. 54)! The sensations of passive motion, it may astonish physiologists to learn, are of a sexual nature or produce sexual excitement! The mother supplies "the child with feelings which originate from her own sexual life; she pets it, kisses it, and rocks it, plainly taking it as a substitute for a full valued sexual object"; we agree that the mother would be terrified to learn that all her tenderness awakened the sexual impulse of her child and prepared its future intensity.

It is useless to quote further, for this unfortunate and unproved speculation is likely to receive as little acquiescence in this country as it has in England, France, Germany, or even Austria, where it originated. The translator's work has been done well, and making these theories accessible in English will probably best determine their impossibility.

MEDICOLITERARY NOTES

A certain portion of the public and many of the daily papers seem to think that there is a tremendous joke on the alienists in the recent declaration of an accused bank defaulter that he is sane, in the face of an expert decision that he is positively *non compos*. In order to demonstrate who is the real victim of the joke—such as it is—it is necessary only to recall that any inmate of a lunatic asylum will acknowledge that he is sane. Furthermore, if it is possible to prove to his disordered brain that he has frequently given very convincing signs of insanity, he will hasten to "acknowledge," in addition, that he was "only shamming."

A recent interview in the *Sun* with Caroline King Duer credits that clever writer of prose fiction and *vers de société*, solely on account of a sensitive and kindly temperament, with being probably an anti-vivisectionist. To say nothing of this supposition being lugged in by the ears, it is a poor compliment to an educated woman of brains to attribute to her

a sloppy sentimentality coupled with ignorance of what is being accomplished in the scientific warfare with disease.

* * *

We suppose it is useless to try to combat the popular conception of an experimental physiologist as having the look and port of a prosperous butcher; if we were to point out one or two laboratory workers of our acquaintance, who look more like poets and utopian dreamers than anything else, we should not be believed. If admission to a series of experiments could be secured by some of the antis of depraved imagination, what a disappointment would be theirs! Instead of being horrified, they would simply be bored to extinction; nothing could be more deadly dull to a sensation loving observer ignorant of physiology than one of the simple but highly important demonstrations on a lifeless, motionless, and perfectly indifferent guineapig.

Homer Davenport, the cartoonist, had a most touching picture in a recent issue of the *Globe*, representing a scowling physician standing at the door of a tenement while an emaciated child begged him to prescribe, free of charge, for a wan looking relative lying in bed in a corner of the apartment. The inspiration for this cartoon is the newspaper report that the physicians of Atlanta, Ga., have made a black list of grafting patients. Not a single accusation of refusing to treat a really poor patient for lack of a fee has ever been sustained against any regular practitioner, yet the slightest effort made by members of the profession to protect themselves against the very meanest of swindlers raises a howl of protest from people who never rest till they have exacted the last penny due them for goods delivered, the prices in many instances being ingeniously raised by rebates, by false weights and measures, by various adulterations, and by alleged "marked down" sales.

Dr. Woods Hutchinson writes in the March *Outing* of Occupation and Exercise, explaining that there is muscular exercise and consequently fatigue in standing, in sitting, even in lying down, and that change of occupation is the best of all recreation. Like the socialists, Dr. Hutchinson hopes for the time when six hours will constitute a day's work and there will be four hours spent outdoors by everybody. Any one familiar with the routine of the average business office knows that six hours constitute a day's work now, two or three hours being killed by various ingenious methods; these hours would be better spent frankly in recreation outdoors for the benefit of the race.

Very sick people do not as a rule sneeze, and sneezing was at one time considered to be so sure a sign of convalescence as to compel the patient's departure from the hospital. The attending physician was accustomed to exhort [illegible] *est, et nosocomio expelli debet.* The pious custom of saying "God bless you" to a person who has sneezed is said to have arisen in the fourteenth century during the progress of a plague the premonitory symptom of which was violent sternutation. This plague may have been our old friend grippe (ephebi in the absence [illegible] therapeutical resources, might well be a very serious and fatal malady.

There seems to be a sort of mania on the part of certain New Yorkers to meddle with our parks; all sorts of projects are constantly on foot, from the construction of a speedway for trotters to the building of swimming baths for poor children, in the priceless Central Park. There seems to be no general demand for these alterations, which must be advocated mainly by real estate operators who hope that a precedent may be established for the erection of private buildings. For the average young citizen it costs no more to go to Coney Island than to Central Park, and it is only fair that the latter be left to the enjoyment of the immense number of residents of quiet tastes and moderate means who find their best recreation and refreshment in the calm and lovely vistas of the park as it is. Automobiles should be restricted to certain hours in the parks; the outskirts of the city are open to their owners. Beautiful and useful as the new library is, we are sorry to see it occupying park space; already it is urged that the scanty remainder of Bryant Park should be devoted to an art gallery. Let us keep our parks for the humble pedestrian office and shop worker, who needs them most and for whom they were originally planned. Land for art galleries and circuses for the poor should be demanded of millionaires anxious to square themselves with public opinion.

The March *Review of Reviews* has an article on Fighting American Typhoid, by Dr. John Bessner Huber, which tells of the hard battles already fought and foretells others. The story of the fight made in Montreal, Canada, in January, 1910, is unusually picturesque on account of the complications arising from the presence of Halley's comet, which was regarded with great awe by a large, illiterate population.

* * *

Puck, for March 8th, has a cartoon representing a gentleman throwing fifty dollar bills into the fireplace. His wife is explaining to a visitor that "he has to do something since the fake mining schemes have been stopped by the post office." What is there in the physician's make up that renders such obviously crooked investments so attractive to him? New York practitioners have little idea of the flood of swindling literature that is poured forth to their country brothers, or of the immense saving that is being effected to them by the suppression of the bucket shops. As we have remarked more than once, the average physician is an artist and a dreamer rather than a scientist.

* * *

A prominent toxicologist of Boston is quoted as stating that over ten per cent. of the physicians of the United States are drug users; it would be interesting to learn upon what grounds he has based this conclusion. He is said to have averred that he knew of a hospital where nearly all the physicians and nurses used morphine, that there was more smoking than eating of opium, and that many young women of Boston were smoking opium. We fancy that these young women belong to a well de-

fined social class. Smoking opium consumes from four to seven hours daily, has the most marked effects in consequence on the complexion, carriage, and figure, and is almost impossible to practise without speedy detection. The odor of burning opium is characteristic and pervades the whole building in which it arises. We are inclined to think that the toxicologist was incorrectly quoted.

An important article in the March *North American Review* is Army Morals and the Canteen, by Judge James H. Blount. The abolition of the canteen was undoubtedly a mistake and was forced by *a priori* thinkers; brutish intoxication and a terrible prevalence of venereal disease have followed the installation of private dives about the reservations that quickly replaced the clean and carefully supervised soldiers' club.

"Phosphorus is the brain's main constituent" is the somewhat broad statement made by the manufacturers of a proprietary food. "It is *par excellence* in therapeutical activity" is the queer statement of another manufacturer, based apparently on the supposition that *par* is Latin and *excellence* English.

Perhaps some medical casuist would like to decide the following questions: Should a physician hesitate to induce the morphine habit in incurable malignant disease, diabetes, or rheumatism? If this has been done, should the patient be obliged to secure a new prescription at the price of a consultation whenever his supply of the drug gives out? When legislation regarding the sale of alcohol and other sedatives is under discussion, it might be well to obtain the opinions of one or two experienced practitioners of medicine. We have heard a very rabid medical reformer advise against depriving of his daily whiskey an aged veteran of the civil war. De Quincey and Wilkie Collins became opium eaters in middle age. Many ataxic subjects carry a hypodermic syringe. Should such people be encouraged in disrespect for a law they cannot observe, or should the law be drawn in a way to safeguard the public without depriving hopeless invalids of their one solace in life?

NEW PUBLICATIONS.

[illegible] Photographic Atlas of Radiography of the Mastoid Region and of the Nasal Accessory Sinuses. St. Louis, Mo.: The Laryngoscope Company, 1911.

von Bechterew, W.—Die Funktionen der Nervencentra. Deutsche Ausgabe in Verbindung mit dem Verfasser redigiert durch Dr. Richard Weinberg, Professor der Anatomie in St. Petersburg. Drittes Heft: Hemisphären des Grosshirns. Mit 218 Abbildungen im Text. Jena: Gustav Fischer, 1911. Pp. x, 537 to 1017.

Berkeley, Comyns, and Bonney, Victor.—A Textbook of Gynæcological Surgery. With 392 Figures in the Text from Drawings by Victor Bonney, and Sixteen Colored Plates. New York: Funk & Wagnalls, 1911. Pp. x-720. (Price, $5.)

Hill, Edward Curtis.—A Textbook of Chemistry. For Students and Practitioners of Medicine, Pharmacy, and Dentistry. Second Edition, Thoroughly Revised, Rewritten, and Considerably Enlarged. With One Hundred Illustrations in the Text and Fourteen Full Page Half Tone and Colored Plates. Philadelphia: F. A. Davis Company, 1911. Pp. xii-659. (Price, $3.25.)

Jessner, S.—Hautveränderungen bei Erkrankungen der Atmungsorgane. Würzburg: Curt Kabitzsch, 1911. Pp. 54.

Parker, Harry Caldwell.—Handbook of Diseases of the Eye. A Textbook for Students and Practitioners. Illustrated with 115 Text Engravings, a Half Tone Frontispiece, and Five Full Page Chromolithographic Plates, with Twenty-six Figures. Philadelphia: T. A. Davis Company, 1910. Pp. xii-303.

Wechselmann, Wilhelm.—The Treatment of Syphilis with Salvarsan. With an Introduction by Professor Dr. Paul Ehrlich. Only Authorized Translation by Abr. L. Wölbarst, of New York. With Fifteen Textual Figures and Sixteen Colored Illustrations. New York: Rebman Company; London: Rebman Limited, 1911. Pp. 175.

Alger, Ellice M.—Refraction and Motility of the Eye. With Chapters on Color Blindness and the Field of Vision. Designed for Students and Practitioners. With One Hundred and Twenty-two Illustrations. Philadelphia: F. A. Davis Company, 1910. Pp. xi-380.

Squier, J. Bentley.—Manual of Cystoscopy. New York: Paul B. Hoeber, 1911. Pp. 117. (Price, $3.)

Ellis, Havelock.—Studies in the Psychology of Sex Volume VI. Sex in Relation to Society. Philadelphia: F. A. Davis Company, 1911. Pp. xvi-656. (Price, $3.)

The Johns Hopkins Hospital Reports. Volume XVI. Baltimore: The Johns Hopkins Press, 1911. Pp. xiii-670.

Transactions of the American Surgical Association. Volume XXVIII. Edited by Archibald MacLaren, M. D. Pp. xxxvi-664.

Sitzungsberichte der Gesellschaft für Morphologie und Physiologie in München. XXVI, 1910. München: J. F. Lehmann, 1911. Pp. 57.

Memorias do Instituto Oswaldo Ceuz. Tomo II. Faciculo II. Rio de Janeiro: Manguinhos, 1910. Pp. 293.

Transactions of the American Urological Association. Ninth Annual Meeting at St. Louis, Mo., June 6 and 7, 1910. Edited by Charles Green Cumston, M. D., of Boston. Pp. vi-263.

Proceedings of the Canal Zone Medical Association for the Year 1909; April, 1909, to March, 1910. Pp. 184.

Thirty-seventh Annual Report of the Secretary of the State Board of Health of the State of Michigan for the Fiscal Year Ending June 30, 1909. Pp. 200.

Miscellany.

The Plague in North China.—Dr. J. J. Mullowney, of the Hopkins Hospital, Methodist Mission, at Pekin, China, remarks in the *Journal of the American Medical Association*, March 11, 1911: The disease started at Harbin. Up to January 24, 1911, about 1,500 Chinese and twenty-seven Europeans had died, of whom two were physicians and one an assistant. The disease is met with, mostly, in the pneumonic and septichæmic types. Inoculation with Haffkine's antibubonic vaccines seems to be of considerable value as a prophylactic measure. The administration of Yersin's serum in treatment does not seem to be of much value, although it should be said that it has not been given a full trial. If it were possible to take, say, forty or fifty patients and administer the serum to the patients and compare them with a like number that had not had the serum, we could say something more definite, but so far as he is able to learn this has not been done in this epidemic. It has been conclusively shown that the disease, in the pneumonic form, is transmitted by the sputum and by contact with persons sick of the disease, and that the wearing of respirators is good prophylaxis. The rat, or the rat flea, does not seem to have nearly as much to do with the spread of the pneumonic type of the disease as it has in epidemics of the bubonic type. So far as our author is aware this is the first definite

epidemic of the pneumonic type of the plague. The disease spread along the line of railway traffic from Harbin to Mukden, to Shanhaikwan, to Tientsin, to Pekin, and to several smaller places. It also got to Chefu, which is a seacoast town, probably through some Chinese coolies returning from the North in a Chinese junk or fishing boat.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the Surgeon-General of the United States Public Health and Marine Hospital Service for the week ending March 3, 1911:

Places.	Date.	Cases.	Deaths.
Cholera—Insular.			
Hawaii—Honolulu	Feb. 25-Mar. [illegible]	[illegible]	[illegible]
Philippine Islands—Manila	Jan. [illegible]	[illegible]	[illegible]
Cholera—Foreign.			
India—Bombay	Jan. [illegible]	[illegible]	[illegible]
India—Calcutta	Jan. 1-7	[illegible]	[illegible]
India—Madras	Jan. 1-7	1	1
Indo-China—Saigon	Jan. [illegible]	3	[illegible]
Java—Batavia	Jan. [illegible]	[illegible]	[illegible]
Madeira—Funchal District	Jan. 1-10	150	77
Madeira—Funchal District	Jan. [illegible]	70	[illegible]
Persia—Kerman	Dec. [illegible]	63	29
Russia—Khazan, government	Jan. 1-7	1	1
Russia—Yekaterinislav, gov'ment	Jan. 1-7	2	2
Yellow Fever—Insular.			
Philippine Islands—Cavayan	Dec. [illegible]	[illegible]	[illegible]
Plague—Foreign.			
Brazil—Bahia	Nov. [illegible]	[illegible]	15
China—Amoy	Jan. [illegible]	Present.	
China—Changchun, Manchuria	To Jan. 16	100	
China—Loshagoon, Manchuria	Dec. 27	4	
China—Mukden, Manchuria	Jan. [illegible]	84	73
Ecuador—Duran	Jan. [illegible]	2	1
Ecuador—Guayaquil	Jan. [illegible]	29	2
Ecuador—Milagro	Jan. [illegible]	3	2
Egypt—Alexandria province	Jan. [illegible]	11	1
Egypt—Assiout province	Jan. [illegible]	6	4
Egypt—Cairo	Jan. [illegible]	9	5
Egypt—Kafr-el-Zayat	Jan. [illegible]	2	2
Egypt—Menieh province	Jan. [illegible]	16	4
Egypt—Menouf province	Jan. [illegible]	2	1
India—Bombay	Jan. [illegible]	[illegible]	[illegible]
India—Rangoon	Jan. [illegible]	[illegible]	3
Indo-China—Saigon	Jan. [illegible]	1	1
Japan—Nagasaki	March [illegible]	Present.	
Russia—Astrakhan government	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Florida—Alachua County	Feb. 11-18	1	
Florida—Duval County	Feb. [illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Florida—Gadsden County	Feb. 11-18	14	
[illegible] Hillsboro County	Feb. 11-18	[illegible]	
Florida—Jackson County	Feb. 11-18	6	
[illegible] Lee County	Feb. 11-18	[illegible]	
[illegible]	Feb. [illegible]	[illegible]	[illegible]
Florida—Putnam County	Feb. [illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Illinois—Peoria County	Jan. 1-31	5	
[illegible]	[illegible]	[illegible]	[illegible]
Illinois—Stevenson County	Jan. 1-31	3	
Illinois—Union County	Jan. 1-31	7	
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Indiana—Decatur County	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Indiana—Knox	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Jan. 1-31	5	
Indiana—Noble County	[illegible]	[illegible]	[illegible]
Indiana—Posey County	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]

Bastion, J. E., Lieutenant, Medical Corps. Walter Reed General Hospital, Takoma Park, D. C., with Co. C, Hospital Corps, en route to San Antonio, Texas, for field duty.

Birmingham, H. P., Lieutenant Colonel, Medical Corps. Assigned to duty as Chief Surgeon of Division now being concentrated at San Antonio Park.

Darby, Taylor E., Lieutenant, Medical Corps. Left Fort McPherson, Ga., en route to Fort Sam Houston, Texas.

Daywalt, George W., Lieutenant, Medical Reserve Corps. Ordered to proceed to his home, and upon arrival there will report to the Adjutant General of the Army for further orders.

Dougherty, James C., Lieutenant, Medical Reserve Corps. Reported in field for duty along Mexican Boundary.

Dutcher, Basil H., Major, Medical Corps. Ordered to San Antonio, Texas, to assume command of one of the field hospitals to be assembled at that place.

Fauntleroy, P. C., Major, Medical Corps. Left Fort Benjamin Harrison, Ind., with the 10th Infantry en route to Fort Sam Houston, Texas.

Ford, Joseph H., Major, Medical Corps. Left Fort Wadsworth, N. Y., with troops for duty in Texas.

Gilchrist, Harry L., Major, Medical Corps. Ordered to San Antonio, Texas, to assume command of one of the four field hospitals to be assembled at that place.

Halliday, Charles H., Lieutenant, Medical Reserve Corps. Left Fort Fremont, S. C., en route to Jackson Barracks, La., for temporary duty.

Hartsock, F. M., Major, Medical Corps. Ordered to San Antonio, Texas, to assume command of one of the four field hospitals to be assembled there.

Hill, Eben C., Lieutenant, Medical Corps. Left Madison Barracks, N. Y., en route to Fort Monroe, Va., for temporary duty.

Jones, Percy L., Captain, Medical Corps. Ordered to San Antonio, Texas, for duty in command of Ambulance Co. No. 2, at that place.

Krebs, Lloyd Le R., Captain, Medical Corps. Honorably discharged from the service of the United States.

O'Connor, R. P., Major, Medical Corps. Left Fort Screven, Ga., with troops en route to Galveston, Texas.

Patterson, Robert U., Major, Medical Corps. Ordered to San Antonio, Texas, to assume command of one of the four field hospitals to be assembled at that place.

Persons, Elbert E., Major, Medical Corps. Ordered to San Antonio, Texas, for duty in the Chief Surgeon's Office, division at that place; left Fort Jay, N. Y., en route to San Antonio, Texas.

Roberts, William M., Major, Medical Corps. Relieved from temporary duty at Fort Oglethorpe, Ga., and ordered to proceed with the 11th Cavalry to Fort Sam Houston, Texas.

Schlanser, A. E., Lieutenant, Medical Corps. Left Walter Reed General Hospital, Takoma Park, D. C., with Company C, Hospital Corps, en route to San Antonio, Texas, for field duty.

Straub, Paul F., Major, Medical Corps. Ordered to proceed to San Antonio, Texas, for duty as sanitary inspector of division.

Truby, Willard F., Major, Medical Corps. Ordered to proceed to San Diego, Cal., and report for duty as commanding officer of the field hospital at that place.

Waterhouse, S. M., Major, Medical Corps. Left Fort Washington, Md., with troops en route to Fort Monroe, Va., and for duty in Texas.

Whitcomber, C. C., Captain, Medical Corps. Ordered to San Antonio, Texas, for duty as medical supply officer.

Wickline, William A., Captain, Medical Corps. Left Walter Reed General Hospital, Takoma Park, D. C., with Company C, Hospital Corps, en route to San Antonio, Texas, for field duty.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending March 11, 1911:

Abeken, F. G., Passed Assistant Surgeon. Detached from the *West Virginia* and ordered to the navy recruiting station, St. Louis, Mo.

Beyer, H. G., Medical Director. Commissioned a medical director from February 27, 1911.

Downey, J. O., Passed Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, Pa., and ordered to the *Prairie*.

Elmore, B., Acting Assistant Surgeon. Commissioned an acting assistant surgeon from March 4, 1911.

Higgins, M. E., Passed Assistant Surgeon. Ordered to the Naval Medical School, Washington, D. C.

Miller, J. T., Passed Assistant Surgeon. Detached from the navy recruiting station, St. Louis, Mo., and ordered to the *Franklin*.

Mink, O. K., Passed Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *West Virginia*.

Olcott, F. W., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from February 13, 1911, and transferred to the retired list from that date.

Pugh, W. S., Passed Assistant Surgeon. Detached from the Naval Hospital, New York, N. Y., and ordered to the *Dixie*.

Richardson, R. R., Surgeon. Detached from the navy yard, Portsmouth, N. H., and ordered to the *Prairie*.

Births, Marriages, and Deaths.

Born

Bloombergh.—In Manila, Philippine Islands, on Sunday, January 29th, to Captain H. D. Bloombergh, Medical Corps, United States Army, and Mrs. Bloombergh, a son.

Died.

Best.—In Salt Lake City, Utah, on Tuesday, February 28th, Dr. L. E. Best, aged sixty-seven years.

Bond.—In Valois, New York, on Friday, February 24th, Dr. Charles L. Bond, aged thirty-eight years.

Brooks.—In Brooklyn, New York, on Thursday, March 2d, Dr. George W. Brooks, aged seventy-two years.

Coe.—In New York, on Monday, March 6th, Dr. John W. Coe, Jr., aged thirty-nine years.

Crosby.—In Lowville, New York, on Thursday, March 2d, Dr. Alexander H. Crosby, aged seventy-four years.

Dickson.—In Cayuga Falls, New York, on Sunday, February 26th, Dr. Josiah M. Dickson.

Erdman.—In Allentown, Pennsylvania, on Wednesday, March 1st, Dr. Albert J. Erdman, aged fifty-eight years.

Hewlett.—In Babylon, New York, on Sunday, March 5th, Dr. William Wheeler Hewlett, Sr., aged sixty-three years.

Howe.—In Au Sable Forks, New York, on Saturday, March 4th, Dr. E. S. Howe, aged seventy-four years.

Johnston.—In Wellsburg, West Virginia, on Saturday, March 4th, Dr. J. P. Johnston, aged fifty-four years.

Jones.—In Hagerstown, Maryland, on Saturday, March 4th, Dr. David W. Jones, aged eighty-four years.

Mayo.—In Rochester, Minnesota, on Monday, March 6th, Dr. William W. Mayo, aged ninety-one years.

Potter.—In Buffalo, New York, on Tuesday, March 14th, Dr. William Warren Potter, aged seventy-three years.

Roberts.—In New Canaan, Connecticut, on Wednesday, March 1st, Dr. Theodore Roberts, aged sixty-eight years.

Starkey.—In Millett, Texas, on Saturday, February 25th, Dr. W. S. Starkey.

Stewart.—In Boston, Massachusetts, on Friday, March 3d, Dr. John Alexander Stewart, aged thirty years.

Torrey.—In Detroit, Michigan, on Thursday, March 2d, Dr. Bartlett Norton Torrey, aged sixty-four years.

Van Horn.—In Brooklyn, New York, on Wednesday, March 1st, Dr. Jacob Privi Van Horn, aged fifty-seven years.

Whitlock.—In San Francisco, California, on Sunday, February 26th, Dr. W. A. Whitlock, aged fifty-eight years.

Wolfe.—In Roanoke, Virginia, on Wednesday, March 1st, Dr. Alfred Lewis Wolfe, aged fifty-seven years.

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THE PROBLEM OF PROSTITUTION AND VENEREAL DISEASES IN NEW YORK CITY.

BY FREDERIC BIERHOFF, M. D.,
New York.

When I wrote the paper, recently published in this *Journal*, concerning the opposition to the Page bill, I fully expected to be attacked for my views. I was not disappointed. I hope to be given the space, in some future issue, perhaps, to answer the statements made by my opponents.

In order, however, to present my views more fully upon the question of the problem of the social evil in New York, aside from any considerations of the Page bill, I have decided to reproduce, in the original, the closing chapter of a series of articles prepared by me, at the request of Professor Blaschko, the secretary of the Deutsche Gesellschaft für die Bekämpfung der Geschlechtskrankheiten, for publication in the official organ of that society.

Although written two years ago, as the result of a study of conditions in this city covering several years, my views upon the matter have changed but little. If anything, I have become only more firmly convinced that the time will soon come when we shall be forced, as a result of the increase in venereal diseases, to take official cognizance of their danger, and to enforce measures to limit their spread, disregarding the clamor of fanatics, whose views are based solely upon theory and not upon a knowledge of the facts.

. . . . . .

It may be accepted as proved that prostitution cannot be stamped out. If one reads its history, one is impressed by the fact that every attempt to achieve this has been met by complete failure. I need not go into details in this direction. They can be found in every history of prostitution.

It has been stated, too, that all attempts to regulate prostitution by means of segregation, by inscription without segregation, or by sanitary control, have been unsuccessful.

It can, however, not be denied that in the city of New York the total ignoring of the problem has been disastrous. To seek to avoid the responsibility for the existence of an evil by denying its existence, may be an easy way out of a dilemma; but the penalty for this evasion is being visited not only upon the wrongdoers themselves, but also upon large numbers of innocents, and is striking at the greatest asset of the community—the health of its members.

The attitude of indifference maintained toward the problem; the spirit of pharisaism and puritanism governing us; the air of disgust assumed when the topic of sex problems is mentioned; the fashion of dubbing with the title "muck raker" anyone who attempts to present the facts as they exist, rather than as the pharisees and politicians would have us believe them to be: all of these make any attempts at a practical reform, in the line of improvement, almost hopeless.

Turn in what direction you will, and you find that any attempt to change the existing order of events runs against the "machine" politician, and his shadow, the "grafter." And this is, apparently, true of all political parties alike. "Graft" is not a matter of party, but of politics in general. The most valuable asset, and the most powerful tool in the hands of the politician, is the ignorant or the vicious voter, whether of native or alien birth. It is he who makes possible the carrying out of the iniquities of the politicians, and whose vote is mainly responsible for the maintenance in power of the "bosses." As stated before, in the course of these articles, the franchise of citizenship is, under present conditions, too lightly obtained. And there is no difference in the right to vote, between the ignorant, native born male of twenty-one years, the ignorant, vicious foreigner, or the unconvicted, native born thug or criminal, and the shiftless "drifter," on the one hand, and the enlightened, educated man and the taxpayer and property owner on the other.

The problem of immigration, and the constant influx of more or less undesirable elements into this country, add greatly to the difficulties which face any attempts to remedy existing conditions, even though, by the exercise of greater vigilance on the part of the immigration authorities, and the recently conferred power of deportation of any undesirable immigrants within three years of their landing, this evil may be somewhat diminished in the future. But even greater vigilance must be maintained. To afford asylum to the poor and oppressed of the rest of the world is a noble purpose; but to permit our country to have all of the poor and decrepit, the vicious, immoral, criminal, degenerate, or diseased —the dregs of their population—"dumped" upon it by nations which are glad to get rid of their obligations toward their own of these classes, and which, it is said, even connive at their emigration to America, is a purpose which the founders of this country never had in view. This country is so large and so generous that it welcomes the immigrant of honest purposes, but our authorities must exert even greater care than in the past, if the already acute "immigration indigestion" is not to become a more grave menace to our country.

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Wherein lies the justice, for instance, that Russia, having, through her inhuman oppression of her citizens of one religious belief, forced hundreds of thousands of them to emigrate, has forced upon the taxpayers of this city the burden of caring for so large a part of her outcasts, or that Italy should send us her criminals? Why should we have to pay for the maintenance, in hospitals, almshouses, prisons, or insane asylums, of the sick, indigent, criminal, or insane of any nationality, who have, in the past, been foisted upon us? Why should this country be the reformatory for the criminals of any nationality? We cannot get rid of a large proportion of those already with us; but we can and must prevent the admission of others of this type.

In dealing with the problem of prostitution, then, the first two steps of importance must be: Greater care in the supervision of immigration, and stricter requirements for the acquisition of the franchise of citizenship. When we have checked, in a measure, the entrance of the virus from without, we may attempt to rid ourselves of the poison already within.

In dealing with this problem as it affects those already in our country, we have four points of attack, viz.: Prevention, reformation, control, and the limitation of the spread of venereal diseases.

Prevention: It is a question how much, if anything, can be done along these lines. Whatever is to be done must be along the lines of educating the older children and young adults, who should, when they have reached such an age that they can understand the teachings, be taught, by proper persons, the anatomy, physiology, and hygiene of sex, and, above all, the dangers of venereal diseases.

It must be admitted, at the outset, that to the child of vicious tendencies such teaching will be of little value, and may, perhaps, even be of harm, in that the child may grasp just those things which it is advised to avoid. However, I believe that, to the large majority of children, careful instruction will be a distinct benefit. Most children who go wrong early do so out of ignorance of the gravity of what they are doing.

The most important question, in this direction, however, is: Who shall impart this instruction? The natural teachers would be the parents; but how many of them—particularly among the poorer classes—are fitted to do so? Their school teachers? The majority of these have neither the necessary knowledge, nor the inclination to do so. The same holds good of the teachers in Sunday schools. The family doctor? Few of our people have one, particularly among the poorer classes; and, if they had, few of the busy doctors would have the time to devote to the instruction of their patients' children.

It seems to the writer that whatever of good is to be achieved along the lines of education must be through lectures, in the higher grades, in the schools, accompanied by the free distribution, to the children, of properly written leaflets, or pamphlets. These lectures might be delivered to the boys and girls, in separate classes, by male and female instructors. The leaflets might be supplied by the board of education, or, if that department is too poor to furnish them, then by some interested society, just as the Deutsche Gesellschaft für die Bekämpfung der Geschlechtskrankheiten distributes leaflets, free of charge, or at a nominal price, to working men and women. Were the Society of Sanitary and Moral Prophylaxis, in this city, to undertake such a function, the writer does not hesitate to express the belief that it would serve an end of far greater practical good than it now does by its windy harangues and the distribution of pamphlets to its members only.

The question of housing is one which is frequently spoken of as a factor in the causation of prostitution. It is true that, particularly in the older parts of the city, and also in some of the newer, the housing is anything but good; but, with the gradual improvement in our tenements, owing to the improvement of our building laws, and the gradual displacement of the dwelling houses, in the older parts of the city, by business buildings, we may hope for a gradual removal of this factor. The building of our subways, tunnels, and bridges has, furthermore, opened up the suburbs to the workingman's family, and we may look for a very great measure of relief through these removals from the most densely populated of our centres.

One of the factors which, the writer believes, plays an important part in the corruption of our children, is also one of their greatest hardships. That is the lack of playgrounds, particularly in the poorer and more congested districts. Such parks as already exist in these districts are, in recent years, being more and more converted to the use of the children; but still there are not enough. A trip through the densely populated district below Fourteenth street, and between Third avenue, the Bowery, Park Row and the East River would prove the truth of this statement. The children are forced, in the main, to play upon the streets, or in the back yards of the old rookeries, or upon the roofs, to their own physical and moral endangerment.

One of the first duties of our municipality should be the acquisition of plots of ground, within a short distance of each other, in every congested quarter of the city, which should be transformed into playgrounds for the children. If, in the course of time, any particular neighborhood is transformed from a residential into a business district, the plot in question could then easily be sold at a profit to the city. The already existing small parks in the congested quarters should all be turned into children's playgrounds. This could be done at a trifling cost—provided the money is honestly disbursed—and the playgrounds would make a larger return to the city, in the health of its children, than it now receives from their use as questionable ornaments. Already there is a gratifying movement, in this direction, in this city; but appropriations are so slow, and hedged in by so much political red tape and "jobbery," that we may expect some tangible result, perhaps, when the next generation is old enough to use the playgrounds. In addition to the parks, let the roof of each and every public school be made into a children's playground.

Vice seeks sequestered nooks, and shuns the light of day, and the child which can play with its fellows, in the common playground, is far less likely to have its vicious tendencies developed than is that

child which is forced to seek its amusement in the nooks and corners of the tenement house or the alley way. The large majority of children is not composed of the vicious minded, and those who possess evil inclinations will be much more easily reached by good influences, and will be much more easily amenable to discipline, when they are allowed to come freely and openly into contact with the right minded, particularly when all are under the guidance or control of right thinking teachers.

Let this community spend a larger part of its money in trying to raise healthy bodied children, and it will find an increasing proportion of them healthy minded.

Our children's court, which has made it possible to keep the juvenile offender from contact with older ones, has done a grand work in saving many who might, otherwise, have been turned into hardened offenders. Our reformatory and educational institutions for children which have, in more recent times, come to really study the mind of the child, and to try to develop the kernel of good which is in the heart of every child, rather than to try to *beat* goodness into it, may also become potent factors in the prevention of prostitution, as of other crimes.

The further development of trades schools for boys, and of schools of domestic science for girls, will, I feel satisfied, also be of some help. This idea is being developed, with successful results, in our public schools, and the Department of Education deserves the fullest support of our citizens in its further development. Many of our ne'er-do-wells, among the boys, may be made into self respecting artisans—if the control of the trades unions does not later choke out all of their individuality.

Only the physician who has worked among the poor can appreciate, to the fullest extent, the grave and far reaching results of the ignorance of domestic science which is the rule among the females, particularly those of native birth, in this city. Those of the working class have not the time to learn housekeeping, and those of the middle and wealthier classes consider housework as beneath their dignity, and fit only for servants. The slovenly wife, whose girlhood was, perhaps, spent in some factory or shop, and whose offering of an evening meal to the returning husband is, in so many instances, the "delicatessen supper" and a pint of beer from the neighboring "gin mill," has been, I believe, one of the most potent factors in driving men into the saloons. [illegible] has been guilty of driving her husband to the saloon, so she has, also, been the cause of the son's seeking of the company of his "pals" on the street corners, and of the daughter's seeking of her amusements away from home and the authority which they cannot respect.

I do not blame the individual, but, rather, the system which has been responsible for her development.

Teach our girls to become good housewives and to take a pride in their homes; *that the best woman is the true wife and the devoted mother;* that the wife should be a real helpmate for man, and not a mere distributor of his earnings; that the natural [illegible] and that there is something more in this institution than merely legalized cohabitation. *And teach our women that the mother [illegible] consents to, the union of her daughter with any man, for any reason other than their pure affection for each other, commits the gravest possible crime against [illegible].*

When we come to the consideration of the older individuals, the problem of prevention takes on a much different aspect. When the children leave the schools and attempt to earn a livelihood, they at once enter into a different state of mind. They are much less amenable to control, since, as they are earning their own living, they are very likely to chafe at the exercise of parental authority, and to assume an attitude of independence. The good influences which surrounded them in school are gone, and each shifts for himself or herself. With the immaturity of juvenile judgment there usually goes a complacent self sufficiency, which might be amusing if its results were not so often tragic. And the evil examples, or counsels of others, are usually much more alluring than is the sober, stern face of righteousness. There is always the older man, or woman, to point out the way to pleasure, and to gloss over the dangers which beset the way.

It has been said that, were our women workers paid better wages, they would less often become prostitutes. That may be true, in many instances; but it is untrue in others. I know of cases in which girls have become prostitutes only after the bitterest and most earnest struggles against poverty and privation; but I know of far more in whose downfall poverty played no rôle. I also know many a brave, good girl who has struggled long with poverty, and who has remained pure and good in spite thereof. With the girl who is pure minded, an increase in wages means the laying by of money, for possible matrimony, or for a day of adversity; but with the shallow pated chaser after finery and pleasure alone, a higher wage means only a greater display of both finery and recklessness. What percentage of our prostitutes, I wonder, has laid by anything for the day of illness or old age? But a very small fraction, I venture to assert. I have, repeatedly, been grimly amused to see that the increase in the wages of servants—whose expenses of living had not also been increased—was followed, not by an increase in the savings, but only in the display of finery.

When we read about projects to fix scales of wages by legislative enactments, we read of plans which are impossible of fulfilment. And so long as there is a constant influx into this country of individuals willing and able to work, conditions in regard to wages will remain as they are.

Has the increase in wages of those females who have been advanced in their positions, in mercantile houses, led to greater morality among them? Those who employ them say that it has not. Has the fact that teachers, trained nurses, stenographers, etc., receive, in the majority of cases, a good, living wage [illegible] by a greater [illegible] of morality among these classes than among other working women, or not? Those who are brought intimately into contact with them say that it has not.

In the case of the male worker, I feel that the

same holds good, except that it has been my experience that the young workingman strives, in the large majority of cases, to marry and establish a home for himself at the earliest possible moment. Therefore, I believe that any movement which can help to bring about this desirable end should be fostered. *It is their inability to found and maintain a home which leads men (particularly those separated from family and friends)* who feel the *desire for female companionship to frequent those places where it may most easily be found.* Once made acquainted with the type of women who congregate there, it is not long before prostitution has offered them the alternative. The saloon is only another means to the same end.

I cannot subscribe to the view that the majority of men who have relations with prostitutes do so only because of depravity or viciousness; but rather because it is the only substitute for matrimony within their reach.

For both adult males and females something can be done. They may be taught, even more fully than the children, the anatomy and physiology of the sexual organs, with the results of the abuse of their functions, and the dangers of venereal diseases to them and their offspring. This may be done both by lectures and by pamphlets. The system of free lectures, so splendidly developed in this city, should embrace series of talks, to men and women separately, upon these topics, given by men and women properly equipped to do so.

In some of the large business establishments, particularly the large department stores, there are great opportunities for such work. Most of them have "mutual benefit" associations of employees, which help their members in case of illness or need. Through these associations the employees could be reached. So, too, could the various trades be reached through their associations or trades unions.

The club idea, which aims, by offering to the young persons of both sexes the opportunity to find wholesome entertainment, and to take them from the streets or the resorts of questionable character, should be developed. A number of organizations in this city are doing this work, and thereby achieving a great amount of good.

In other words, the seed of effort has been planted in this city. What the result will be, time alone can tell.

Before leaving the topic of the prevention of prostitution, however, I would say a word on the limitation of the damnable activity of the "cadets" and "pimps." I believe that the law, as it exists at present, is too mild. Instead of imprisonment for from one to three years, I believe that from five to ten years' imprisonment would be none too severe for the "cadet."

Reformation: There are twenty-four reformatory institutions and rescue homes for women in the greater city of New York, of which twenty are in the Borough of Manhattan, and four in Brooklyn. Some of these seek to rescue those fallen women who may voluntarily make application to them, while others receive also those females who are committed by a magistrate. Others also take in discharged female prisoners, or inebriates.

Although these twenty-four institutions consume a great deal of money, annually, the question must arise: "Is the return adequate, in view of the outlay?" That must remain an open question. If we may believe the reports of the institutions themselves, then their work bears valuable fruit. If we are to believe the police, the returns are disproportionately small. Certainly, all intelligent efforts to make clear to girls and women the wrong and the dangers of an immoral life, and to afford a shelter for them, in time of distress or need, should be earnestly supported and furthered.

But how many of the women who pass through these institutions are really reformed, and kept from prostitution? But a small percentage of those committed by the courts, I venture to assert. *I believe that the woman who has been a successful public prostitute—that is, one who has been able to make enough money to buy her the comforts and the finery and drink which she wants, is rarely won permanently from that life.* And a large proportion of the younger ones of the better class, owing to their immunity from arrest, as a result of their not soliciting upon the streets, are not made acquainted with the unpleasant side of the business, and have no desire to forsake their easy, luxurious life of viciousness. One of the most striking and deplorable developments of the utterly uncontrolled condition of affairs, in this city, is the steadily increasing number of young, immature girls, of fifteen or sixteen years, or thereabout, who may be seen, with painted faces, brazenly soliciting, upon the streets, or in the resorts. If they are arrested, when still new in the business, and committed to a probation home, they may be reached, by good influences, and still be rescued. But, even here, the percentage of those permanently turned from prostitution is small, I believe.

I am of the belief that the only period at which reformatory work can be of any lasting benefit, and definitely turn a girl from a life of prostitution, is at the very outset. At this time she has not yet grown so hardened to good counsels and influences, and has not given up all hope of reentering the home circle.

We must not be content with trying to reform the mistaken girl, however; she who is of vicious character, or tendencies, is seldom helped. We must try to make it clear to the parents and the family, also, that the surest way to bring about the complete downfall of a mistaken girl is to close the door of her home against her. If we could only bring fathers and mothers to see that when the first mistaken step has been taken—taken often because the failure of these parents to do their full duty toward their child left her without any adequate knowledge of the dangers of her recklessness—then is the time when the frightened, heartsick girl is most in need of their help and care; and that to thrust her out into the world is to rob her of her last hold upon her self respect and to cause her to lose hope and courage.

If we could only instill more of real love for their children into the hearts of the average parents, then we should have less need for communal "reformatories" and "homes for the fallen and wayward."

If we could only still the tongue of the idle female gossip, or of the malicious carrier of tales; if we

could only prevent the averted eye, and the upturned, pharisaical nose, what tragedies might be averted!

Reformatory institutions which receive only those women who apply voluntarily for admission seem to me to have a better outlook for success in their work than those to which women are committed by the courts. In the first instance, the woman is more likely to appreciate the efforts to help her, while, in the second, she is apt to resent her incarceration, as a punishment for wrong doing, and to resist, as an encroachment upon her rights, any attempt to win her away from that life which enables her to obtain finery, and luxuries even, with so little effort on her part. Punishment only hardens her.

The "parole" system seems to offer a partial solution of the question, in that it removes the stigma of imprisonment from the girl who wishes to forsake prostitution, and to lead a life of honest labor. It has grown to be a custom with our police justices to turn over the "first offenders" to the probation officials, for investigation of the cases, and, if possible, for help. This is also done, at times, with older offenders, who express the desire to reform—although it must be admitted that the desire to reform is often expressed only in the hope of escaping a workhouse sentence.

One of the societies which has engaged in this rescue work is the New York Probation Association, which maintains a nonsectarian home where the girls may live, during the time of the investigation of their cases; to which they may turn, in time of need, for help, and where they call to report, when placed on "parole." The house, pleasant, and comfortably furnished, has nothing about it to make it conspicuous above its neighbors, and is in no sense a prison, or a reformatory for the girls, who are made to feel that there is here an honest, earnest desire to help them in their trouble. It is too young, yet, to have done any great volume of work; but I feel that here is a work which is being exerted in the right direction and in the right manner, and that it will, before long, overshadow many of the older, more expensively conducted "rescue" institutions, in the amount of good done.

No efforts, then, should be spared, in attempting to reach the beginners in prostitution, and to make clear to them the wrong and the dangers of the life upon which they are entering, and the poor outlook, as a business proposition, of the prostitute's career.

In the case of the confirmed prostitute, the way to reformation should also be left open, so long as she shows that the desire is sincere. I must confess, however, that I am not in sympathy with that morbid sentimentality which allows itself to be constantly hoodwinked by the hypocritical expressions of contrition of the hardened offender. It may sound cruel; but I believe it to be better to let her go her own way.

I doubt whether a workhouse sentence, or enforced incarceration in a reformatory, ever deters a woman from continuance upon the career of prostitution, and I would favor the abolition of these sentences as penalties, so long as there has not been a direct breach of the peace, or the commission of a crime, by the prostitute.

To be concluded.

THE SIMPLIFIED TREATMENT OF ANORECTAL DISEASES.*

By Samuel Goodwin Gant, M. D., LL. D.,
New York.

Professor of Diseases of the Rectum at the New York Post-graduate Medical School and Hospital.

The method of preparing patients for the technique of and the after treatment following rectal operations has been greatly improved in recent years. I have not attempted in this paper to give in detail the various operations devised for the cure of the different rectal ailments but have simply described in the shortest possible manner the technique of those procedures which I have found most useful in the treatment of these conditions.

PREPARATION OF THE PATIENT.

Except when extensive operations are to be done such as excision, resection, or when sutures are to be employed, it is not necessary to have the patient go through an elaborate preparation. The operative field is more often repeatedly soiled where the patient has been given a strong cathartic and one or more copious enemata than when less attention is given the patient, because the medicine liquifies the fæces and the colonic injection is frequently retained in the sigmoid flexure to be discharged one or more times while the patient is upon the operating table much to the disgust of the surgeon.

In hæmorrhoids, fissure, ulcer, fistula, and other



Fig. 1.—Gant's goose necked syringe, useful in rectal operations performed under local anæsthesia.

ailments where the wound is left open and drained. I have my patients prepared in the following way: They are requested not to take any laxative or cathartic the night before and large enemata are never administered, but just before the patient is placed upon the table they are given a small rectal injection of from four to six ounces of water and glycerin which serves to excite peristalsis and cause the patient to empty the rectum. When this plan is followed I am rarely annoyed by a discharge of the fæces during the operation because they are not soft nor is there any retained water to come away.

Because of the limited time at my disposal I have not attempted to do more than to outline the surgical treatment of the diseases considered but if any of you are interested in the palliative treatment of these affections I would be glad to give my views upon this subject in my closing remarks.

LOCAL ANÆSTHESIA.

Patients seriously object to a general anæsthetic and because of this and the fact that most minor anorectal operations can be painlessly performed under local anæsthesia induced by sterile water or a one eighth of one per cent. eucaine solution, I

*Read before the Southern [illegible] N. Y. Medical Society, Saratoga, N. Y. [illegible]



[illegible] hæmorrhoids, actual size.

[illegible] has abscarded general necrosis in about eighty per cent. of my rectal operations.

The sterile water or eucaine solution may be used for operations involving both the mucosa and skin, separately or together, but the initial injection of sterile water into the integument induces slightly more pain than eucaine, but postoperative suffering is many times greater and bleeding occurs very much more frequently following employment of the latter than the former. When using ether, a drop or two is first slowly deposited between the layers of the skin or in the mucosa, and after the slight pain induced by distension has subsided, the tumor or part to be operated upon is gradually distended until a white swelling forms which indicates desensitization using the syringe shown in the illustration. (Fig. 1.) The solution should never be injected quickly because of the pain which is induced and the needle point should not be permitted to reach the lumen of a fistulous tract, ulcer, or other lesion or puncture the skin which would permit the fluid to escape for absence of the pressure which would otherwise ensue, prevents satisfactory anæsthesia. Some physicians assert that a complete operation cannot be performed under local anæsthesia, but having done more than 2,000 in this way, I am convinced that when surgeons meet with failure it is due to their imperfect technique.

Local anæsthetics are unsuited for and are never used by the writer in major operations about the rectum nor those of less importance where he does not know in advance exactly what is to be done, nor when there are complications which would prevent thorough work.

HÆMORRHOIDS

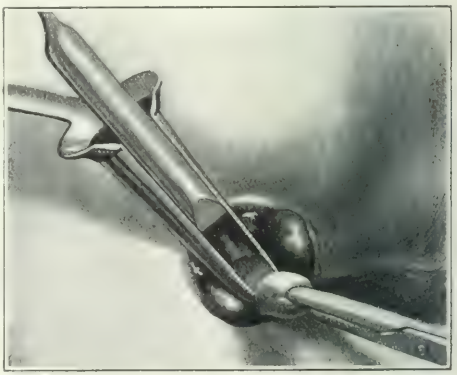
The surgical treatment of hæmorrhoids is always satisfactory, and the operation can be performed under local anæsthesia induced by sterile water or a ½ per cent. eucaine solution, except when there exists some other complication. Local anæsthetics should not be employed when hæmorrhoids are associated with other serious rectal affections which need attention.

External thrombotic hæmorrhoids are anæsthetized by the injection of a sufficient amount of eucaine to cause the pile to turn white; it is then transfixed with a sharp pointed curved bistoury, slit open, the clot turned out, and the wound drained to prevent refilling of the tumor. The subsequent dressings consist in cleansing the parts and reinserting the gauze until the wound is healed.

External cutaneous hæmorrhoids are quickly removed with knife or scissors after they have been injected with the eucaine solution. Anæsthesia is absolute and follows within a few seconds from the time the injection is made. After excision of cutaneous piles the wound may be closed with catgut sutures or permitted to heal by granulation, the latter method being preferable, because it induces less pain and is not likely to be followed by infection.

Many surgical procedures have been suggested for the relief and cure of internal hæmorrhoids. (Fig. 2.) Some simple and effective, while others are more elaborate, unsatisfactory, and are often followed by unpleasant sequelæ. Named in the order of their popularity, these operations are the ligature, clamp and cautery, excision, and the injection method.

Of these procedures, the ligature is the oldest, most generally used, as reliable as any, rarely followed or accompanied by hæmorrhage or complications, and the results are all that could be desired. The technique of this operation is very simple and can be carried out under local or general anæsthesia. Except when there is some special reason for administering gas or ether, I perform the operation under sterile water or eucaine anæsthesia. The



[illegible] Showing writer's method of [illegible] extending pedunculated hæmorrhoids by rolling [illegible] the speculum as it is withdrawn.

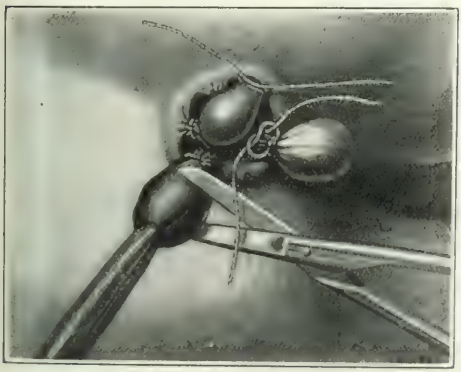


the speculum

hæmorrhoid is brought into view by means of a small enema, having the patient strain, everting the anus by tilting the fenestrated speculum as it is withdrawn (Fig. 3), or by the insertion of several cotton tampons, which are withdrawn simultaneously, bringing the hæmorrhoids with them. A pile is then injected with water or eucaine solution until white (Fig. 4), which indicates complete anæsthesia. The next step in the operation consists in drawing the tumor downward as the speculum is tilted and severing it at the mucocutaneous junction with scissors. A fine but strong linen ligature is placed in the incision and the hæmorrhoid is drawn up over it, ligated and excised, leaving a sufficient stump to prevent slipping of the ligature and bleeding (Fig. 5).

The remaining tumors are in turn treated in the same manner, and the operation completed by gently pushing the ligated stumps above the sphincter as the patient draws the parts upward. A thick wedgeshaped gauze pressure pad is then placed over the anus to arrest and prevent bleeding and supported by a strong T binder.

When piles are high, it at times becomes necessarp to use a long needle, and inject them through an opening in the speculum, after which they are seized and brought downward into the field of operation. It requires a greater amount of skill to



do a radical operation for hæmorrhoids under local anæsthesia than the inexperienced would believe.

When general anæsthesia is employed, ligation is preceded by divulsion of the sphincter.

Formerly, my patients operated upon by the ligature method suffered considerably, and it often became necessary to catheterize them, but since I have discarded large, heavy, and harsh plaited silk for small but strong linen thread, they are rarely bothered with either pain or inability to void the urine.

Clamp and cautery operation: The steps in this procedure are exactly as in the ligature method, up to and including the cut at the mucocutaneous juncture (Hilton's white line). The pile is then drawn outward with forceps, clamped, excised with



Fig. 6.—Showing fissure in ano.

scissors, and the stump thoroughly burned with a Paquelin cautery. After other hæmorrhoids have been removed in the same way, the stumps are greased with sterile carbolized petrolatum, returned within the bowel, and the dressing completed as in the ligature operation. A hæmorrhoidal wound which has been cauterized should not be sponged or otherwise fooled with during the operation, because when the burned surface is broken bleeding will certainly follow. Rectal tubes and gauze plugs are not employed, because their removal is often attended with excruciating pain or bleeding, and, moreover, they are unnecessary when the operation has been properly performed. The clamp and cautery operation is radical, causes but little suffering and subsequent trouble, and can be painlessly performed under local anæsthesia, but it is not so sat-

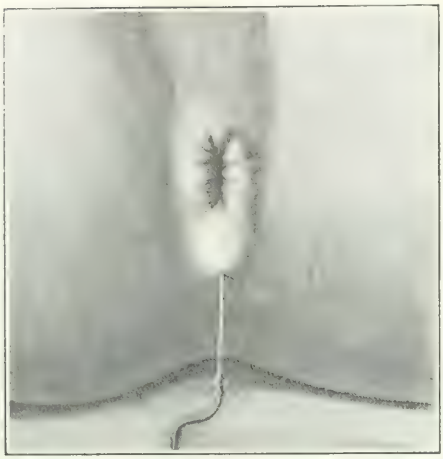


Fig. 5.—Showing Gant's method of infiltrating the skin and tissues in the fissure area.

isfactory as the ligature method, where a general anæsthetic is omitted, because the patient is afraid of the glowing cautery.

Excision: There are several methods of excising piles, some of which are easy and others difficult. The most elaborate technique is that of Whitehead, which consists in excising the lower two inches or pile bearing region and uniting the divided mucosa to the skin. This procedure appeals to the general surgeon, but is rarely performed by the proctologist, and then only in a modified form, because it is difficult, bloody, and is frequently followed by delayed healing, pain, stricture, incontinence, incurable ulceration, loss of sensibility at the anal outlet, intolerable itching, or other complications when primary union fails. I do not believe that it is ever justifiable to perform this operation for the relief of ordinary piles.

A simple way of excising hæmorrhoids is to seize each tumor in turn, cut it off with one stroke of the scissors, ligate bleeding vessels, and rapidly close the wound with a running suture of catgut or permit it to heal by granulation; or the tumor may be removed in successive steps by first cutting and then suturing, and so on, until it is excised and the wound closed. The greatest advantage of this simple procedure over that of Whitehead is that a stricture will not follow, because healthy strips of mucosa are left between the denuded surfaces, and the bowel cannot retract and leave a raw surface.

Injection method: Since the popularization of the operative treatment of hæmorrhoids under local anæsthesia this procedure has lost rapidly in favor, and is now rarely employed by regular physicians familiar with this class of work.

The injection of protruding and bleeding internal hæmorrhoids with a thirty per cent. solution of carbolic acid very often works like magic, and stops bleeding and protrusion almost immediately without detaining the patient from business or causing pain; but at other times, although the same precautions have been taken, the injection is followed shortly by considerable swelling, great pain, sphincteralgia, sloughing, abscess and fistula, phlebitis, pyemia, a protracted treatment, or an imperfect result, and death from embolism has been reported after this procedure. I see no further occasion for injecting piles, because under local anæsthesia they can be painlessly removed within five minutes, causing very brief interference with the patient's business, and giving the assurance of a permanent cure without dangerous and distressing complications either during or after the operation.

FISSURE.

When nonoperative measures have been intelligently tried and have failed, a surgical operation should be performed without further delay for this common and most distressing affection (Fig. 6).

Three surgical procedures—incision, divulsion, and excision—are recommended for the radical cure of painful ulcer. Fissures do not heal because the wound obtains little rest, owing to frequent muscular contractions, consequently it is necessary, in choosing an operation, to select one which will put the sphincter completely at rest for a time.

The incision (division) operation is the simplest and best procedure, causes the least postoperative pain, and obtains the quickest results. Formerly I favored divulsion, but now I always completely incise the muscle, because this never fails to put it at rest and allow the wound to heal, and, in addition, the cut widens the anal outlet, lessens the possibility of a future tear, and often cures constipation. In my earlier operations I introduced a curved, sharp pointed bistoury into the rectum and divided the muscle by withdrawing it. The operation always arrested sphincteralgia, but the wound required from three to seven weeks to heal. Finally, I decided that the delayed healing was due to improper drainage of the cupshaped cut, and, working with this idea in view, I devised the new technique described below, which has given entire satisfaction for a number of years.

My operation is very simple, requires not more than three minutes, and is invariably performed under local anæsthesia. By means of my goose necked anæsthesia syringe, a few drops of sterile water, or preferably a one eighth per cent. eucaine solution is injected into and beneath the skin at a point one half inch posterior to the fissure. The needle is

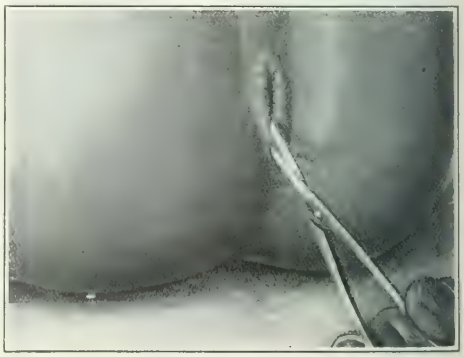


Fig. 6.—Showing author's scissors operation for fissure.



Fig. [illegible] Prolapsus ani of moderate degree.

then pushed forward and the muscle and lower rectum are anæsthetized (Fig. 7). Using a scissors having one sharp and one probe pointed blade, I pass the sharper of the two through the tissues and upward and posteriorly to the bowel wall for a distance of one inch or more; at the same time the probe pointed blade is passed up the rectum to a similar point (Fig. 8). With one cut the skin and sphincters are divided, leaving a clean wound, more than one inch in length, or the rectum may be split in the same way with the aid of a probe pointed, curved bistoury introduced for the purpose. The cut is perfectly drained at all times by the insertion of small gauze pledgets and is treated exactly as following fistula operations. Very good results can be obtained by dividing the muscle in the posterior median line, either side, or by a double or V shaped incision. Some surgeons advise partial division of the sphincter in the curative treatment of fissure, but this procedure is unsatisfactory because of difficulty encountered in knowing how far to cut, and, further, it does not insure the complete rest of the muscle, which is so essential for a cure.

Divulsion is popular in some quarters, but I have discontinued it because the temporary paralysis induced by the stretching does not always last long enough to permit the fissure to heal. Divulsion of the sphincter may be accomplished gradually by the aid of bougies and anal dilators, or quickly with the thumb and fingers while the patient is under local or general anæsthesia. I have known several instances of complete incontinence which followed forcible anal divulsion with mechanical dilators where the muscle was torn.

Excision of fissures is now rarely practised, because it is unnecessary and unsatisfactory. This procedure consists in trimming off edges of the fissure and closing the wound by sutures or permitting it to heal by granulation. This operation is ineffectual, except when it is accompanied by division or divulsion of the sphincter.

ULCER.

Ulcers located at the margin and in the rectum within one inch of the anus require the same treatment as fissures, because they do not heal, as a rule, until the sphincter muscle has been put at rest. Ulcerated areas higher up are usually numerous, larger and deeper, and represent a syphilitic, tuberculous, dysenteric, or catarrhal ulcerative inflammation which involves all or a part of the colon.

In this class of cases the bowel should be frequently irrigated with antiseptic, stimulating, and soothing solutions (silver, ichthyol, boric acid, etc.), and the lesions individually cauterized or treated through the proctoscope and sigmoidoscope, but when these measures fail, provision should be made for through and through bowel irrigation by means of appendicostomy or cæcostomy.

PROCIDENTIA RECTI.

Prolapsus ani of moderate degree (Fig. 9) can be quickly and painlessly corrected under sterile water anæsthesia in the following simple method: Infiltrate the mucosa at several points with water until white (Fig. 10), then seize the distended membrane of the anæsthetized area with forceps, draw it down and ligate as if it were a hæmorrhoid, repeating the process until several ligatures have been applied. The tissues thus strangulated will slough off leaving large ulcers which, when healed, will leave a sufficient amount of contracting cicatricial tissue to tighten up the rectum and overcome the procidentia. When prolapse is extensive and all the rectal tunics are involved, local anæsthesia is unsatisfactory, because a radical operation, such as sigmoidopexy, excision, or one of the numerous plastic operations is indicated, for which general narcosis is preferable.

FISTULA.

There are many types of fistulæ, but I will not describe the operative procedures of each, because the underlying surgical principles involved are the same in all. The more common or complete type

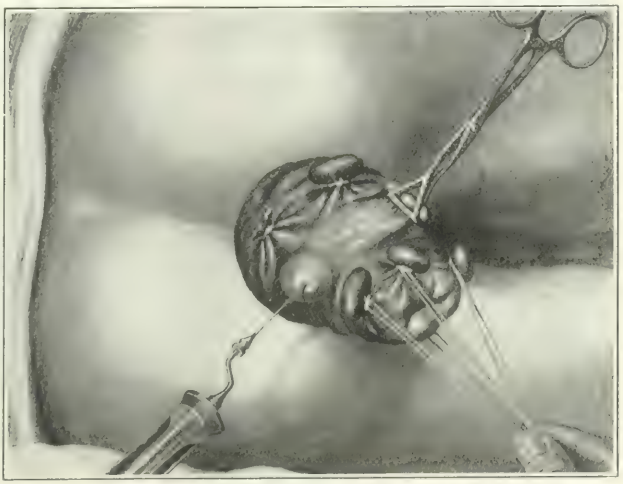


Fig. [illegible] Showing writer's loop anæsthesia method for procidentia recti.

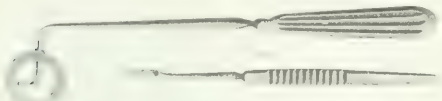


Showing complete fistula and [illegible] for the sinus

is operated on either by the division or excision method.

Division is the most popular procedure because the technique is simple, it requires but a short time, and the results are almost universally satisfactory. When the sinus is divided under local anæsthesia the tissues immediately above it are injected with a one eighth per cent. eucaine solution until blanched, or anæsthesia is complete, care being taken to prevent the needle from entering the tract.

When operating upon complete fistula (Fig. 11), the end of the groove director is passed through the outer opening and into the bowel, where it is hooked up by the index finger of the left hand and brought outside and across the anus, where all overlying tissues are quickly divided with a sharp pointed, curved bistoury, or a director may be dispensed with and the tract divided by the aid of the writer's probe pointed fistula scissors. The pain suffered is



caused by pulling on the sphincter when the director is withdrawn from the bowel. This can be avoided by dividing the sinus up to the muscle, introducing the writer's fenestrated curved director beneath the muscle, and then severing it with his blunt fistula knife (Fig. 12).

The technique of excision differs materially from that of division just described. Here a probe is introduced through the sinus and brought out through the anus, where the two ends are twisted together; then it is used both as a guide and tractor, while the sinus is quickly dissected out with knife or scissors by a succession of strokes made on either side. As soon as the tract has been excised, the wound and divided ends of the sphincter are joined with buried chromicized sutures, and the edges of the skin and mucosa are accurately approximated with plain gut sutures, after which a dry dressing is applied and held in position by a T binder.

Blind internal fistulæ are more difficult to operate upon than the variety just described, because the sinus is usually irregular and there is no external opening to serve as a guide in locating it. The outlet of an internal fistula is difficult to find because of its small size or concealment by a fold of mucosa. Ordinarily, because of its hardness, the opening and direction of the tract can be determined by palpation, stripping it free of discharge with the thumb, or by examining and probing the outlet through a fenestrated speculum. When the sinus passes from the opening directly upward beneath the mucosa, a straight director is passed upward until the top of the sinus is reached and the overlying mucous membrane is severed with scissors or bistoury.

Blind internal fistulæ which run downward and under the sphincter or skin are more difficult to handle, and considerable skill is required to cure them. Formerly, much time was lost, and occasionally false passages were made by the surgeon in attempts to locate the sinus by cutting down upon it. The operation for this class of fistulæ has been greatly simpified since I devised my angular grooved director, and is now carried out as follows: The director is pushed into the rectum until the lower or probe point can be made to enter the opening, and is then drawn downward through the sinus until it causes a bulging of the integument, when it is brought outside through a small opening made in the skin for the purpose. The upper end of the director is now withdrawn from the rectum and permitted to lie across the anus until the overlying structures have been cut.

In case this instrument is not at hand, the indurated tract should be located by palpation and cut



FIG. 12.—Showing protruding adenoid polyp as large as a man's fist.

down upon, after which the director is introduced from without and the sinus severed in the usual way.

There need be no fear of incontinence following fistula operations when the sphincter is cut at a right angle, and the skin and mucous membrane are prevented from growing into the gullylike wound and separating the muscle ends. The dressings should be changed as soon as they become soaked and they should not be packed tightly when replaced, otherwise fresh granulations will be destroyed, healing will be tardy, and loss of muscular control may follow.

POLYPS.

Polyps (Fig. 13) which protrude are anæsthetized with sterile water or eucaine solution, ligated, and cut off or excised by the clamp and cautery. When situated higher up they are located by the aid of the proctoscope and twisted off (torsion), or they may be removed by placing a Gant valve clamp upon their pedicles, which causes them to slough off through pressure necrosis without bleeding.

When these tumors are very numerous and scattered throughout the colon, causing a foul discharge and more or less obstruction, it frequently becomes necessary to perform appendicostomy, cæcostomy, colostomy, so that through and through irrigation may be practised, or in extreme cases to excise a part or all of the colon to effect a cure.

ANAL PAPILLÆ.

When these diminutive projections become enlarged, sensitive, and cause sphincteralgia they are separately injected with water or eucaine and removed with forceps and scissors.

INFLAMED OR ULCERATED SEMILUNAR VALVES.

When these cupshaped depressions (crypts) give trouble, the mucosa at their base is injected with the anæsthetizing agent and then snipped off, a procedure which always brings the desired relief.

In conclusion I can say with confidence that should you adopt local anæsthesia and the simple operative methods advocated in this paper in your rectal work, that you and your patients will both be gratified by the results obtained.

137 East Sixty-third Street.

THE PRESENCE OF INTESTINAL PARASITES IN INMATES OF THE PHILADELPHIA GENERAL HOSPITAL.*

By Randle C. Rosenberger, M. D.,
Philadelphia.

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To determine to what extent infestation with intestinal parasites was prevalent in the Philadelphia General Hospital, specimens of fæces were obtained from patients as they were admitted to the hospital, after assignment to their respective wards.[1] These specimens of fæces were generally received in two-ounce, wide mouth vials, and as a rule within a short time after evacuation, though some specimens were sent twenty-four hours after voidance. Directions were given to exclude urine from the specimen.

The general technique of examination for ova was to place a small amount of the solid or fluid fæces upon a slide and then to apply a few drops of sterile water, making a perfectly homogeneous mixture. After adjusting a cover glass the slide was examined immediately, first with a ⅔" lens and later with a ⅙" lens and 1 inch eye piece. Sometimes, where the parasites were few, a portion of the fæces was mixed with sterile water and centrifugalized and the sediment examined in the same way as mentioned before. Telemann (*Deutsche medizinische Wochenschrift*, August 27, 1908, No. 35) recommends treating the fæces with equal parts of ether and hydrochloric acid, and when solution takes place, which is usually very rapid, it is passed



[illegible]
(Photographed by [illegible])

through a fine hair sieve, the filtrate centrifugated, and the sediment examined for ova. Where the parasite itself was suspected of being present, washing of large quantities of the fæces or the whole stool with water and straining through two or three thicknesses of cheesecloth was instituted.

As to the presence of animal parasites in the intestinal tract many observers assert that amœba, lamblia, and balantidium are present in a great percentage of those enjoying good health. This view is particularly set forth by Schaudinn, Manson, Daniels, Craig, and others. Craig states that if the individual is given a purge the amœba can be very easily demonstrated, but that if the fæces are examined without this procedure most of the results will be negative. Schaudinn (*Arbeiten aus dem kaiserlichen Gesundheitsamte*, xix, 1903) mentions that the parasite is difficult to find in healthy fæces.

[1] Blood smears for Pathological Service of Philadelphia [illegible] were studied [illegible] by the Philadelphia Board of Health [illegible] purge. In another study the results will be recorded after the patient had been given [illegible] by salts.

as its habitat in the upper regions of the colon causes it to die as the intestinal fæces become firmer in their passage down the bowel. He found the *Entamœba coli* in from twenty to sixty per cent. of healthy stools and described it as a shapeless mass of protoplasm, not showing much distinction into ectoplasm and endoplasm, but possessing a well marked nucleus.

Birt (quoted by Blackham, *Lancet,* December 1, 1906, p. 1495) failed to find amœba in a large number of cases he examined during a South African epidemic, and Beveridge discovered amœba in only three out of 147 cases examined in the Army Medical Service Laboratories in Pretoria. Manson (*Tropical Diseases*, revised edition, 1905) says that it is well known that an amœba is found in perfectly healthy stools in cases in which there is no reason whatever to suspect the existence of disease of the alimentary canal.

Gasser (quoted by Manson), in material supplied by 153 cases of dysentery, principally soldiers from Oran, although he found *Amœba coli* in forty-five out of 109 acute cases, observed no relationship whatever between the number of amœba and the severity of the disease.

Craig (*Journal of Infectious Diseases,* June 4, 1908), in an exhaustive article upon Studies upon the Amœba in the Intestine of Man, says that in approximately fifty per cent. or more of healthy individuals and of individuals suffering from other diseases than dysentery, amœba are present in the fæces. He gives very clear distinguishing points between the *Entamœba coli* and *Entamœba histolytica,* so that any one interested in the work should have no difficulty in recognizing either variety.

The *Entamœba coli* is described as being small, sluggishly motile, nucleus invariably visible near centre of organism, grayish in color, no red corpuscles in the endoplasm, the absence of vacuoles, and the tendency to encystment under unfavorable circumstances. There is also an entire absence of pathogenic properties when injected into the rectum or fed to susceptible animals, as kittens. In this article there is an abundance of material quoted from many authorities supporting and confirming these statements.

Walker (*Journal of Medical Research,* xvii), in an article upon the parasitic amœba of the intestinal tract of man and animals, gives in detail the characteristics of these parasites both as regards their appearance in the stool and also upon culture media. He gives quite a list of amœba found in the intestinal canal of man, but most of them possess some or a direct resemblance to the *Amœba coli* of Loesch.

In a personal communication from Dr. H. F. Harris, Atlanta, Ga., he says: "I am forced to believe that there exists a harmless amœba, but in these latitudes it certainly occurs so seldom or in such small numbers that for practical purposes it may be disregarded entirely. I have never seen amœba in the stools except in cases of dysentery, nor have the gentlemen who assist me and make examinations of this kind constantly."

Kartulis (*Centralblatt für Bakteriologie, Parasitenkunde und Infectionskrankheiten,* ix, p. 365, 1891), in over 150 cases of undoubted dysentery, found amœba in the fæces, in the ulcers of the gut, and in the pus from liver abscesses, but was unable to find amœba in other intestinal diseases involving ulceration of the bowel in over 500 cases.

The result of Koch's researches (*Arbeiten aus dem kaiserlichen Gesundheitsamte,* iii, 1887) on the subject of amœba would also lead to the same conclusion as Kartulis.

The work of Councilman and Lafleur (*Johns Hopkins Hospital Reports,* 1891, ii), Quincke and Roos (*Archiv für experimentelle Pathologie und Pharmacologie,* p. 389, 1894), Kruse and Pasquale (*Zeitschrift für Hygiene,* xvi, p. 1, 1894), Kovacs (*Zeitschrift für Heilkunde,* xiii, p. 509, 1892), and many others, seems to prove that the amœba dysenteriæ is the primary agent, if not the sole factor, in the causation of dysentery, and is not found in other diseases of the intestinal canal or in the fæces of healthy persons.

Anderson (*Lancet,* August 15, 1908, p. 482) in a total of 2,359 cases of dysentery at Port Blair, Adaman Islands, in 1905, examined the stools for animal parasites in 920. In 262, flagellates alone were found; twenty-nine exhibited amœba alone; 455 flagellates and amœba; four flagellates, amœba, and *Balantidium coli;* two flagellates and balantidium, and one balantidium alone. In 167 no protozoa could be discovered. The flagellates consisted of *Lamblia intestinalis, Trichomonas intestinalis,* and *Trichomonas hominis.* The last species was most frequently encountered and constituted about seventy-five per cent. of the total. As control the stools obtained by administering a watery purge to 210 patients admitted for disease other than that of the bowels were examined. Of these seven exhibited amœba alone, fifty-four amœba and flagellates, and eighty flagellates alone. The larger number of the amœba found in the cases of dysentery were no doubt those described as *Entamœba histolytica.* In nondysenteric stools the amœba, apart from the absence of blood corpuscles from their interior, could be in no way distinguished from *Entamœba histolytica.*

Castellani (*British Medical Journal,* November 11, 1905) observed in the stools of those suffering from diarrhœa, trichomonas, cercomonas, *Lamblia intestinalis, Entamœba undulans,* from 18 to 30 μ in diameter, and rounded, nonmotile bodies, from 15 to 20μ in diameter with few vacuoles. He states that the presence of cercomonas is not rare, but that they are always in extremely small numbers, and that the intestinal flagellates, while harmless when few, must probably have some pathogenic action when present in enormous numbers.

Of many examinations made of the fæces of prisoners in Bilibid prison, Manila, Heiser (*Philippine Journal of Science,* iii, No. 1, January, 1908, p. 71) mentions finding the *Tænia solium* twice and *Tænia saginata* but twenty times, and Stiles (*New York Medical Journal,* November 7, 1903) says that of 3,500 patients examined for intestinal parasites the dwarf tapeworm was encountered sixteen times, the beef tapeworm but twice, and not a single case of pork tapeworm.

Garrison (*Philippine Journal of Science,* July, 1908, iii, No. 3) in examinations of the stools of 4,106 prisoners found amœba in twenty-three per

cent.; he made no attempt to distinguish between the two varieties, and only made a positive diagnosis when he found a motile organism. Musgrave's and Clegg's results (quoted by Garrison) are almost identical. They found amœba in twenty-six per cent. of 587 prisoners examined. Besides amœba, Garrison found infestation with trichuris in fifty-nine per cent.; with hookworm, fifty-two per cent.; with ascaris, twenty-six per cent.; with intestinal protozoa other than amœba, and including cercomonas, balantidium and lamblia, twenty-one per cent.; with strongyloides, three per cent.; with tænia, 0.7 per cent.; with paragonimus, 0.4 per cent.: with oxyuris, 0.8 per cent.; with *Schistosoma Japonicum,* 0.6 per cent.; with opisthorchis, 0.3 per cent.; with hymenolepis, 0.1 per cent. He records two instances of infestation with seven different parasites; fifteen cases with six parasites; 131 with five parasites; 366 with four parasites; 723 with triple infestations; 930 with double infestations; while 1,067 presented infestations with but a single parasite.

Williamson (*Journal of the American Medical Association,* xlv, p. 1955, 1905) in 150 examinations of stools in the Canal Zone found uncinaria forty-six times, tricocephalus, forty-eight times, *Ascaris lumbricoides* in twenty-five, *Amœba dysenteriæ* in twenty-one, and strongyloides in ten instances.

Schloss (*Journal of the American Medical Association,* April 9, 1910) reports three cases of infestation with dwarf tapeworm in children. In this same article he mentions that he has encountered twenty cases of infestation with this parasite; fourteen instances being reported in a previous paper (*Archives of Pædiatrics,* Feb., 1910).

Swan (*Pennsylvania Medical Journal,* May, 1910) found that of sixty-two specimens of fæces, 27.4 per cent. contained animal parasites. The parasites encountered consisted of *Trichomonas intestinalis,* two cases; *Tricocephalus trichiuris,* seven cases; *Ascaris lumbricoides,* two cases; *Necator americanus,* one case; *Tænia saginata,* four cases; and *Dibothriocephalus latus,* one case. An especially interesting case was one of infestation with the *Tænia saginata,* in which four complete worms were found.

Hoyt (*Philippine Journal of Science,* iii, No. 5, November, 1908) found motile amœba in 104 instances or 34.6 per cent. of 300 examinations. Fourteen of these, or seventy per cent. of specimens from twenty patients with dysentery were positive for amœba. Motile flagellates were observed in 15.3 per cent.; ova of *Ascaris lumbricoides* in ten per cent.; tricocephalus, 6.6 per cent.; anchylostoma, 3.3 per cent. Seventeen specimens from native Filipinos gave motile amœba in 7.6 per cent. of the cases.

Daniels (*British Medical Journal,* September 18, 1909) in remarking upon the persistence of protozoal diseases in man, states that the amœba, balantidium, and lamblia can grow asexually by fission in the intestinal canal for years and pass off as encysted forms. These intestinal organisms are capable of prolonged life in the intestine but need not cause any disease or symptoms even when numerous, according to the resistance of the host. Occasionally we get clinical evidence of the presence of the organisms in either an attack of dysentery or formation of a liver abscess. This may occur as long as twenty years or even more after leaving the tropics.

From the appended table it will be seen that by far the greater number of parasites or ova were present in the fluid stools.

Of peculiar interest in these studies are those of infestation with the *Strongyloides intestinalis.* The patients infested with this parasite usually suffer from Cochin-China diarrhœa but one of these cited was never outside the United States. Dr. Neuman case (of strongyloides) tabulated in this report was in a boy, aged eight years (colored) suffering from constipation, who came to Philadelphia from one of the southern States.

One of the instances of triple infestation in which the *Schistosoma hæmatobium* was found, was very interesting and instructive, as all stages of the development of the miracidium could be very plainly seen in the microscopic field. The eggs were peculiar, in that the spine, instead of being at the end or near the end, was situated in the middle of the egg. The *Lamblia intestinalis* was easily recognized and distinguished from the *Cercomonas intestinalis* not only morphologically but for the reason that the parasite seemed to move mostly around and around as if upon a pivot, all the time waving its flagella very rapidly, while the cercomonas could be seen darting here and there with great rapidity instead of pivotlike. (One of the cases of infestation by the *Oxyuris vermicularis* was in a man aged about twenty, who had been troubled with these parasites for a number of years and which were always most numerous when candy was eaten. Sometimes masses of the worms were voided, at other times only isolated ones were observed.) Besides the flagellates, other bodies were noticed which were undoubtedly degenerative forms of unicellular parasites. First there was an almost hyaline body, circular in outline, from 10 to 12 μ in diameter, of sharp contour and containing several poorly marked spherical bodies and one highly refractive body. No motility was ever noticed. Another cell seemed apparently empty, with well defined cell membrane and a slight thickening at one side. No protoplasm was ever observed and even stained specimens showed this slight thickening on one side of the membrane. In the fresh state a cell somewhat smaller than the preceding (from 5 to 6 μ) was occasionally seen, the contents which appeared wrinkled, would apparently roll over and over upon itself inside the cell. A further type of body or cell seemed to be made up of two portions: An outer granular layer, mostly crescentic in outline, sometimes containing several vacuoles, the crescentic area of the cell staining darkly and in some instances having the appearance of a nuclear body in the crescent. The inner portion, which was very irregular in shape, was completely detached from the other portion, stained faintly, and in some, bacteria were very clearly seen. These cells averaged from 10 to 15 μ in diameter and were found in the fæces of patients with no history of diarrhœa.

In nearly every stool some vegetable cells are pres-

ent which resemble ova, especially under the low [illegible] but anyone who is familiar with the most elementary botany should recognize the difference between the two structures.

Chauffard (*Presse médicale*, January 10, 1906), in examining the fæces for animal parasites and ova, describes a number of oval bodies which did not resemble the eggs of any known parasite. They proved to be grains of pollen from a coniferous plant.

Any one possessing knowledge of the clientèle of the Philadelphia General Hospital, knows that individuals from all over the world find their way into the institution. One would naturally suppose from the varied class of cases in all stages of uncleanness and filth that the percentage of patients who harbor parasites would be much higher than I have found. The examinations were done personally and great care was taken to have the specimens delivered to the laboratory as soon as possible after voidance.

As to the significance of the presence of the *Cercomonas intestinalis*, it apears to me that the organism is capable of setting up a mild form of diarrhœa, as the parasite was most commonly found in those presenting a history of diarrhœa or dysentery. In one case where trichomonas intestinalis was demonstrated in the fæces autopsy revealed ulcerations in the gut, together with a large abscess of the liver. In the pus of the abscess and from scrapings of the ulcers the trichomonas was very easily observed. No amœbæ were demonstrable and no bacteria were obtained in cultures made from the pus. It seems that the lesions in this case were undoubtedly due to the *Trichomonas intestinalis*.

To those who are just commencing work to determine the presence of ova or parasites in the fæces there will appear many things which at first glance may be mistaken for ova or amœbæ. Large phagocytic cells may very commonly be observed or epithelial cells may also be encountered, suggesting amœbæ.

Personally I should most certainly hesitate a long while in calling a cell an amœba which did not possess a well defined ectoplasm and endoplasm, vacuoles, amœboid movement, and possibly endoglobulated red cells. In this study not a single instance of infestation with the pork or dwarf tapeworm was encountered.

The total number of specimens examined was 1,280. Of these 552 were fluid, 413 were semifluid; 315 were well formed or solid stools.

Of the fluid stools 92 contained ova or parasites, as follows:

[illegible]
Cercomonas alone, [illegible]
[illegible]
Entamœba histolytica, *Cercomonas intestinalis*, and *Lamblia intestinalis*, [illegible]
Entamœba histolytica [illegible]
[illegible]
Trichocephalus dispar and [illegible]
Tricocephalus dispar, *Strongyloides intestinalis*, and [illegible]
[illegible]
[illegible]
Strongyloides alone, [illegible]
[illegible]
Tænia saginata [illegible]

Of the semifluid stools 53 contained ova or parasites, as follows:

[illegible] 2
Cercomonas alone, 30
[illegible] 2
[illegible] 1
Tricocephalus dispar and *Ascaris lumbricoides*, 7
Tricocephalus dispar and [illegible] 1
Ascaris lumbricoides alone, 3
Entamœba histolytica, 1
Necator americanus, 1
Strongyloides alone, 2
[illegible] 1
Tricocephalus dispar, anchylostoma, and *Ascaris lumbricoides*, 1
Tricocephalus dispar, *Necator americanus*, *Strongyloides intestinalis*, and *Ascaris lumbricoides*, 1

Of the solid stools 25 contained ova or parasites, as follows:

Cercomonas alone, 18
[illegible] 2
Tricocephalus dispar alone, 2
Tricocephalus dispar and *Ascaris lumbricoides*, 1
Oxyuris vermicularis alone, 3
Uncinaria, *Strongyloides intestinalis*, and *Ascaris lumbricoides*, 1

Total of infestations 179:

Cercomonas and amœba, 3
Cercomonas alone, cases 108
Cercomonas with lamblia, 4
Tricocephalus dispar alone, 14
Tricocephalus dispar and *Ascaris lumbricoides*, 7
Tricocephalus dispar and anchylostoma, 2
Tricocephalus dispar, anchylostoma, and ascaris, 2
Ascaris lumbricoides alone, 4
Lamblia intestinalis, 3
Trichomonas intestinalis, 3
Necator americanus, 4
[illegible] alone 4
Oxyuris vermicularis, 3
Tænia saginata alone, 1
[illegible] 1
[illegible] 3
Entamœba histolytica, *Cercomonas intestinalis*, and *Lamblia intestinalis*, 1
Tricocephalus dispar, *Strongyloides intestinalis*, and *Schistosoma* [illegible] 1
Tricocephalus dispar, anchylostoma, *Strongyloides intestinalis*, and *Ascaris lumbricoides*, 1

Single infestations, 147
Double infestations, 19
Triple infestations, 3
Quadruple infestations, 1

2330 North Thirteenth Street.

ZINC OXIDE IN FACE POWDER.

Especially in Connection with the "Black Line Test" for Vasomotor Ataxia.

By Solomon Solis Cohen, M.D.
Philadelphia.

Occasionally, during the twenty years that I have been studying the subject of vasomotor ataxia,[1] a patient has been found, generally one of ruddy complexion, with a somewhat oleaginous skin, who reacts in a peculiar manner to the application of metals. If a silver probe or coin is drawn across the cheek or the breast, a black line will be produced which can be wiped off with dry cotton, showing that a deposit of some kind has been made by chemical reaction between the metal and a substance upon the surface of the skin. Gold will not

[illegible] February, 1901
[illegible] 19, 19

produce this mark unless highly alloyed with silver, it being the alloy then, and not the gold that reacts. The nickel coin of the United States (5 cent piece) sometimes gives a reaction less marked than with silver, and a copper coin will sometimes produce a brownish line. From time to time, in testing the faces of women for this reaction, I have observed a very deep black line, much as if a bit of charcoal had been drawn across the cheek. In these patients a less marked black line is readily produced with gold also. They were asked if they used face powder, and an affirmative answer being given in each case, a sample of the special powder used was obtained. The black deposits were also wiped off with cotton, and the powders and cotton wads submitted to Professor Charles H. LaWall, of the Philadelphia College of Pharmacy, for chemical analysis. The powders were of various makes but were all termed "rice powder," some of them being called by an equivalent French term, and all were stated on the labels or accompanying circulars to be "pure," "superfine," etc. Professor LaWall found that the substance reacting to silver and gold in these powders was zinc oxide, and I have observed that pure zinc oxide, or zinc oxide mixed with starch, etc., will react in a similar manner if a little of the powder is placed on a sheet of white paper, and a probe, coin, or other object of silver or gold is rubbed upon it. On the face it suffices simply to draw the probe lightly over the skin, but on the paper a little rubbing is needed; more with gold than with silver. It is almost superfluous to say that in these observations the metal used was first made thoroughly clean by scrubbing, or if necessary, by acid also, and that in the latter case the acid was removed. In most of the cases, when the patient was tested on the unpowdered skin the genuine black line of vasomotor ataxia was not developed. In other cases it was developed on the unpowdered breast, or, later, on the face free from powder.

The zinc oxide reaction can be distinguished from the skin secretion reaction by its greater intensity and by the fact that zinc oxide reacts with gold nearly as well as with silver, while the unknown constituent of the skin secretion reacts only to silver. I have supposed this unknown constituent to be sulphur, but as yet I have been unable to verify the supposition by chemical investigation.

1525 Walnut Street.

SOME HINTS FOR MASTOID DRESSINGS.

By Emil Amberg, M. D.,
Detroit, Michigan.

For a long time I have been using some little devices in mastoid dressing which have proved very useful to me. They are somewhat similar to the so called corset dressing first used by Dr. Carl Beck, of Chicago. They are so simple that it is not improbable that they have occurred to many others.

Fig. 1 represents a mastoid dressing. After the dressing has been done, two safety pins are well secured in the same and a piece of ordinary bandage is drawn through them as depicted. A knot is formed, and the ends are pulled so long until the patient is satisfied with the pressure. It is a known fact that the patient feels more comfortable with a tight fitting dressing, because in moving the head, even only very slightly on the pillow, the loose dressing will allow the head to move in the dressing and cause more or less discomfort. This simple reinforcement can be adjusted at any time by the nurse or by the patient. This process may be omitted when the dressing is applied and added at a subsequent time if the dressing becomes loose.

Fig. 2 shows a mastoid dressing in which the bandage has been separated over the forehead and reunited in the manner depicted. It is sometimes advisable to change at least the outer dressing on the first, second, or subsequent day after the operation, or to inspect the wound, while it is also desirable to molest the patient as little as possible. I



do this by separating the bandage as described. Then I turn the bandage on the pillow, remove as much of the dressing as necessary, apply the new dressing, and readjust the bandage, either with one connecting piece between two well secured safety pins or with several.

It is essential for the patient's comfort that the dressing fit snugly, which can best be done by paying attention that the main pressure is first exercised on an imaginary line which extends from about one inch below the occiput through the opening of the external auditory canal to the upper part of the forehead. After the bandage has been reunited it is very often advisable to secure it more firmly with long strips of adhesive plaster. (Fig. 3.) In doing this, three points must be considered:

1. Attention must be paid to the main pressure



Fig. .

ing line of the dressing, which has just been described. 2. The adhesive plaster should not touch the skin itself, but only the gauze. 3. The knot



Fig.

produced by the reinforcing gauze strip should be so provided for that it does not press upon the skin. If necessary, a little gauze pad must be placed between the knot and the skin. A firm and comfortable dressing can easily be done if the strips are made long enough to reach from the occipital region to the temporal region of the opposite side. The position of the patient's head is very little disturbed by using this method.

270 Woodward Avenue.

NONSUPPURATIVE OSTEOMYELITIS.

By J. Clark Stewart, M. D.,
Minneapolis,
Professor of Principles of Surgery, University of Minnesota

Three distinct clinical conditions may be classed under the title of nonsuppurative osteomyelitis:

First: Cases of ordinary osteomyelitis in which, owing to the nonvirulence of the invading germ or to unknown conditions increasing the resistance of

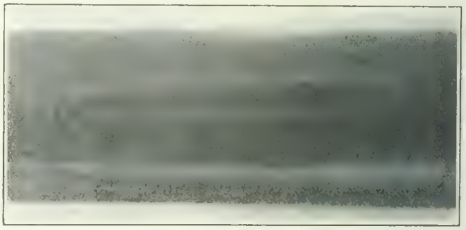


Fig. 1.—Anteroposterior view of tibia, Case V, showing absorbed bone wax at bottom of cavity over eight months after operation. Note light area about the wax, as not yet calcified.

the individual, no necrosis is caused. In such cases there is no pus, no sequestrum, but instead, in a certain number, marked irritative reaction is set up and there is great overproduction of bony tissue, resulting in a thickened, dense, and painful enlargement of the bone attacked. These cases are quite

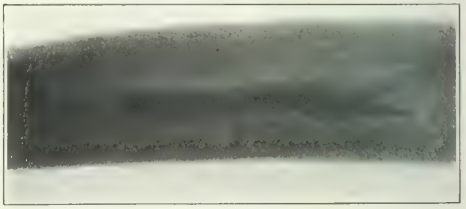


Fig. 2.—Lateral view of tibia, Case V, showing complete filling of cavity by new bone covering bone wax at bottom of gutter made at operation.

common, regularly recognized, and properly treated.

As an illustration of this form of disease the following case is instructive:

Case I. Mrs. B., aged thirty, had a septic abortion with marked constitutional symptoms, including an infected knee joint accompanied by enlargement and pain of the adjacent femur. The knee was aspirated and seropus found, and the patient was cared for until her fever subsided. At this

[illegible] fistula with a sinus lined with granulations leading to the diseased bone. The fistula was laid open and curetted, and the sinus was followed to the end and curetted. The wound healed promptly, leaving a stiffened knee, and thickening and pain in the femur above. The deformity was corrected by extension, rest, and manipulation, and a very fair result obtained as to position and function. The femur remained enlarged to about one and a half times its actual size in its lower third, but all fever subsided and no abscess appeared. There was a gradual improvement as to pain in the limb until about four years later she fell and struck this thigh, in which then a swelling in the soft parts at the outer side developed, and finally a small sluggish abscess leading to a small sinus in the bone. This was opened and chiseled out some inches through a fairly dense bone, and terminated in a small cavity not over a quarter inch in diameter, containing only pale granulation tissue. Curettage and packing caused this to heal in about three months, and the limb has remained well for the last ten years.

There seemed here to be a small quiescent focus left by the old infection which had caused by irritation much new bone formation, but no pus or sinus until again stimulated by the slight injury. The same conditions are frequently seen about the chronic bone abscess where the pus has become sterile but still acts as an irritant and causes new bone production.

Second: Cases of injury, generally clinically fracture, where a small piece of bone is entirely separated and dies, forming about it a closed cavity of dense new bone in which it lies until absorbed, but without suppuration.

Case II illustrates this beautifully. A man, thirty-five years of age, received a forcible bending of the leg causing a subperiosteal fracture of the tibia without displacement. Under ordinary treatment he made a prompt and apparently perfect recovery, but kept returning complaining of pain at the seat of fracture, especially at night. Six months after the accident I opened the tibia, there being no manifest lesions of the periosteum or dense cortical bone, and found a small fragment of bone less than one quarter of an inch in any dimension lying in a cavity walled off from the medullary canal by dense, ivorylike bone. This cavity was scraped out and allowed to heal by blood clot organization. The patient has remained well over five years. This man had no fever at any time, and the only symptoms pointing to the conditions were constant pain, worse at night, and point tenderness on pressure over the site of fracture, the latter being only marked toward the end of the six months.

Case III. Almost exactly the same conditions as in Case II were found in a young woman, twenty-nine years of age, who struck her tibia on a stone step causing a bad bruise and slight abrasion of the skin. About eight months later she came into my care suffering with pain at the site of injury, worse at night, but with no local swelling either in the bone or soft parts. She had slight point tenderness over a small spot at the middle of the tibia, and her temperature was quite regularly above 99° F. every afternoon. Operation showed normal periosteum and cortical bone with a small cavity less than a half inch in diameter containing granulation tissue and a very small sequestrum. This cavity was entirely shut off from the balance of the medullary canal by dense bone.

These cases differ entirely from those of the first class in that the irritant which causes new production of bone is not bacterial, or at least not primarily so, but a fragment of bone which remains practically aseptic.

Third: The third class, and the one to which I especially wish to call the reader's attention, differs entirely from the two previous classes by having no notable beginning but an insidious onset, although a febrile illness, and a slight injury respectively antedated by two years the culmination of the disease by surgical interference. The disease is essentially chronic, but progressive and regularly misdiagnosticated and treated as rheumatism.

[illegible] the lesions present in the tibia, but this must be accidental, as it might as well occur elsewhere. Ætiology seems absolutely wanting, as the two cases narrated have nothing in common, while the pathology and symptomology are identical.

Case IV. Mrs. B., aged thirty-eight, two years ago was quite sick with the grippe in Montreal, and after recovery suffered from rheumatism in her legs, for which she was treated and apparently relieved. During the past two years she had repeated attacks of pain in her right tibia, and during the past six months these had been more severe, and she had nearly always pain in this leg, especially after exercise and at night and before storms. Careful examination showed slight roughening along the crest of the tibia, slight fusiform enlargement extending over the middle third, and marked point tenderness at various spots over the enlargement. Her evening temperature varied from normal to 100° F., generally being about 99° F. The other tibia was smooth and had never pained her. Potassium iodide was pushed for one month without relief, and then an operation was advised and accepted. The tibia was guttered for some five inches, the conditions present being an obliteration of the medullary cavity, it being shut off at each end of the area involved by dense bone. In the former medullary canal was a series of irregular cavities formed by spongy bone and filled by what looked like red marrow. No histological examination was made. The gutter was packed with iodoform gauze and healed completely in four months.

The patient remained under observation for seven years, and had no further trouble and complete relief from the night pains.

Case V. Mrs. R., aged twenty-five, came to the dispensary in the summer of 1909 for a painful tibia, diagnosticated rheumatism. She gave no history of any onset, except a slight injury three years before, but said she had had pain in the leg for the past year, worse in rainy weather and at night. No history of syphilis; no children; no abortions.

Examination showed the left tibia to be much enlarged over its middle two quarters. This enlargement was fusiform but irregular and nodular. The tibia was very tender to finger tip pressure all over the enlargement, and more tender at certain points. The opposite tibia was smooth. No evidence of syphilis. Potassium iodide was tried for six weeks, but had no effect. Temperature at the dispensary at 2 p. m. was always normal. She was admitted to the University Hospital and operated upon by the writer. The conditions were identical with Case IV except that there was more subperiostcal overproduction of bone which caused the irregular nodes. The bone was also softer and less compact. The tibia was guttered for six inches, the spongy bone curetted away, the cavity swabbed out with carbolic acid and alcohol, dried, and filled with Moorhof bone wax. The periosteum and skin were then sutured without drainage. The patient made a slow recovery, as a few skin sutures cut out, exposing the wax which had to be covered by granulation. She finally was discharged well, and has remained so up to date.

An examination of this patient January 3, 1911, showed the bone smooth and nondepressed at the seat of operation. The skin was freely movable over the bone and showed no evidence of delayed healing. Skiagrams taken at this date showed the bone defect smoothly filled in by new bone, and the remnants of the bone wax still unabsorbed at the bottom of the cavity, completely covered over by new bone.

Cultures taken from the bone cavities of this case showed [illegible] *albus.* The red tissue appeared to be a mixture of marrow cells and red and white blood cells, not resembling granulation tissue.

Now, it seems to me that these two cases of the third class are of a type of chronic osteomyelitis not recognized by the textbooks on surgery, the nearest approach to a description of them being called "chronic osteoperiostitis," which is certainly a misnomer, for in these cases the periosteum is regularly normal. Their characteristics pathologically are the transformation of the marrow cavity into a

multicellular labyrinth filled with a tissue which macroscopically resembles red marrow. There is also a synchronous subperiosteal production of bone which results in a fusiform enlargement, the new bone being spongy and not dense.

Symptomatologically they are characterized by insidious onset, so called rheumatic pains, worse in damp weather and at night, with slight evening rise of temperature. While the two cases cited each give histories of an acute causative agent, in neither could this be said to stand in an undoubted ætiological position, as the local symptoms in both cases occurred over two years later. What would ultimately happen to a case of this kind without operation can only be surmised. Neither case showed any apparent change during the several months they were under observation, and it seems probable that the bone would merely remain enlarged and painful until stirred up by a fresh injury or infection, when there would be suppuration and a sinus would be formed.

Diagnosis is easy after syphilis is excluded by the noneffect of the iodides. Tuberculous osteomyelitis regularly causes cold abscess and sinus formation, while periosteal sarcoma is generally more rapid and can be eliminated by the use of skiagrams. A fusiform enlargement of a long bone, increasing very slowly in size with point pressure tenderness at various places over the enlarged bone, and slight rise in the afternoon temperature, gives a characteristic picture.

The treatment is, as noted in the cases cited, opening the bone and following the morbid process each way until normal bone is reached, cleansing, drying, and filling the cavity with Moorhof wax for union by first intention.

The technique of the use of the Moorhof bone plug in these cases is as follows: An Esmarch rubber bandage is used and all necessary excavation of the bone is completed. The Esmarch bandage is then removed, and the cavity in the bone is packed with gauze while all bleeding from the soft parts is checked by ligature and pressure. The bone packing is then removed, and the cavity swabbed out with pure carbolic acid followed after one minute by alcohol used freely. The cavity is then dried by pressure, alcohol, and hot air before the wax is poured in. The periosteum is then sutured over the wax and the skin also without drainage, and the limb put up in a plaster of Paris dressing for complete immobility.

[illegible]

[illegible]

[illegible]

For over four years we have used bismuth in the Vanderbilt Clinic in the Department of Applied Therapeutics in a series of gastric cases with very satisfactory results. We have chosen one hundred consecutive cases of the whole number treated with bismuth and greatly benefited by it. We find that this series consists of:

1. Gastrosuccorrhœa, twenty cases.
2. Superacidity, due to chronic ulcers and other causes, forty cases.
3. Acute ulcer, four cases.
4. Pyloric obstruction, three cases.
5. Subacidity, four cases.
6. Chronic gastritis, four cases.
7. Dilated stomach, four cases.
8. Autointoxication, six cases.
9. Chronic appendicitis, four cases.
10. Hæmorrhoids, two cases.
11. Chronic cholicystitis, eight cases.
12. Chronic lead poisoning, one case.

We have used it in doses of from one half drachm to one drachm, one half hour before eating, in a half a glass of water; also in combination with magnesia usta and sodium bicarbonate.

Many patients themselves recognized what medication did them the most good and asked for the "white powder." The results were so satisfactory that we resolved to follow up the patients and make a few experiments with a view of finding out the action of the drug in the stomach.

Thirty-five cubic centimetres of stomach contents were taken of a total acidity 38, free hydrochloric acid 24. This was mixed with one drachm of bismuth subnitrate and kept in contact for twenty minutes. Then it was filtered and tested, total acidity 22, free hydrochloric acid 10. The mucus mixed with the bismuth which had become flocculent and fallen to the bottom—the mother liquid became much more thin in consistency and free almost entirely of mucus. The same amount of bismuth mixed with plain water fell to the bottom at once and did not change physically.

A case of gastrosuccorrhœa was taken next; Miss Ida B., fasting stomach pumped out, mucus was found to be in excess, quantity extracted 75 c.c. clear fluid, total acidity 80, free hydrochloric acid 62. The next time four ounces of water and one drachm of bismuth were given. Stomach pumped one hour later, quantity extracted 15 c.c. clear fluid, less mucus than before and some bismuth in flocculent state. Total acidity 24, free hydrochloric acid 12. Next time four ounces of water alone were given and stomach pumped out one hour later—quantity extracted 50 c.c., mucus in excess. Total acidity 80, free hydrochloric acid 66. A test breakfast was given the next time and the result after pumping the stomach was mucus in excess—total acidity 66, free hydrochloric acid 38.

Mr. H., fasting stomach pumped out. Quantity extracted 25 c.c., mucus in excess, total acidity 52, free hydrocloric acid 44. On his next visit to the clinic, Mr. H. was given on a fasting stomach eight ounces of water and one drachm of bismuth. Pumped out one hour later, quantity extracted 25 c.c. Bismuth in a flocculent state, mucus much less, total acidity 38, free hydrochloric acid 32. On a fasting stomach eight ounces of water alone were given. Pumped out one hour later, quantity extracted 25 c.c., mucus in excess, total acidity 56, free hydrochloric acid 42.

Mrs. S., fasting stomach pumped out, quantity extracted 15 c.c clear fluid, little mucus, total acidity 60, free hydrochloric acid 40. Next time a test breakfast was given. On pumping out one hour later, 150 c.c. of fluid was obtained, mucus in excess.

total acidity 60, free hydrochloric acid 40. On the following visit one drachm of bismuth was given and 50 c.c. of water at 10 a.m., a roll and 200 c.c. of water at 10.30 a. m. Stomach pumped at 11.30 a. m., quantity extracted 150 c.c., mucus less in quantity. Total acidity 40, free hydrochloric acid 30.

Miss K., fasting stomach pumped out. Quantity extracted 30 c.c. clear fluid. Total acidity 68, free hydrochloric acid 52, little mucus. Next time test breakfast given and one drachm of bismuth one hour before stomach was pumped out. Quantity extracted 150 c.c. Very little mucus. Total acidity 60, free hydrochloric acid 34. On the following visit a test breakfast alone was given and stomach pumped out one hour later. Quantity extracted 150 c.c., mucus normal, total acidity 88, free hydrochloric acid 50.

Mr. G., fasting, stomach contents pumped out. Total acidity 102, free hydrochloric acid 88, stomach contents, after taking bismuth and water, total acidity 40, free hydrochloric acid 30.

Mrs. G., fasting, stomach contents pumped out. Total acidity 42, free hydrochloric acid 28; stomach contents, after taking bismuth and water, total acidity 14, free hydrochloric acid 0.

From all these experiments we may conclude that bismuth given in doses large enough acts mechanically, forming a coating on the mucus lining as well as reducing the acidity of stomach contents markedly, differing from alkalies in that it does not stimulate the flow of gastric juice.

Given in cases of gastrosuccorrhœa it retards secretion and coats the stomach relieving it of the gnawing pain and doing away with nausea. It acts much more powerfully on a fasting stomach.

It relieves the stomach of the burning sensation and also of belching. In using the drug the patient is not afraid to eat any longer and improves much sooner in general health. It soothes inflamed and irritated mucous membrane and protects nerve endings, probably and thereby does away, at once, with vomiting. In doses of from one half drachm to one drachm it does not constipate as a rule. In rare cases where it does, the least amount of cascara or the smallest dose of phenolphthalein counteracts it. No bad effects were ever obtained in the whole series of cases treated.

1789 Fulton Avenue.

PICRIC ACID. A RETROSPECT.[1]

By Albert Ehrenfried, M. D.,
Boston,

Ordinarily we give no thought to the history which attaches to the drugs we employ. We know a word or two concerning the introduction of quinine or mercury, but there are a hundred other substances in daily use whose story is just as interesting. It is worth a moment of leisure to glance at one of these, picric acid.

[1] Picric Acid and Its Surgical Applications

570 [illegible] [illegible] [illegible]

great value, and, thanks to Dr. Couch, possess reliable indications for its administration."

IN THE ARTS.

By this time picric acid had taken a place in the arts. It was used in tanning skins and preserving microscopical and anatomical specimens. On account of its color it was used as a dye, and to color butter, macaroni, and confectionery yellow. It was added to liqueurs for its color and piquancy of taste, and on account of its bitterness it was widely used as a substitute for hops in beer.

Following an unfortunate accident which happened in Berlin the German government in 1865 published an official warning of the explosive capabilities of picric acid when united with alkalis. It also forbade its use in victuals as dangerous to health. With this official recommendation it began to be employed as a means to suicide. Several attempts are recorded (Adler, 1880; Halla, 1882; Karplus, 1893; West, 1896; Schwarz, 1898), but in no case with more serious effect than headache, gastric disturbance, and a yellow complexion. It was even suggested (Vinetta-Bellaserra, 1889) that picric acid was, or might be, used by criminals to simulate jaundice in order to escape detection or otherwise outwit the minions of justice.

INTRODUCTION INTO SURGERY.

The application of picric acid to surgery was suggested by its common use in tanning leather, in preserving specimens for microscopical examination, and in its power of coagulating albumin. It is said that it was a common practice among laboratory workers, having sustained a superficial burn or abrasion, to dip the part in their jar of picric solution. At Brussels, in 1876 Chéron read a paper at the International Congress of Medicine in the Section of Surgery on the application of picric acid to therapeutics. He emphasized three points: 1. On wounds and ulcers it encourages cicatrization; 2, it arrests fermentation; 3, it rapidly dries up morbid secretions. In November of the same year, Curie and Vigier wrote on the use of picric acid in the treatment of wounds, and the next year (1877) Curie presented to the Academy of Sciences of France a note on this application of the acid, which was favorably received. Chéron repeated and emphasized his assertions in 1880. In Germany at this time the use of picric acid as a surgical dressing was not meeting with much success (Adler, 1880).

THIÉRY.

The subject lay in abeyance for ten years when Thiéry in the service of Tillaux reinstated the drug. He used it consistently and with good judgment, in aqueous solution, and reported excellent results in ulcers, granulating wounds, excoriations, various skin diseases, urethritis, and particularly burns. His articles are voluminous. He gained a considerable following and inspired several theses on the subject, notable those of Fillaul (1894) and of Papazoglou (1896). On recommendation of the Comité technique de santé, a ministerial order of January 28, 1896, prescribed its use according to certain instructions, in certain bodies of troops and in the military hospitals of Versailles, Vincennes, and Saint-Martin. In the official report by Robert (1897) it was stated that the results obtained in the treatment of burns were excellent though less favorable in other conditions in which it was tried.

Some of Thiéry's disciples, however, were less prudent than he. They used the drug in stronger alcoholic solution and in strong salves and powder on infants and adults. At the session of January 19, 1898, of the Société de chirurgie, Latouche reported evidences of intoxication in two infants after the use of the powdered acid as a dressing for burns. In the discussion which followed, two similar cases were reported, as well as a case of an infant who was immersed in a tub of picric acid solution and died some time after. Four men had given up its use on account of the pain which they said followed its application, and one reported a case of delirium in an adult following its use. Leray (1898) reported two cases of slight intoxication after its use on varicose ulcers. A few who had followed Thiéry were well satisfied with the results.

Thiéry made answer immediately (1898). He stated that if used rightly it would cause no intoxication, and that it had never been shown to have caused death even when taken internally. Moreover, with the aqueous solution pain was rare and soon passed off. His statements were supported by Willems (1898), who testified to its incontestible superiority in burns of the first and second degree although it was less useful in deeper burns in his estimation, and by Revelliotti (1899), who asserted that symptoms of poisoning in man arose only in case of enormous dosage or faulty technique, and that if properly used there was no danger.

Thiéry was supported also in France by Beauxis-Lagrave, Szczpiorski, and Damany (1896), Courtellement and Debuchy (1897), Debacq and Carrière (1898), in Russia by Sila-Novitsky (1897), and in Great Britain by D'Arcy Power (1896), Miles (1897), and MacDonald (1898). Since then this treatment for burns, though never universally accepted, has become firmly established. In our own country it is best known in the medical branches of the army and navy, among railway surgeons, and in institutional practice.

OTHER APPLICATIONS.

The use of picric acid in skin diseases was first suggested by Grangé in 1877, who drew attention to its healing power in eczema. Cavelli (1889) and almost simultaneously Cerasi (1889) spoke highly of picric acid in inflammatory affections of the skin, such as acute eczema, erythema, artificial dermatitis, impetigo contagiosa, and erysipelas. Their success was imitated by MacLennan (1896), Leredde, Aubert, Allan (1897) and Radaeli (1899), and others. Spannochi (1895) and Duroux (1903) recommended it in the treatment of lupus. Fage (1898) reports success with picric acid in blepharitis. It has been recommended as an injection in gonorrhœa by Vigneron (1894), de Brun (1901), Hill (1901), Re (1903), and Peyri (1904). Others have reported success with its use in such minor conditions as cracked nipples, mucous patches, fissure of anus, paronychia, and superficial septic processes.

VACCINE THERAPY:

By Charles T. Russell, Jr., M. D.,
Philadelphia.

Bacteriologists teach the theory that vaccine and bacterin should be administered when the opsonic index is normal or above and that it should not be given when it is declining or below normal.

Years ago, when diphtheritic antitoxine was discovered and up until the last five years, the presence of opsonins in the blood was not known; the antitoxine was freely administered and with marvelous results, showing that the opsonic index does not play an important part in the administrations of sera.

During the last two years I have used vaccines extensively in the treatment of acute diseases, and less frequently in the chronic conditions. The results obtained in acute conditions have been very favorable, those in chronic less so. In a series of ten cases of acute gonorrhœal rheumatism, the administration of the antigonococcic vaccine was followed by prompt disappearance of pain, swelling, and other distressing symptoms of this malady. One or two cases of this disease will bear further explanation.

Case I. F. R., age eighteen. History of acute urethritis starting six weeks previously, sudden development of a severe chill, temperature rising to 105° F., followed by a severe inflammation of all the large joints except the articulation of the lower jaw. The pain was very severe and the patient prostrated in bed as in a vice, because the slightest movement was followed by lancetlike pain. The urethral discharge suddenly ceased at this period, which previously had been very profuse. Two days later I was called to see the patient and I immediately injected fifty million antigonococcic bacteria (stock). This was given at 4:30 p. m. That night the patient slept fairly well. The next day the joints were still swollen and less painful; on the third day another dose of the same strength was given. Following this the patient experienced much relief and asked me if I could not give him another dose on the following day. Two more injections (hypodermically) were given, three days apart, with complete recovery. I have seen this patient several times since, and it is impossible to detect any remaining evidence of this disease.

Case II. Male, age twenty; suffered from the same condition as the patient in Case I, and had been treated by another physician, who cleared up the condition except in the left wrist joint and the flexor tendons of the same forearm. The wrist was nearly twice its normal size and extremely painful. It was necessary for me to give this patient six injections of fifty million each of the vaccine in order to clear up the wrist and also the urethral discharge.

The other eight cases were of the milder type and yielded very readily to this treatment. I might also state that the endocardium was slightly affected in Case I and there still persists a very indistinct apex murmur.

Conclusions: The use of vaccine prevents the development of pus in the synovial membranes to a great extent and also, to my mind, is the ideal treatment for this disease.

The other series consists of three cases of indurated acne, and two cases of postular acne. Two patients rapidly improved under the use of acne bacterin of the indurated variety, the other patient would improve as long as the bacterin was continued, but became worse when discontinued. The two postular acne cases promptly healed on the administration of mixed acne bacterin.

Observations: It is necessary to give at least 50,000,000 organisms in order to obtain an effect, also, it is necessary to give from five to ten injections about from three to five days apart in order to benefit the condition present. The opsonic index is unimportant, the guide is the reaction to the bacterins and the effect of them on the lesion present. I have also used vaccines on cases of periostitis and purulent osteomyelitis without any favorable results.

Conclusion: Vaccines and bacterins are very serviceable as an aid and, in some instances, as a cure for numerous diseases which were formerly considered incurable and now are amenable to this treatment.

2521 East Norris Street.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CVIII.—How do you treat hiccough? (Closed March 5, 1911.)

CIX.—What are the best means of reducing infant mortality? (Answers due not later than April 15, 1911.)

CX.—How do you treat flatulence? (Answers due not later than May 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) that the answers be short; if practicable no one answer to contain more than six hundred words.

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the Journal. Our readers are asked to suggest topics for discussion.

The prize of $25 for the best essay submitted in answer to question CVII has been awarded to Dr. Arthur L. Fuller, of Garden City, Texas, whose article appears below.

PRIZE QUESTION CVII.

THE TREATMENT OF ACUTE OTITIS MEDIA.

By Arthur L. Fuller, M. D.,
Garden City, Texas.

The successful treatment of acute otitis media depends almost entirely upon early recognition of the form in which the disease presents itself in any given case. If it is the catarrhal form it is often possible to relieve suffering and abort the disease by conservative treatment, while the suppurative form requires an early resort to radical treatment, if we wish to prevent irreparable damage to hearing and extension to the mastoid cells and intracranial structures, with the attendant danger to life.

The treatment of the catarrhal form of acute otitis media depends upon the stage of the disease in which the case is seen. If the patient is seen early, before any exudate has formed, he should be put

to bed and attempts made to relieve pain by the use of morphine hypodermically in the adult, or tincture of opium by the mouth in children, either drug being given in one or two doses sufficient to give relief, after which attempts to overcome the inflammation should be made, the continued use of opiates being improper as tending to mask the symptoms. The administration of salines, in sufficient doses to procure free evacuations, and the abstraction of blood from behind the ear, will often relieve the tympanic congestion. These should be supplemented by local applications to the drum membrane and the employment of heat. Of local applications I have had best results with the two following mixtures: Carbolic acid and glycerin, from five to ten per cent of the former; and a mixture composed of carbolic acid, three parts, camphor, six parts, and alcohol, one part. Either of these may be dropped in the ear every hour or two, a pledget of cotton then being inserted, or they may be directly applied to the membrane on a pledget of cotton carefully inserted to the bottom of the canal. Whichever is chosen should be used as hot as can be comfortably borne by the patient. The anæsthetic properties of the drugs and heat, combined in the former preparation with the tendency of the glycerin to cause a watery flow outward, thus depleting the congested vessels of the tympanum, often have a most happy effect. This should be supplemented by dry heat, applied to the side of the head by means of the hot water bottle, or bags of salt or sand heated in an oven, either of which is obtainable in almost any locality. The use of such old women's remedies as laudanum and sweet oil and similar preparations is not only useless but positively harmful, as forming an excellent culture medium for pus forming bacteria, which, if perforation occurs, may readily render a serous discharge purulent, and increase the seriousness of the disease.

Should these measures have the desired effect, and the inflammation subside without the formation of any exudate, it is next proper to commence inflation of the middle ear, which should be performed daily at first, and at longer intervals as improvement in the hearing and condition of the membrane progresses. The return to normal is thus hastened by the replacement of the drum membrane, which is generally retracted, owing to absorption of air from the cavity and its inability to enter through the congested Eustachian tube; it will also prevent the permanent impairment of hearing, which would be caused by adhesion of the retracted membrane to the inner tympanic wall.

Should these measures however fail to give relief, an exudation take place, or should the patient first be seen when an exudate has already formed, the membrane should be incised and the exudate evacuated. The canal should first be rendered as aseptic as possible by thorough cleansing with hydrogen peroxide, followed by irrigation with a weak bichloride solution, after which a free incision, not a puncture, should be made. This should be made so as to include any bulging portion of the membrane if such is present, otherwise in the postero-inferior quadrant; in any case it should extend sufficiently downward to afford free drainage. In the more severe cases the knife should reach the living membrane of the inner tympanic wall, the hemorrhage from which will materially aid in reducing the inflammation. This procedure, even if rapidly performed, is quite painful, and I usually give a general anæsthetic, none of the local ones, in my experience, producing satisfactory anæsthesia in any strength or combination.

The main point in the after treatment is the maintenance of asepsis and the prevention of infection from outside sources; for if this takes place the disease may become a chronic purulent otitis with tissue necrosis and its attendant evils. The ear should be thoroughly irrigated daily with a mild antiseptic solution, after which a strip of gauze should be loosely packed in the canal reaching to the membrane, and the ear covered by a large absorbent dressing. As the discharge lessens the irrigations should be discontinued and the ear cleansed by wiping with pledgets of cotton wound on an applicator, followed by the instillation of a few drops of a solution of silver nitrate, four grains to the ounce, which may be allowed to remain a few minutes, after which the ear is dried and lightly dusted with powdered boric acid, and a pledget of absorbent cotton inserted into the canal. At each daily treatment inflation should be performed, either by the catheter or the Politzer method, the former being preferable when possible. The inflation will assist in procuring more thorough evacuation of any fluid, while the incision remains open, and after this has healed will aid in restoring the membrane to normal, both as regards its tone and position. Should resolution be delayed and the condition tend to become chronic, stimulating vapors may be used by means of the catheter, those of iodine and menthol, alone or in combination, being the ones I have found most useful. Any abnormal conditions of the nose or nasopharynx should be treated at this time, as the existence of such will tend to delay the process of repair and render the patient more liable to a relapse or fresh attacks.

Should the patient first be seen after perforation has taken place and the discharge still be nonpurulent, the treatment is the same as that laid down after incision, special care, however, being necessary to thoroughly cleanse the canal, as under home treatment every hour adds to the probability of infection from the outside. It may also be necessary to enlarge the opening, as in many cases the perforation is either too small or so situated as not to provide free drainage. If, however, the discharge has become infected, as is usually the case when the patient is first seen after perforation has occurred, the treatment is the same as for the later stages of suppurative otitis media.

During the time the patient is under treatment attention must be paid to the general health. The diet should be light during the acute stages and the secretions kept up. Later, the general health should be built up by tonics and liberal diet, special attention being given to any constitutional dyscrasia which may exist.

If the case is one of acute suppurative otitis media, as is rendered probable by its rapid progress in spite of the use of such local and general treatment as I have outlined for the early stages of the catarrhal form, by the extreme severity of the pain,

elevation of temperature, prostration of patient, extreme redness of the membrane, especially in its upper portion, and the presence of one of the more severe exanthemata, but little time should be lost in the attempt to give relief by conservative measures, as early incision is the only hope of preventing the formation of pus and aborting the disease; and this hope is not very great. The earlier a free incision is made the better the prognosis as to restoration of function and avoidance of the extension of the process to structures dangerous to life. Incision should not be delayed till pus has already formed, as its early performance is the only hope of relief from pain and offers the best chance of preventing serious permanent damage. When the incision is made early before pus has formed, it should commence in the posterosuperior quadrant, the knife being thrust in deeply enough to incise the lining membrane of the inner tympanic wall, the edge of the blade being turned upward and the incision extended upward through the posterior fold, flaccid membrane, and out on the superior wall of the canal. It is especially important, since this is performed before pus has formed, that the strictest asepsis is maintained, thus avoiding infection from the outside, as there is a possibility that the disease may be aborted by the free hæmorrhage which will follow. The canal should then be irrigated freely with sterilized water, as hot as can be borne, with the object of promoting free bleeding and thus relieving the congestion. The ear should then be dressed by being lightly packed with a strip of gauze over which a large aseptic dressing should be placed. Should the formation of pus already have occurred when the patient is first seen, the incision should be made through the bulging portion of the membrane, if such exist, then carried upward, the point of the knife being directed into the vault of the tympanum, and then extended down to the lowest margin of the membrane, thus providing free drainage. Whether the incision is made before or after the formation of pus, it is important that the knife is carried well upward into the tympanic vault, as the structures there are the ones most severely affected in the majority of the cases, and it is especially important to relieve their congestion and provide free drainage from the vault, thus lessening the chance of extension to the mastoid or intracranial structures. Following this incision the patient should be seen at least once daily, when the ear should be thoroughly irrigated by some mild antiseptic solution and a fresh dressing applied. Careful examination should be made at each dressing, when the size of the perforation should be noticed and any tendency to close treated by fresh incision if necessary. Any local bulging indicating a pocket of pus walled in by adhesions should be incised promptly. As the pain subsides inflation should be practised daily. As the discharge diminishes dry mopping should be substituted for the irrigation, and astringent solutions employed. Of these, I prefer silver nitrate, commencing with a solution of five grains in an ounce and increasing it up to thirty-five grains to the ounce. These instillations should be made after thorough cleansing and drying of the ear, and allowed to remain a few minutes, the ear then being washed with salt solution to neutralize any excessive action of the silver salt. Any accumulation of pus in the tympanum should be evacuated by the use of the catheter before these instillations are made. Daily inflation should be performed at first in order to assist the membrane in regaining its tone and to prevent its being bound down by adhesions, this inflation being kept up at gradually increasing intervals until improvement in hearing is no longer obtained. At the same time proper attention should be given to any abnormal conditions present in the nose or nasopharynx.

The general condition of the patient calls for care throughout the disease, the secretions being well kept up, the diet being light during the acute stages, and liberal as the inflammation decreases. Stimulants are often needed during early convalescence and tonics are always indicated.

By these means, in many cases, good results may be obtained, both as regards avoidance of extension of the discharge, and a fair amount of restoration of function; though in some cases, in spite of the most thorough treatment the bony structures will become carious, the case becoming chronic and being relieved only by operative measures for removal of the diseased bones. The main hope of preventing this is early and free incision.

Dr. George B. Hickok, of East Orange, N. J., remarks:

Acute otitis media is generally caused by sudden exposure to cold, by catarrhal or purulent action in the throat and Eustachian tube, or by a blow with the hand upon the ear.

The first symptom is generally severe pain complained of in the ear. In all cases of pain referred to the ear an examination of the teeth should be made, as pain in the teeth is often referred to the ear.

Positive diagnosis of acute otitis media may be made by firm or moderate pressure over the tragus, when the patient will cry out with pain and shrink from the pressure. Pressure may also be made along the line of the Eustachian tube externally, and an examination of the pharynx may be made to determine the existence of inflammation in the pharynx. Examination of the drum membrane may be made with the speculum and head mirror, when the handle of the hammer will be found to be injected as well as the border of the drum.

If after an examination by means of all or a part of these methods a positive diagnosis of acute otitis media has been made, the quickest relief will be obtained by the application of a natural or artificial leech directly on the sensitive point of the tragus. After the leech has been removed the flow of blood may be encouraged by applications of warm water. If tenderness exists along the Eustachian tube, cantharidal collodion should be applied along the line of the tube, externally, from the ear to the angle of the jaw—the cantharidal collodion may be applied with a pledget of cotton wrapped on the end of a probe. This application will relieve pain and also tend to prevent suppuration.

If examination shows an inflamed condition of the throat an application of a silver nitrate solution (from five to ten grains to an ounce of water)

may be made with a pledget of cotton on the end of a probe, the probe may be bent at an angle of forty-five degrees, and an application at the same time be made to the mouth of the Eustachian tube.

The ear may also be syringed with a warm boric acid solution, from five to ten grains to the ounce. Warm dry heat, in form of a hot water bag, hot sand, or hot salt, may be applied to the side of the head, covering the ear thoroughly. Hot moist poultices should not be used, as they would tend to encourage suppuration. Calcium sulphate in one eighth grain doses repeated, and also small doses of aconite may be used frequently, as the aconite has very decided action on the inflamed condition of the throat; moderate cathartics should also be used.

If in spite of these attempts at relief the severe pain continues, another examination with the speculum and head mirror should be made. If suppuration has taken place the drum will be found to be injected and bulging into the external canal. Frequently a difference in color can be observed between a serous and a purulent effusion, the one being white and the other yellow. If the middle ear is only partly filled with fluid a hairlike line may be seen which defines the limit of the fluid.

When pus has formed in the middle ear and the membrane is bulging, paracentesis of the membrane should be performed under good illumination with speculum and head mirror. The incision is generally made in the posterior superior quadrant of the drum, on a line parallel with the handle of the hammer, where bulging generally occurs. The Politzer bag may be used gently to force the fluid from the middle ear; and afterward the syringe may be used with warm boric acid solution in the external canal to cleanse the canal, and to encourage the discharge of the fluid from the middle ear. Valsalva inflation of the middle ear may be employed by the patient to assist in forcing the discharge from the middle ear after the incision has been made. Continued application of silver nitrate solution to the throat, and the use of cantharidal collodion over the line of the Eustachian tube, externally, may be continued until the discharge ceases and the inflammation subsides and healing of the drum has taken place.

Dr. Max Lubman, of New York, writes

As the middle ear communicates with the oropharynx and nasopharynx through the Eustachian tube, it will not be amiss to begin the treatment with prophylaxis, especially in the course of infectious diseases, as measles, scarlet fever, diphtheria, influenza, thrush, and during the teething period, as the child has especial pleasure to put everything in the mouth, and much infection is carried in this way. In addition to the treatment of the disease, special stress should be laid to keep the mouth and nose clean with some antiseptic solution, with an atomizer, in adults and older children by gargling. Now, when a patient with middle ear inflammation presents itself, the treatment will depend on the ætiological factor and the stage of the disease. If it is of primary origin, as from cold, etc., and the case is seen in the first twelve hours, palliative treatment may be tried. The patient is put to bed, calomel followed by a laxative is given, leeches in front of the tragus and on the mastoid cells are applied to draw off about three or four drachms of blood. Dry heat locally on the ear, salicylates internally, and installation of drops of ten per cent. carbolic acid in glycerin, warmed before installation, every few hours are to be used. If the pain is very severe, morphine should be given to make the patient comfortable, as we must not forget that in addition to the disease we must also treat the patient.

If in the course of twenty-four hours the symptoms do not subside, a paracentesis should be made. To make a paracentesis successful, a few points should be observed: 1. Sterilization of the auditory canal, hands, and instruments, as for any other operation; 2, a sharp instrument should be used; 3, a good light; 4, steadiness of the patient, and this is best accomplished by inhalation of ethyl chloride. The advantages of ethyl chloride are many, as no special preparation of the patient is necessary. It produces quick anæsthesia, and as soon as the mask is taken away, consciousness returns. The incision should be made in the most dependent portion in the posteroinferior quadrant. If there is any bulging noticed in the drum, the incision should always include that portion.

If the middle ear attack is a complication of the before enumerated infectious diseases, no time should be wasted in palliative treatment, but a paracentesis should be made at once as previously described, as the incision is the only thing that will abort the disease, even if the case is seen early. As soon as the drainage is established the patient is relieved of all the symptoms, and hot saline irrigations are ordered every few hours from a fountain syringe, but the bag should not be raised too high as we do not desire to have a high pressure. Usually in the course of a few days or a week the discharge stops, and if the patient still complains of fullness in the ear, inflation should be made, daily at the beginning, and at longer intervals later, until the patient feels relieved.

If the discharge does not stop, we can use hydrogen peroxide in children after the canal is wiped out dry, and in older people alcohol, one ounce, and boric acid, twenty grains, three times a day; but it is of great importance that the canal should be dried before the installation of the drops. I think that the alcohol in children irritates the canal and it has also a tendency to dry up the tympanum. If the discharge still persists we must first look if there is good drainage, as often the edges heal together and interfere with free drainage; then a second paracentesis should be made. We must look for adenoids and if found, they should be removed. During the treatment, the nose and mouth should always be kept clean with an antiseptic. Some advise to give urotropin as it is excreted in the ear. All I can say of this drug is, that when the discharge is very thick, it makes it more serous but has no effect on the diminution of the discharge. Quite often we have tenderness on the mastoid with an acute middle ear, but usually it disappears as soon as discharge is established, but if an abscess develops, with swelling of the posterior wall in the canal, the surgeon should be prepared not for a

superficial incision, but for a mastoid operation, as we can readily see that the infection reaching the periosteum traveled through the mastoid cells, and naturally they will always be affected.

(*To be concluded.*)

Therapeutical Notes.

The Treatment of Epidermic Plugs in the Auditory Meatus.—In *Larynx* for September, 1911, cited by *Revue de thérapeutique* for February 15, 1911, the removal of epidermic plugs is recommended to be effected by the use of a mixture of alcohol and water, or the instillation of a solution of hydrogen dioxide. A solution of salicylic acid in liquid petrolatum, as in the following prescription is sometimes employed effectively:

℞ Liquid petrolatum, ...
Salicylic acid, ...
M.

It may be necessary in the removal of plugs from the auditory meatus to have recourse to pincers or a curette.

If in the removal of the plugs the skin is abraded the application of a weak solution of silver nitrate is recommended, or a few drops of the following mixture may be introduced:

℞ [illegible]
M.

Removal of Fluid from the Pleural Cavity.—Holmgren, cited in the *Edinburgh Medical Journal* for March, suggests an improved method of removing fluid from the pleural cavity. Instead of the ordinary method by syphon action or aspiration he displaces the fluid by air. To effect this two punctures are used. The lower puncture is made in the tenth interspace midway between the posterior axillary and the scapular lines. This cannula is connected with an ordinary syphon tube to remove the fluid. One interspace higher a second cannula is introduced which is connected with a wash bottle or other flask half filled with water and furnished with a rubber cork through which pass a short glass tube and a longer one reaching to the bottom of the flask. The short tube is connected to the cannula and the long glass tube, which projects below the surface of the water, is connected with a syringe or rubber spraying bag by which air can be pumped into the chest. In tapping the chest the fluid, which is under considerable pressure, at first flows freely through the lower cannula, when the flow becomes intermittent, or if the patient experiences any discomfort from dyspnœa, pain, coughing, etc., a little air is pumped in by the upper cannula, which promptly removes all discomfort and causes the fluid to run freely through the lower cannula. In this way, by gradually introducing air to replace partially the fluid removed, it is possible to withdraw almost the very last drop of the effusion without in any way embarrassing the patient. Eventually a pneumothorax is left in place of the effusion. The air left in the pleural cavity is gradually absorbed, and the lung slowly expands without being subjected to any sudden decompression strain. By repeating the introduction of air at regular intervals it is possible to keep the lung more or less compressed and out of action, a procedure which has been advocated in the treatment of certain forms of pulmonary tuberculosis. The chief advantages claimed for this method of aspiration are that the effusion is thoroughly removed and that the patient suffers no discomfort during the removal. The presence of the air inside the pleura exercises no deleterious influence. At the end of the aspiration the pressure on the surface of the lung is equal to the pressure inside the lung, and is less than that exerted by the effusion. Consequently the lung, by the end of the aspiration, has already expanded somewhat, and as the air is absorbed the lung gradually expands further. The procedure is particularly advised in cases of purulent effusion—e. g., in pyopneumothorax or tuberculous empyema, when it is advisable to remove all the effusion without subjecting the diseased lung to undue strain. Holmgren has used the method thirty-three times in seventeen patients. The only reaction is a slight increase in the pulse rate for the first few days, and occasionally a slight degree of fever. Instead of air, oxygen may be introduced, which is more rapidly absorbed than the nitrogen moiety of air.

A New Soluble Antiseptic.—In a translation from *Nouveaux remèdes* the *Pharmaceutical Journal* gives the following formula for the preparation of a new soluble antiseptic compound, which has been named resosalyl, and is credited to D. Monteil: Resublimed resorcin, 22.2 grammes, caustic potash, 11.2 grammes, are melted together over a gentle flame in a capacious tared porcelain dish. Sodium sulphovinate, 33.2 grammes, and salicylic acid, 27.6 grammes, are added, the heat being continued until complete fusion results, when camphor, 25 grammes, is added. Then boric acid, 20 grammes, borax, 60 grammes, benzoic acid, 25 grammes, terpin hydrate, in fine powder, 8 grammes, sodium benzoate, 15 grammes, glycerin, 200 grammes, and water, 200 grammes, are added. The mixture is then heated to 80° C. on the water bath to complete solution, and filtered bright through cotton. The solution is odorless and miscible with water.

Danger of Prolonged Use of Quinine.—In an excerpt from the *Archiv für Hygiene*, cited in the *Edinburgh Medical Journal*, Graziani reports some investigations made by him regarding the possible danger of continuous administration of small quantities of quinine as a prophylactic against malaria. He administered quinine hydrochloride to rabbits and guineapigs in doses proportional to that used for man in the prophylaxis of malaria. As a result he found that the growth of quinized animals was distinctly impaired as compared with control animals receiving only injections of physiological salt solution. Apart from this interference in growth quinine had apparently little action. It appears from Graziani's experiments that any prolonged use of quinine is by no means an innocuous proceeding, as it may prevent the growth of young animals, and subsequently lower their power of producing immune bodies and of resisting microbic infection

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NEW YORK, SATURDAY, MARCH

FEDERAL HEALTH LEGISLATION.

Congress has again adjourned without taking action to increase the efficiency of the national public health agencies. In a country with a rapidly increasing population and increasing intercourse with the world this lack of action means a backward step. The House of Representatives passed, by a large majority, the "Mann bill," which gave the Public Health and Marine Hospital Service additional authority, especially as regarded the investigation of the pollution of interstate lakes and streams, and which also provided for somewhat larger salaries, which would have enabled the service to hold its present well trained men and to attract others. The prospects for the passage of this bill by the Senate appeared bright. This body had, on two occasions, within the last three years, passed, unanimously we believe, even more comprehensive measures. The only, or at least the only avowed, opposition to the bill in the Senate came not from enemies to the public health movement, but from a senator who is thoroughly committed to the policy of consolidating various bureaus, founded for the most part for other purposes, into an elaborate Department of Public Health. His line of reasoning seemed to be that the passage of the "Mann bill" would in some way interfere with his more ambitious project. As is well known, the rules of the Senate are such that one senator can, by a skilful filibuster, prevent the passage of any bill in the closing days of a session. Even the senator who opposed the "Mann bill" apparently recognized the importance of immediately strengthening the Public Health and Marine Hospital Service, for he introduced an amendment to the Civil Sundry bill, providing for an additional grade of officers and for increased pay. The unanimous adoption of this amendment by the Senate is striking evidence of the confidence of this body in the Public Health and Marine Hospital Service. The amendment, however, which was added after the bill had passed the House, failed in conference.

The final result was that nothing was accomplished, and it is to be feared that unless a more reasonable and practicable view of the whole public health question is taken, the present Public Health Bureau will continue to be hampered both by those who profess to favor and by those who openly oppose greater national public health efficiency—by the former because they think it stands in the way of a Department of Health (although the Secretary of the Treasury, under whose jurisdiction the present bureau comes, pointed out the fallacy of this argument in an earnest recommendation to Congress for increased pay), and by the latter because they fear an ultimate invasion of the rights of the individual. This year the former element was able to prevent much needed legislation; next year the other element may hold the strategic position. It should be evident by this time to the advocates of a Department of Public Health that they are making little progress with their present methods; apparently they have thus far secured but one active supporter in Congress.

Meanwhile the present public health service, in spite of the handicaps, among the chief of which is its inability to offer to young men as attractive inducements in the way of salaries as other medical services of the government, is doing splendid work, both in the field and in the Hygienic Laboratory at Washington. It is the only Federal service which stands between the ninety million inhabitants of this country and the bubonic plague, cholera, and other epidemic diseases, which are drawing ever nearer to our borders; it is the only service to which State health officials can turn for help in cases of outbreaks of typhoid fever, smallpox, infantile paralysis, pellagra, etc. And yet this service, upon which such important responsibilities devolve, scarcely has as large a staff as has the Bureau of Entomology of the Department of Agriculture, and Congress, which appropriated $20,000 to rescue starving elk in the Yellowstone Park or somewhere else in the West, failed to provide about $73,000, which would have enabled the Public Health Bureau to preserve its present efficiency. The supposed friends of public health legislation are responsible for this, partly because of the fear (?) that the present bureau does not seem to some of them a promising stepping stone to a seat in the Cabinet.

Indications are not wanting that the next Congress will ignore both the obstructive tactics of those who are dogmatically insisting upon the immediate fulfillment of their ambitious schemes, and the objections of those who profess to see an encroachment on individual rights in a proposition to strengthen the defenses of the country against the introduction of epidemic diseases and to give expert information to those who want pure water instead of sewage to drink; and that it will do something to strengthen the hands of an organization which, by normal governmental growth, has become a national health service, and which notwithstanding its limited means and opportunities has already rendered signal service to the country.

THE PHLORRHIZIN TEST OF HEPATIC AND RENAL INSUFFICIENCY.

From a study of numerous cases, Achard and Delamere some time ago came to the conclusion that the absence or decrease of glycosuria produced by phlorrhizin indicated a functional renal disturbance, if not an anatomical lesion of the kidney. These conclusions have become classical, and the phlorrhizin test is quite as valuable as that with methylene blue among the various exploratory procedures relating to the renal functions. But Teissier and Philippe have been struck by the uncertain results which they frequently met with when the phlorrhizin test was employed in cases of Bright's disease, where glycosuria is often quite normal.

Following the observation made by the above mentioned experimenters, Rebattu (*Thèse de Lyon*, 1910) was led to consider whether or not the liver might play a part in the phenomenon of glycosuria produced by phlorrhizin, whether this phenomenon was alone dependent upon the liver or whether there might be a simultaneous action of both the liver and the kidney. His researches were carried out in cases of Bright's disease, on tuberculous patients with an enlarged liver, on cardiac subjects whose asystolia reacted on the liver, and lastly on subjects presenting serious, slight, or transitory hepatic affections. A number of the patients presented both hepatic and renal lesions. From his researches it would seem that when the kidney is alone the cause, glycosuria produced by phlorrhizin is almost always a normal manifestation, and if the liver functions give way then hypoglycosuria occurs or even anaglycosuria.

This disturbance in phlorrhizin glycosuria is also met with, but less constantly, when the liver alone is involved. It would appear that it is not necessary that there should be a marked renal disturbance in order that the phlorrhizin glycosuria may become negative. The semeiological diagnostic value of the phlorrhizin test would consequently appear to be quite different from that usually attributed to it. The absence of glycosuria indicates some disturbance in the hepatic functions, of either a primary or secondary nature.

The prognostic value of the phlorrhizin test is far more important. Decrease of the reaction, and especially its absence, is a very serious element in the prognosis, and Rebattu has upon several occasions observed that when the phlorrhizin glycosuria became negative, the patient's general condition rapidly changed for the worse and death occurred very shortly. This is particularly true in the case of tuberculous subjects and is less absolute in other patients, particularly cardiac subjects and those presenting Bright's disease. Teissier has occasionally seen a phlorrhizin glycosuria which in the first place was negative become positive, and this phenomenon coincided with a very marked amelioriation.

The intensity of a phlorrhizin glycosuria might, perhaps, serve to distinguish a catarrhal or mild infectious icterus from the serious types of infectious icterus, because, in the first category, the phlorrhizin glycosuria is always normal. If one compares the results of the phlorrhizin test with those furnished by alimentary glycosuria and the methylene blue test, it will be seen that when the alimentary glycosuria is positive it coincides with an irregular phlorrhizin glycosuria. When it is negative, the phlorrhizin glycosuria may, nevertheless, be decreased or absent. Alimentary glycosuria would appear, consequently, to be a far less delicate test of the hepatic functions than the phlorrhizin test. When the appearance of the methylene blue in the urine is delayed and prolonged, there is generally an irregular phlorrhizin glycosuria. Even when it is normal, the phlorrhizin glycosuria produced may be irregular, and in the nephritides Rebattu found the blue test normal in sixty-six per cent., so that it would appear that the value of the latter, as a sign of renal insufficiency, is rather doubtful.

AN ATTACK WORTHY OF NOTICE.

Physicians who have read with disgust or anger the wretched drool of sentimental antis or superannuated medical relics of the last century on the subject of experimental physiology will read with respect and amusement the diatribe of George Bernard Shaw that furnishes the preface to one of his latest plays, *The Doctor's Dilemma*. Not only is the subject of vivisection dealt with, but the profession is accused of almost every despicable trait that disfigures humanity in its endorsement of vaccination, the use of antitoxines, and the resort to

radical surgical operations. Shaw sees nothing but an economic question in the doctor's mind when it comes to making a decision on the advisability of an operation or the use of a new serum; can the patient afford the major operation, or shall I cure him without resort to the lancet? He states that the average doctor favors all measures that he can carry out in his dirty office for a small fee, but is bitterly opposed to those that demand a costly and elaborate apparatus and must be carried out in a large and well equipped institution. In this statement he ignores our attitude toward the Pasteur Institute and the Rockefeller Foundation. There is no redeeming trait about the doctor save his willingness to attend accouchements, and the latter furnish the only excuse for the existence of the medical profession as now organized.

The fundamental error of Shaw lies in his mistaking the physician for a tradesman, with the latter's principle of *caveat emptor*. Like Shaw himself, we are for the most part artists, and with the artistic temperament ignore all details that are not immediately concerned with the production of an ideal result. The sole idea in the mind of any doctor worthy of the name is to get his patient on his feet, if that is the best that can be accomplished, and it is too often the case that he overlooks the actual wants of his family with his whole artistic attention centred upon the welfare of his client. When Shaw comes to criticise medicine as a science, he is still amusing, but less logical; like most artists he is blissfully ignorant of scientific facts and scientific methods. He avers that no theory could be less opposed to science than Hahnemann's doctrine of similars, and attributes its rejection to the opposition of apothecary doctors whose sole object in life was to sell all the medicines possible. In fact, Shaw shares the extraordinary ignorance of practice and practitioners that is common among the laity, and not infrequently clings to the medical student till he is well on toward graduation; disgusted with the manner in which he is tricked by tradesmen, confounding, as he frankly admits, the herbalist and bonesetter with the regular physician and surgeon, and lumping them all together as half knaves, half fools, but animated solely by commercial impulses, Shaw constructs his edifice of irrefragable logic upon this weak and untrue foundation, with the necessary collapse of the whole. With his forecast of the profession as governmental officials whose province will be prophylaxis we have more than once expressed our concurrence. That is to be the army of the future, recruited from all nations, armed mainly with light and soap, to do battle with darkness, dirt, ignorance, superstition, and prejudice.

LEECHES IN PNEUMONIA.

Much has been written on the treatment of acute pneumonia. Of course it is well understood that pneumonia is a very uncertain disease to treat; that is to say, a form of treatment which may act well in one case will fail in another, and consequently there is no specific treatment. Age, sex, social circumstances, environment, the life history of the host, and a multiplicity of details have to be considered in each individual case and the treatment adapted to the conditions found. The only hope for a treatment likely to be attended with success in all instances lies in the discovery of a vaccine or serum which would render innocuous the deadly work of the pneumococcus. However, no such specific is in sight and each case of acute pneumonia must be treated more or less on its merits.

On one point most authorities are agreed, that something must be done to relieve "right heart misery," and the majority of British physicians recommend as the surest means of attaining this object venesection or leeching. In the *Practitioner* for February Dr. A. G. Reid writes on this mode of treatment. In the first place, he divides cases of acute pneumonia into two groups—those with profound toxæmia and cases of average severity or apparently mild cases, any of which may threaten right heart failure and have superadded, to a greater or less degree, the toxæmic element.

The first class referred to may be placed out of court at once, for the reason that they are almost invariably fatal. The great majority of cases are included in the second group, and the main object of treatment is to reduce the blood tension in the pulmonary circuit at the time in the course of the disease when the pressure is approaching its height, in fact, just preceding the crisis. For this purpose some have recommended venesection, while others have advocated the employment of leeches. Reid has persisted with more or less systematic bleeding of the chest wall by the agency of leeches, and by encouraging the bleeding by hot fomentations afterward. His plan is to apply two or at most three leeches over the consolidated area, allowing them to drop off at their own time and then continuing warm fomentations for thirty-five minutes afterward.

Clinically, Reid thinks there is sufficient evidence of the time when relief is required. The patient having had the initial pain of pleurisy relieved by local measures becomes calm as the congestion approaches its height, and it is that call which Reid would regard as the indication for local bleeding even if there were no obvious alternation in the second pulmonary sound or enlargement of the right heart. In the few cases in which leeching is

not effective in relieving the toxæmia, the toxæmic element can be controlled by morphine, provided it is given subsequent to relief of the right heart. The chief point, according to Reid, in relation to the employment of leeches in acute pneumonia for the relief of the right heart, is that bleeding must be sufficient and must be done at the proper time.

A CORRECTION.

Any one who has ever had anything to do with printing will know how the types take advantage of the poor unsuspecting writer and the careful editor. This remark refers to an editorial article on Salvarsan which appeared in our issue of March 18th, page 534. After the pages had been approved the first line, in closing up, must have dropped out, and instead of carefully replacing it an entirely wrong line was substituted. When we received the *Journal* the mistake had been discovered, but 3,000 copies had already been mailed. We are exceedingly sorry for this accident. The first line should read: *"A few days ago the first standard book on sal-"*; this will make a correct sentence with the

News Items.

The Medical Inspection of Schools in Vermont.—An act providing for the medical inspection of public and private schools has been enacted by the General Assembly of the State of Vermont, and will take effect on Septem-

Calcification and Ossification will be the subject of the seventh Harvey lecture, which will be delivered on Saturday evening, March 25th, at the New York Academy of Medicine. The lecturer will be Professor H. Gideon Wells, of the University of Chicago.

The Association of American Medical Colleges.—At the annual meeting of this organization, held in Chicago

orado, was elected president.

A Lutheran Hospital in New York.—Plans are being made to establish a central hospital for the poor of the Lutheran Church in New York, and to this end the Society of the Lutheran Hospital was incorporated at a meet-

A New Ward for Children at the Beth Israel Hospital.—On Sunday, March 19th, the Beth Israel Hospital, New York, opened its new children's ward, which has been built on the roof of the southern wing of the main building and can accommodate twenty-five patients. The cost of the new ward was $10,000.

A Hotel Hospital.—A large new hotel, the McAlpine, now being built at Broadway and Thirty-fourth Street, is to have a fully equipped miniature hospital with accommodations for twelve patients. Nurses, physicians, and surgeons will be on call to give attention to any kind of

Common Drinking Cups to be Abolished in New York Schools.—The Board of Education has taken steps to install 164 sanitary drinking fountains in 39 school buildings in New York City. The design of these fountains is such that while the drinker must stoop over to obtain the water, he will not touch any part of the metal of the faucet. These fountains will be placed in fifteen schools in Manhattan, four in the Bronx, ten in Brooklyn,

A Memorial Tribute to the Late Dr. Janeway.—A memorial meeting in honor of the late Dr. Edward G. Janeway will be held at the New York Academy of Medicine on Thursday, April 6th. The speakers will be Dr. William H. Welch, of Baltimore, Dr. Abraham Jacobi, Dr. Francis Delafield, Dr. Charles F. Chandler, and Dr. Joseph D. Bryant.

Physicians in the New York State Legislature.—The Assembly numbers among its members four physicians as follows: Dr. Minor McDaniels, Dr. Charles S. Butler, Dr. Robert P. Bush, and Dr. John Seeley. Dr. McDaniels is the health officer at Enfield Center, Dr. Butler is health officer at Harpursville, and Dr. Bush is the father of a health officer.

Dr. Claude D. Morris, one of the best known veterinary surgeons in New York State, died at his home in Binghamton on Monday, March 20th, after a brief illness of pneumonia, aged fifty-three years. Dr. Morris had from time to time contributed valuable articles on the question of dairying, and for fifteen years was identified with Borden's Condensed Milk Company.

The Superintendency of Bellevue Hospital.—Dr. George O'Hanlon, assistant medical superintendent of Bellevue and Allied Hospitals, has been appointed medical superintendent, to succeed Dr. W. H. Smith, who resigned recently to accept the superintendency of Johns Hopkins Hospital, Baltimore. Dr. Smith's resignation takes effect on June 1st, when Dr. O'Hanlon will assume his new duties.

The Medical Conferences.—The next conference in the series which is being held under the auspices of the Educational Alliance of New York, will be held on Thursday, March 6th. The subject of the evening will be Gynæcological Operations by the General Practitioner and will be presented by Dr. H. C. Coe. These lectures are for physicians only. No tickets are required, admission on presentation of card.

A New Science Building in Indianapolis.—There is now in course of erection a new science building at the laboratories of Eli Lilly & Co., of Indianapolis, which will be devoted to the prosecution of the scientific aspects of the work as manufacturing pharmacists. One feature of the building will be the large technical library, which we understand will be open to physicians and others interested in medicine and pharmacy.

A Rival to Radium.—Professor Hahn, of the University of Berlin, has discovered in the residues of gas mantles a new chemical compound which he has named mesothorium. The bromide salt of this substance is said to possess a radioactivity equal to that of radium bromide. The production of mesothorium bromide in Germany amounts to about ten grammes annually, equal to the radium production of the entire world.

Founders' Day at the University of Michigan.—The sixty-first anniversary of the establishing of the Medical Department of the University of Michigan was celebrated at Ann Arbor on February 22d. Dr. A. S. Warthin, professor of pathology in the university, spoke on The Representation of Disease in Art, and Dr. Victor C. Vaughn, dean of the Medical Faculty, delivered an address on The Ideals of a University Medical School.

The Care of the Eyes.—On Wednesday evening, March 29th, this subject will be discussed at the New York Academy of Medicine. Dr. F. Park Lewis, of Buffalo, will speak on Ophthalmia Neonatorum. Dr. Clara Meltzer Auer will discuss inflammation and contagion, and Dr. Edward S. Peck will speak on eyestrain. This is the last lecture in the series which has been held at the Academy of Medicine during January, February, and March, under the auspices of the Public Health Education Committee of the American Medical Association.

Honors for Dr. Leonard Weber.—The medical faculty of the University of Erlangen, Germany, presented Dr. Leonard Weber, of New York, with a renewal of his diploma on the fiftieth anniversary of his graduation in medicine, which he celebrated recently. The diploma was accompanied by a congratulatory letter, expressing appreciation of Dr. Weber's achievements in the field of clinical medicine. The board of trustees of the New York Postgraduate Medical School and Hospital, in which Dr. Weber has taught medicine since 1895, recently appointed him emeritus professor of medicine. Dr. Weber is still in active practice.

The Alumni Association of the Buffalo General Hospital ... March 15th, Dr. James W. Putnam, president of the association, was toastmaster, and among those who responded to toasts were Dr. P. W. Van Peyma, Dr. Howard Maynard, Dr. George W. Cott, Dr. Henry Matzinger, and Dr. De Lancey Rochester. About fifty physicians attended the dinner.

An International War on Tuberculosis.—When the International Congress on Tuberculosis meets in Rome next September, representatives of over thirty national and provincial associations organized to fight tuberculosis will be present. Among the countries which will be represented at the Congress are: The United States, Canada, Cuba, Trinidad, England, Wales, Ireland, Norway, Sweden, Denmark, Russia, Germany, Belgium, Holland, France, Switzerland, Portugal, Italy, Greece, Bulgaria, Hungary, Austria, New Zealand, Japan, Cape Colony, Argentina, Brazil, Chile, Newfoundland, Roumania, Uruguay, and Venezuela.

The International Congress of Medicine.—The seventeenth International Congress of Medicine will meet in London in the summer of 1913. The exact date will be fixed by the International Permanent Committee, which will meet in London on April 21 and 22, 1911, under the presidency of Dr. F. W. Pavy. At this meeting the list of sections of the congress will be arranged, and any suggestions relating to the constitution of this list may be sent up to the first of April to the Honorable General Secretary of the Permanent Committee, Prof. H. Burgher, Vondelstraat 1, Amsterdam, or to the Bureau of the Committee, Hugo de Grootstraat 10, The Hague. The committee will be glad to receive any information or suggestions regarding the organization of the congress.

The Newburgh Bay Medical Society met in annual session in Newburgh, N. Y., on Tuesday afternoon, March 14th, under the presidency of Dr. E. C. Thompson. The principal paper on the programme was read by Dr. Thompson on Modern Surgical Principles in the Treatment of Surface Wounds, which was followed by a general discussion. Officers for the ensuing year were elected as follows: President, Dr. G. W. Blanchard, of Highland Falls; Dr. Talcott O. Vanamee, of Newburgh, reelected secretary; treasurer, Dr. John Deyo; Dr. A. V. Jova, librarian. After the election of officers, a committee was appointed to arrange for an outing to be held some time in June or July. In the evening the annual dinner of the society was served. The next meeting of the society will be held in May.

Dr. Ashley Dies of Meningitis.—Dr. Edward F. Ashley, one of Dr. Doty's bacteriologists at the Quarantine Hospital, in New York Harbor, died there on Tuesday afternoon, March 21st, of spinal meningitis. He contracted the disease while assisting in the work of investigating the cases of spinal meningitis among Greek immigrants coming into New York. On Saturday, March 18th, he made an autopsy of a Greek who had died from a malignant form of the disease, and on the following day he became ill. Three injections of the Flexner serum were given, but without effect. The serum had proved very effective in the other cases, the Greek on whom Dr. Ashley performed an autopsy being the only one of nine patients who died. Dr. Ashley was graduated from Yale University and the College of Physicians and Surgeons of New York. He had never entered into general practice, having devoted himself to bacteriology. He was thirty-five years old.

A Protest Against the Vivisection Bill.—Representatives of the Medical Society of the State of New York have sent to each member of the State Senate a letter protesting against Senator Bayne's bill which provides for a commission of inquiry into the practice of vivisection. They say that the proposal of a legislative inquiry is based upon an assumption of cruelty which they know to be false ... fortune to the State to encourage by legislation the small number of misguided people who form the nucleus of the anti-vivisection agitation, and who, if successful, would seriously hamper the means of preventing and curing disease. The letter is signed by Dr. Joseph D. Bryant, chairman of the Committee on Experimental Medicine, Dr. John S. Thacher, secretary of the Committee on Experimental Medicine, and Dr. Frank Van Fleet, chairman of the Committee on Legislation. The bill has been advanced to its third reading.

Medicine and Dentistry in South Africa.—Under date of January 10, 1911, Consul Edwin S. Gunsaulus, of Johannesburg, reports that each of the four provinces forming the South African Union has its own separate laws dealing with the practice of medicine and dentistry, but that it is only a matter of a few months until the laws of the four provinces will be consolidated by a medical and dental act for the Union. Under existing laws no American can be registered to practise medicine or dentistry unless through qualification granted by a licensing authority in the United Kingdom or in a British colony.

The Bergen County, N. J., Medical Society Honors Two of Its Members.—On the evening of Tuesday, March 14th, the Bergen County, N. J., Medical Society gave a dinner at Elks Hall, Hackensack, in honor of Dr. J. J. Haring, of Tenafly, the oldest member of the society, and Dr. S. J. Zabriski, of Westwood, the next oldest. Dr. Zabriski was unable to attend, but Dr. Haring, although seventy-seven years of age, was present. Of the sixty-four members of the organization fifty-two attended the dinner, and there were about sixteen other guests. Dr. J. Finley Bell, of Englewood, was toastmaster, and in response to several toasts Dr. Haring delivered a very interesting reminiscent address.

A Postgraduate Course at McGill University.—Announcement is made by the medical faculty of McGill University that an extended course of study for graduate students will be given during the coming summer. Beginning on Monday, June 12th, the course will be continued for a period of six weeks, during the first half of which the work will be conducted in the Montreal General Hospital and during the second half in the Royal Victoria Hospital. This postgraduate course is open to all graduates of medical schools in good standing. Intending candidates must first register with the registrar of the faculty. The fee for the course, including registration, is $50, payable in advance. For further information concerning the course address Dr. J. W. Scane, Registrar of the Medical Faculty, McGill University, Montreal.

Society Meetings for the Coming Week:

MONDAY, *March 27th.*—Medical Society of the County of New York.

TUESDAY, *March 28th.*—New York Dermatological Society; Metropolitan Medical Society of New York; Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); New York Medical Union; New York Otological Society; New York City Riverside Practitioners' Society; Valentine Mott Medical Society, New York; Washington Heights Medical Society, New York; Alumni Association of Seney Hospital, Brooklyn; Rome, N. Y., Medical Society.

... Medical Society of Nassau County.

FRIDAY, *March 31st.*—Hospital Graduates' Club, Brooklyn.

A Merger of State Boards Recommended.—In a report submitted to the New York Legislature on March 15th, by the joint Legislative Committee appointed by the Legislature of 1909 to investigate into the financial workings of State institutions and State departments, it is recommended that the State Board of Charities, the State Commission in Lunacy, and the State Commission in Prisons be consolidated into one body, with power to supervise and inspect all State institutions, and that another body be created to administer these institutions through their several superintendents. In order to effect this change, it would be necessary to amend the State constitution. Until this can be done, the committee recommends the creation of a board to standardize specifications for supplies used in the State institutions.

The Present Outlook in the Campaign Against Tuberculosis.—On Friday, March 17th, a public meeting was held in Huntington Hall, Massachusetts Institute of Technology, Boston, to celebrate the twentieth anniversary of the founding of the Sharon Sanatorium for Tuberculosis, Sharon, Mass. The Hon. Curtis Guild, Jr., presided, and the principal address was delivered by Dr. Livingston Farrand, of New York, on the Present Outlook in the Campaign Against Tuberculosis. Brief remarks were also made by Dr. Arthur T. Cabot, president of the Massachusetts Tuberculosis Commission, Dr. Herbert M. King, superintendent of the Loomis Sanatorium, Liberty, N. Y., Professor William T. Sedgewick, president of the board of directors of the Sharon Sanatorium, and Dr. Vincent Y. Bowditch, medical director of the Sharon Sanatorium. This institution is said to be the first of its kind in New England.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the De-

Typhoid fever	26	5	20	4

The International Commission on the Control of Bovine Tuberculosis met in Buffalo on February 27th. It was decided at this meeting that it would be desirable to publish a pamphlet on the subject of bovine tuberculosis, to contain all available information on the subject, so far as it concerns the stock owner in a practical way, and so far as such information is accepted by the commission. The committee, which was appointed to prepare this pamphlet, is composed of the following members: Dr. Veranus A. Moore, of Cornell University; Dr. J. R. Mohler, of the Federal Bureau of Animal Industry; Mr. J. J. Ferguson, representing American packers; Dr. Reynolds, of Minnesota, representing American veterinarians in State work, and Dr. F. Torrance, of Manitoba, representing Canadian veterinarians. Dr. J. G. Rutherford, of Ottawa, Canada, is president of the commission, and Dr. M. H. Reynolds, of St. Paul, is secretary. The next meeting of the commission will be held in Toronto late in August.

The Health of Chicago.—During the week ending March 11, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 10 cases, 3 deaths; measles, 217 cases, 6 deaths; whooping cough, 20 cases, 0 deaths; scarlet fever, 225 cases, 14 deaths; diphtheria, 167 cases, 21 deaths; chickenpox, 93 cases, 0 deaths; tuberculosis, 206 cases, 86 deaths; pneumonia, 119 cases, 129 deaths. There were 8 cases of German measles, 3 cases of smallpox, 5 cases of cerebrospinal meningitis, and 68 of contagious diseases of minor importance reported, making the total 1,143 cases, as compared with 856 for the preceding week and 932 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 46, and there were 43 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 207, of whom 152 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 751, corresponding to an annual death rate of 17.5 in a thousand of population, as compared with a rate of 15.2 for the preceding week and 17.6 for the corresponding period last year.

The Supervision of Midwives in New York.—Commissioner Lederle, of the New York Health Department, has been giving special attention to the subject of a more strict supervision of the work of the midwives in New York City. The importance of the matter has been attested by the fact that in 1910, out of a total number of 129,031 births reported in the city, 22,010 were attended by midwives and 77,071 by physicians. There are about 1,500 midwives in the city licensed to practise by the Board of Health, and as the only provision made by the department for the supervision of their work was the detailing of one or two inspectors in each borough, it was manifestly impossible to exercise sufficiently close supervision with the small force available. On February 15th a new system was inaugurated and put into effect by the Division of Child Hygiene. According to this plan, the city has been divided into 140 districts, each in charge of a medical inspector, and corresponding to the school inspection districts. Each inspector has a card index of all the midwives in his district and he visits each midwife at least once a month. Special investigations are made in all cases in which complaints against midwives reach the department, special inspectors being assigned to this duty. In this manner the department has found it possible to keep a more careful watch over the manner in which mid-

Vital Statistics of New York.—During the week ending March 11, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,605, corresponding to an annual death rate of 16.80 in a thousand of population, as compared with a rate of 16.04 for the corresponding week in 1909. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 18.38; the Bronx, 15.98; Brooklyn, 15.86; Queens, 10.42; Richmond, 19.22. The deaths of children under five years of age numbered 450, of whom 277 were under one year of age.

Opening of the Chemists' Building.—The formal opening of the new Chemists' Building at 50 West Forty-first Street, New York, was celebrated by a series of addresses given in the lecture theatre of the building on Friday and Saturday, March 17th and 18th, a banquet in the dining room of the building, and a concert on Sunday afternoon. Among the speakers were the presidents of the various chemical societies in the United States and the chairmen of the New York sections of these societies, Dr. Jacques Loeb, of the Rockefeller Institute, who spoke on the chemical aspects of living matter, and Professor R. B. Moore, of Indianapolis, who gave a most interesting demonstration of the preparation, separation, and identification of the rare gaseous elements, argon, helium, neon, and xenon. The building is a handsome structure, of granite and iron, ten stories in height, with a frontage of about eighty feet. The lower stories are to be devoted to the uses of the Chemists' Club, while the upper stories provide laboratories for individual research, which may be rented, and a few bedrooms for the use of visiting members. The structure and equipment cost over half a million dollars. The laboratories will be fitted up for bacteriological as well as chemical research. An effort will be made to keep the rentals down to the minimum which will cover the actual expenses of its maintenance. The bonds of the corporation have been subscribed for by well to do chemists merely with a view to fitting up such a house, but without the expectation of any profit.

The American Gastroenterological Association.—The following programme has been arranged for the fourteenth annual meeting of this association, to be held at the Bellevue-Stratford Hotel, Philadelphia, on April 19th and 20th: The Importance of Tonus in the Mechanical Activities of the Alimentary Canal, by Dr. W. B. Cannon; Stretching of the Pylorus in Benign Stenosis, by Dr. Max Einhorn; Remarks on Cardiospasm, by Dr. S. J. Meltzer; The Operative Treatment of Impermeable Cardiospasm, by Dr. Willy Meyer; Cardiospasm in Infants, by Dr. William Gerry Morgan; The Digestibility and Utilization of Soy Bean Proteins, by Dr. L. B. Mendel; The Treatment of Gastric Disturbances, by Dr. J. Kaufmann; The Gastric Weak Line in Wounds of the Abdominal Wall, by Dr. Robert T. Morris; Gastric Ulcer with Sulphhæmoglobinæmia, by Dr. J. Fuhs; The Relation of Symptoms to Pathological Findings in Cancer and Ulcer of the Stomach, by Dr. J. C. Bloodgood; X Ray Examination of the Digestive Tract, by Dr. P. M. Hickey; X Ray Diagnosis of Ulcer of the Stomach and Duodenum, by Dr. Harry Adler and Dr. Howard E. Ashbury; (1) A Further Study of the Anthropometry of Enteroptosis, (2) Kaolin or Aluminum Silicate in the Treatment of Irritative Conditions of the Stomach and Colon, (3) Neuromuscular and Secretory Coordination Between the Stomach and the Duodenum, by Dr. J. C. Hemmeter; The Function of the Duodenum, by Dr. L. Kast; Duodenal Ulcer, by Dr. Lewis Brinton; The Cause and Relief of Pain in Duodenal Ulcer, by Dr. James Taft Pilcher; Perforation in Duodenal Ulcer, by Dr. J. A. Lichty; Hyperchlorhydria and Pyloric Obstruction Due to Cancer Developing in Duodenal Ulcer, by Dr. A. L. Benedict; The Cammidge Reaction in a Series of Tuberculous Cases at the Sanatorium of the Jewish Consumptives' Relief Society, by Dr. C. D. Spivak; So Called Larval Hyperacidity, by Dr. Julius Friedenwald; Gastric Hypersecretion, by Dr. Arthur F. Chace; Gastric Analyses by the Author's Pepsin Method, by Dr. W. C. Rose; (1) A New Test Breakfast, (2) Sigmoidoscope, by Dr. D. D. Roberts; The Benzidin Test for Occult Blood in Diseases of the Digestive Organs, by Dr. F. W. White; Lymphocytosis in Certain Gastrointestinal Cases, by Dr. John P. Sawyer; Is Pellagra a Disease Primarily of the Alimentary Tract, by Dr. J. C. Johnson; Constipation with Diarrhœa, by Dr. Albert Bernheim, and a paper by Dr. David Riesman

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

March 30, 1911.

1. The Lumbosacral Articulation. An Explanation of Many Cases of "Lumbago," "Sciatica," and Paraplegia, By JOEL E. GOLDTHWAIT.
2. Diverticulitis of the Sigmoid. By W. P. GRAVES.
3. Report of a Series of Cases of Syphilis Treated by Ehrlich's Arsenobenzol at the Walter Reed General Hospital, District of Columbia. By [illegible] W. [illegible]
4. Liquid Air in Surgery. By [illegible]

1. The Lumbosacral Articulation.—Goldthwait reports a very peculiar case of paralysis of the sphincter and both legs, sensory and motor. There was much pain of an explosive or lancinating character referred to the legs and feet, with a particularly constant and severe pain referred to the upper part of the rectum. This point of sensitiveness could easily be reached through the rectum and was located at the upper part of the sacrum, definitely, as the condition is now understood, at the lumbosacral articulation. At the end of six weeks an operation for the exploration of the spinal canal was performed, but nothing abnormal was found. The patient gradually improved, but there still remained pain. This led the author to anatomical researches of the lumbosacral articulation. He concludes that the lumbosacral articulation varies very greatly in its stability, depending upon peculiarities in the formation of the articular processes and of the transverse processes; these peculiarities not only result in less than the normal strength of the joint, but may represent mechanical elements which not only produce strain and cause pain, but may lead to such great instability that actual displacement of the bones may result, with at the same time the separation of the posterior portion of the intervertebral disk. In such displacement, if the fifth lumbar slides forward upon the sacrum, spondylolisthesis, the condition is usually compensated for, and pressure upon the cauda equina or the nerve roots does not occur. If the displacement is upon one side, the spine must be rotated and the articular process of the fifth nerve is drawn into the spinal canal with such narrowing that paraplegia may result, or the crowding backward of the intervertebral disk alone may be so great as to cause similar paraplegia, but of more gradual development. Weakness of the joints or the partial displacements may cause irritation of the nerves inside or outside of the canal and produce the bilateral leg pains often called sciatica.

2. Diverticulitis of the Sigmoid.—Graves observes that the clinical significance of the acquired diverticula of the intestine has only recently been recognized. The acquired diverticula of the intestine are nearly always multiple and may occur throughout the length of the intestine, though most commonly in the sigmoid flexure, they are of more important clinical significance than those of the small intestine. The ætiology of the formation is referable probably to an inherent local muscular deficiency. The most common predisposing factor in causation is the accumulation of fat on the intestine, as is shown by the fact that the majority of these diverticula occur at the attachment of the appendices epiploicæ. The pathology and symptomatology of diverticulitis simulate left sided appendicitis. Some cases are cured spontaneously without operation. The operative treatment of diverticulitis consists in general of drainage in the presence of abscess or gangrene formation. In favorable cases, resection of the bowel and anastomosis is indicated.

3. Salvarsan.—Jones reports his observations on twenty patients treated with salvarsan. Thirteen patients are regarded as well and have no symptoms at the present time; of these, seven have positive sera and hence cannot be called cured; in addition, in a number of cases insufficient time has elapsed to pronounce judgment. There are two incomplete cures, one of these having a negative serum after one dose with a persistent lesion, while the other had just had a second dose. In two cases the results are not satisfactory on account of the severity and destructiveness of the lesions in one and the presence of chronic cardiac disease in the second. In three cases there were frank relapses, but in only one case was there an absolute failure, and this was with the subcutaneous method. Jones remarks that justifiable conclusions are hard to draw from so short a series of cases, covering a limited period. The fact that two relapses out of six cases occurred after intravenous injections (thirty-three per cent.), while no relapse occurred after an intramuscular injection, is of interest as indicating a choice of methods in favor of the intramuscular. On the whole, from a standpoint of relief from suffering, leaving aside the question of permanent cure, arsenobenzol has been successful, as would be expected from the reports of other observers during the past half year. Finally, the shortening of the time of infectivity of the lesions of syphilis where arsenobenzol is used is of enormous importance in the military service from a sanitary standpoint and would alone justify its use, even if a permanent cure was not effected.

MEDICAL RECORD.

March 18, 1911

1. The Hygiene of Public Conveyances. By S. ADOLPHUS KNOPF.
2. The Importance of the Thread Impregnation Test for the Recognition of Ulcers of the Upper Digestive Tract, By MAX EINHORN.
3. Two Cases of Anthrax. By TRUMAN ABEL.
4. Non Occludes. By A[illegible] ADRIAN STRASSER.
5. A Sociological Experiment. By G. FRANK LYDSTON.
6. Multiple and Comminuted Fractures of the Metatarsal Bones in a Child, with Skiagraph, By MEDWIN LEALE.
7. Sudden Death Following Spinal Puncture for Diagnosis. By EDWARD M. COLE.
8. Short Talks with My Students and Others: Being Random Suggestions for the Younger Practitioners. By ROBERT H. M. DAWBARN.

1. Hygiene of Public Conveyances.—Knopf speaks of the ordinary railroad coach, the parlor cars, the sleeping cars, the elevated, surface, and subway cars. He gives many useful hints and suggestions. Thus, for example, he remarks: "Of what earthly use is an ordinance saying 'Don't spit' here or 'Don't spit' there when there is no provision to

spit somewhere. I firmly believe that a well kept spittoon with a sign above it 'Spit here' will be more effective than all the ordinances beginning with 'Don't.' Each coach should have, at least in each corner, a well kept spittoon, with a wide opening, and partially filled with water," but still better would be spittoons fitted with a cover which could be easily manipulated with the foot. He quotes a sign of a street car which reads: "Cleanliness of cars is impossible of accomplishment without the cooperation of all concerned. We ask you to assist us in keeping the cars clean. Will you do your share by refraining from leaving in, or upon, the cars newspapers, scraps, cigarettes, or cigar stumps, peanut shells, etc.?" "Nothing is more offensive than stale, half smoked tobacco to women and children, and to all those who do not smoke. It is very disagreeable even to smokers who may not be smoking at the moment. Thoughtlessness alone permits the bringing of half burned cigars or cigarettes, etc., into a street car."

2. **Thread Impregnation Test for Recognition of Ulcers of the Upper Digestive Tract.**—Einhorn reports thirty-six cases, thirty ulcers of the stomach and duodenum, one cirrhosis of the liver, and five gastric cancer with ulceration. In the cases the diagnosis of ulcer had to be made by the presence of most of the clinical symptoms with or without hæmorrhages. Only two of these patients were operated upon and the ulcer found at a corresponding spot stated by the thread test. An operation can prove only the correctness of the diagnosis, but if at a laparotomy no ulcer is found after a visual examination of the stomach without opening, then this is an insufficient proof that an ulcer does not exist. For it is clear that only those ulcers can be recognized by the surgeon which are of long standing and have already undergone marked changes, while small, fresh ulcers involving only the gastric mucosa and part of the submucosa cannot be recognized without opening the stomach. In a number of cases the test has been made several times; usually the results harmonize. Sometimes, however, there is a difference in the site of the brownish spot. This may be explained by the patient's involuntary pulling the thread somewhat out of position during the process of washing and dressing. There is at times a very long brownish discoloration for a great distance. This need not correspond to the size of the ulcer and can be easily explained by different parts of the thread coming into contact with the ulcer successively during the migration of the bucket through the pylorus and the duodenum. This is particularly noticed in malignant disease of the stomach, which as a rule presents fresh ulcerations. The thread test appears to be of importance not only in the recognition of the position of an ulcer, but also as a criterion of the efficacy of our procedures, especially whether a cure has been accomplished or not. In those cases in which perfect healing of the ulcer has taken place the test becomes negative.

7. **Sudden Death Following Spinal Puncture for Diagnosis.** Colie reports a case of sudden death following spinal puncture for diagnosis. The puncture was done without difficulty, observing the usual technique and choosing the usual site for the operation. About 5 c.c. of clear fluid flowed under increased pressure, then the flow became slow. As he was anxious to get sufficient of it for purposes of diagnosis he waited for 10 c.c. then withdrew the needle. At the end of the few minutes that he waited for this to happen the child had slightly roused and was able to cry feebly once or twice. Five minutes later, called to the child, he found rigidity general and absolute, the child black and asphyxiated, making no respiratory movements of any sort; jaws set, intercostal muscles spastic, diaphragm apparently not moving, the heart beating as during the previous part of the day. In a few moments, as the asphyxia deepened, all of the spasm relaxed, and the breathing was taken up. During the remaining portion of an hour, until the child died, the picture was one of alternate phases; general intense spasm until extreme asphyxia was reached when the phase of relaxation would set in and respiration would be resumed. The respiration during this time was of the Cheyne-Stokes type. The heart rate increased steadily until the heart stopped during one of the convulsions. Autopsy was performed. The author remarks: The chief interest of this case centres about the mechanism of death. He does not think that there can be any reasonable doubt that the immediate cause or occasion of the death was the spinal puncture. The interval of time (five minutes at the very greatest estimate) between the puncture and the onset of the terminal phenomena is too short to permit of other views. Ten cubic centimetres was a small amount of fluid, yet it is readily conceivable that just that 10 c.c. in the small spinal canal was sufficient to maintain a working balance with the greatly increased intracranial pressure. That the intracranial pressure was great was established at the autopsy. That there was not in this case a free communication between the cerebral and the spinal meningeal canals, is amply established by two facts, first, the fluid in the spinal canal was not appreciably increased in quantity, although under slightly increased pressure; secondly, the character of the two fluids was radically different; that of the spinal canal was normal in appearance, that of the cerebral cavity was pus. Again, the time that the child lived after the puncture was too short for the development of pus. The pus was there at the time. With a high degree of intracranial pressure and a free drainage through the spinal canal it is relatively safe to do a decompression by means of lumbar puncture. If, however, this free drainage is interrupted then this procedure is fraught with the risk of sudden death due to foraminal hernia. Foraminal hernia results in the anæmia asphyxiation of the medulla, with the consequent arrest of the function of respiration. That death is not always instantaneous in these cases is to be accounted for that by the pressure relieved below, the cerebral pressure crowds the medulla against the sides of the foramen magnum and down into it, causing an acute and complete cessation of the circulation in that portion of the brain. This anæmia continues until the accumulated carbon dioxide in the blood raises the arterial tension to a point where the circulation within the medulla is reestablished. Then respiration is resumed and the carbon dioxide con-

tent of the blood is reduced; with the recurrence of this there is a fall in the blood pressure until the circulation in the medulla is again throttled. Eventually the heart dilates in one of the phases of apnœa and the process terminates.

BRITISH MEDICAL JOURNAL

March 21, 1903.

1. Dilated Stomach. By Arthur F. Hurst.
2. Prevalent Rain-Bearing Winds and the Milk Supply of Manchester during the Years 1880-1900. By W. Gordon.
3. The Diagnosis of the Commoner Causes of Chronic Jaundice. By P. J. Cammidge.
4. Observations on the Urines of Marathon Runners. By Graham Chambers.
5. Intussusception of the Appendix. By J. W. Thompson.
6. Chronic Traumatic Mastitis. By G. Lenthal Cheatle.
7. An Unusual Form of Perineal Hernia. By A. G. [illegible].

1. **Dilated Stomach.**—Hertz, in speaking of the treatment of dilatation of the stomach, says: The most important part of the treatment of atonic dilatation is to ensure a proper amount of rest in the recumbent position. This is very valuable for the depressed nervous system, and it also diminishes the quantity of food required to maintain metabolic equilibrium, and so permits weight to be gained even if no additional food is taken. Moreover it places the atonic stomach in a position of mechanical advantage. This is particularly true if the patient lies on the right side. The patient should lie down as soon as the meal is finished, but sit up during the meal itself, as otherwise the food may stagnate and undergo fermentation in the dilated fundus, and not reach the pyloric vestibule at all until the next meal is taken. In slight cases it is only necessary for the patient to lie down for an hour after each meal; in advanced cases he should remain in bed all day until the tone of the stomach has improved. An ordinary mixed diet should be given, but the bulk of the meals should be as small as is compatible with the provision of a proper amount of nourishment, and no fluids should be drunk during meals. A glass of water may be taken on rising in the morning, a glass of milk or some broth or beef tea at 11.30 a. m., if breakfast is at 8.30 a. m., and luncheon at 1 p. m.; one or two cups of tea at 5 p. m., and a glass of milk last thing at night. Carbohydrates need not be restricted in uncomplicated cases of atony, but when there is any catarrh the quantity of sweet and starchy foods, which are liable to undergo fermentation in the stomach, should be reduced. Abdominal massage is often very useful. If an x ray examination has been made in the horizontal position the exact localization of the stomach will be known and consequently massage can be applied directly to the organ. If this precaution is not taken the massage may almost completely miss the stomach. The treatment should be given every morning an hour after breakfast, when the stomach is nearly empty, the duration of the treatment being gradually increased from ten minutes to half an hour. Electricity is of comparatively little value. His experiments have shown him that faradism is without action on the alimentary canal: a tonic contraction, however, occurs in the whole area underneath an electrode during the passage of a galvanic current, a greater effect being produced by the anode than the cathode, but the contraction is probably only slight with the maximum current the patient can tolerate, except in very thin individuals. If, therefore, there are facilities for electrical treatment, the large cathode should be placed on the back and a smaller anode is moved slowly over the gastric area. As strong a current as the patient can bear with comfort should be used, and the treatment may be given for ten minutes after the massage. It is doubtful whether drugs such as strychnine and ergot have any effect upon the tone of the stomach. The former, however, is often of use, as it improves the appetite and thus helps to overcome the malnutrition so often present. It may be combined with dilute hydrochloric acid, particularly if there is any deficiency in the gastric secretion, and with a bitter such as gentian, which stimulates the appetite and consequently increases the psychic secretion of gastric juice. When an aperient is required on account of constipation, which cannot be overcome by other means, a drug such as aloes is most useful, as it probably has a stimulating action on the gastric musculature analogous to that which it exerts on the colon. In complicated cases lavage is likely to do more harm than good. In severe cases complicated by catarrh lavage with plain water may be of use; the addition of antiseptics is unnecessary and likely to increase the catarrh: and it has been shown experimentally that sodium bicarbonate, which is commonly supposed to dissolve the mucus, does not do so under the existing conditions. The tube should be passed last thing at night, and the patient should try to evacuate any gastric contents through the tube before water is poured down. Not more than half a pint should be poured into the stomach, as larger quantities tend to increase the atony by the rapid distension they produce. It is rarely necessary to repeat the lavage with more than two successive half pints, and frequently the first half pint is sufficient. When there is much malnutrition, half a pint of milk containing some concentrated protein food may be drunk after the lavage. The author warns against gastro-enterostomy.

5. **Traumatic Mastitis.**—Cheatle calls attention to the relation between chronic irritation and cancer. He has repeatedly seen cases in which the position of cancer in the breast corresponded exactly to the site of bone pressure of the stays. Were inquiry to stop here, one would imagine a strong case had been proved, and that a definite relation existed between the constant irritation from bone pressure of stays and cancer of the breast. But on investigating the matter further, he says that he has also seen cases of cancer of the breast in which the corsets worn could not be definitely anatomically associated with the disease; for he has seen people with severe corset pressure on the lower parts of the breasts, but cancer appeared in the upper parts, where no pressure of the kind existed; and he has had patients suffering from cancer of the breast who had never worn corsets at all, and in many of these cases the cancers were situated exactly where injurious bone pressure would have been expected, that is, in the lower and outer margins of the glands. He has never seen a case of chronic trau-

matic mastitis from this cause develop into cancer; and it is rare to see a case of cancer in a breast which is also suffering from chronic mastitis from any cause. He does not believe that a breast suffering from chronic mastitis is very likely to be the seat of a cancer. The relation is by no means so close as that which exists between chronic superficial glossitis and squamous epithelioma, or between leucoplacia around the vulva or anus and squamous epithelioma. He does not assume that because cancer appears in most cases where direct local irritation is applied, this direct local irritation is the cause. At the same time one must realize that it is very common to find staybones impaling a breast at the point where cancer exists. Still, the relation between cancer of the breast and corset irritation cannot stand merely on the fact that the same area of the breast is affected by the two conditions.

LANCET

March 4, 1911.

1. Some Mediastinal Affections, By Percy Kidd.
2. The Immunity Reaction in Diagnosis, Especially of Tuberculosis and Syphilis, By W. d'Este Emery.
3. The Mechanical Treatment of Spinal Caries, By H. J. Gauvain.
4. The Education of the Deaf; Its Present State in England, with Suggestions as to Its Future Modifications and Development, By Macleod Yearsley.
5. A Case of Suprarenal Apoplexy, By Rupert Waterhouse.
6. Cranial Asymmetry Due to Postural Causes, By Hubert Ashton Armstrong.
7. A Case of Rodent Ulcer of the Thigh, By Herbert E. Friend and T. Crisp English.
8. Notes on a Case of Retention of Urine, By George W. Bury.
9. Infantile Diarrhœa, By William Tibbles.
10. Bone Setting and Its General Principles, By Frank Romer

2. The Immunity Reaction in Diagnosis.—Emery deals with the Wassermann reaction, and says that in England, with the exception of scarlet fever, which may cause it for a short time, no other disease gives rise to the reaction, or that it ever occurs in health. But it is admitted that a certain small percentage of cases of undoubted syphilis do not react, and this has been used to discredit the reaction altogether, though most unjustly. It is extremely difficult to see any theoretical reason for the occasional failure of a reaction which occurs in the vast majority of cases of the disease, and the question arises whether it is not possible that these apparent exceptions occur from the use of methods which may cause a weak reaction to be missed or from the use of reagents which have altered in constitution. He states most emphatically that he believes very good results can be obtained from all, or very nearly all, of the processes which have been employed—results so good that they constitute a priceless boon to the diagnostician. As to the several modifications of Wassermann's reaction Emery remarks that Noguchi's test seems to be more sound theoretically than Wassermann's, and observers who have performed parallel tests with the two speak highly of its value. But it is open to this objection: Noguchi, though he does not decomplement his serum, adds guineapig serum. Now this is unnecessary, and adds a useless reagent, besides which it is wrong, for the only error which could arise is that due to a possible excess of the natural complement, and not to its deficiency. Tschernugoboff's method is the same as Emery's in essentials, but he does not employ the proportions which Emery believes to be important, and he dilutes his blood without allowing it to clot, which is much more difficult and less satisfactory. Birt adds the corpuscles (human) at the first stage and the hæmolytic amboceptor subsequently. Emery states that he experimented with this at the commencement of his researches, but abandoned it. There is a possible theoretical objection to it (the occasional presence of isohæmo antibodies, which might, though rarely, cause spontaneous deviation of complement), and it makes the technique just a shade more complicated. Except for this, his method follows Emery's very closely. In his own modification Emery prepares an emulsion of sensitized washed human corpuscles by adding one volume of corpuscles to four parts of heated immune serum from a rabbit which has been injected with human corpuscles. The strength of this serum is of some importance. It must be strong enough to sensitize the corpuscles to a trace of complement, and it must not be strong enough to clump them instantly, so that they are shielded from the action of that substance. This is determined by experiment, and when the degree of dilution necessary is found the serum is diluted to that extent and placed in sterile ampules. It gradually loses strength, so that it is advisable to make it a little stronger than is required in the first instance. Enough of this twenty per cent. emulsion of corpuscles to last for some twenty experiments is prepared; the mixture is incubated for a few minutes to allow of the linking up of the amboceptor, and is then ready for use. For the test take one part of the serum to be examined and four parts of normal saline solution. The actual amount used is only about five cubic millimetres, and the various quantities are measured by means of a Wright's capillary pipette with marks indicating one and four units. Serum and saline are placed in a narrow tube in a water bath at 38° C. Next a mixture in identical proportions but made with diluted antigen is prepared, and placed side by side with the first. This is the test, the other the control. Other tubes of sera to be examined are prepared in the same way, and when these are done it will probably be time to complete the first test. For some extraordinary reason, which he has been unable to understand, it seems still to be the custom for workers at this reaction to allow the mixture to incubate for an hour or even longer at this stage. Emery showed last September that the combination takes place in five minutes or less at 38° C.; of course, if a large bulk of fluid is placed in an air incubator it will take an appreciable length of time to reach this temperature, but with small amounts of fluid in a water bath it is quite unnecessary to allow more. The second step is to add one part of the emulsion of sensitized corpuscles to each tube; if they have settled they must previously be mixed in well. If the balance be-

tween amboceptor is right the corpuscles in the control tube will be dissolved before they have time to settle, and if not they must be stirred once or twice, the tubes containing the actual test being stirred in a similar way. In a very few minutes the result can be read off. In a negative reaction both tubes show hæmolysis, complete or nearly so; in a positive one the first tube only will show hæmolysis, while in the latter the corpuscles will settle, leaving a colorless supernatant fluid. The actual technique of the quantitative determination of the strength of the reaction is as follows. First, a control test with normal saline solution (to make sure that there is abundance of complement) is made, and also a test with a dilution of extract at 1 in 30. If there is no hæmolysis in this tube it indicates a positive reaction. In this case a second test, at 1 in 100, is tried at once; if there is no hæmolysis in this still higher dilutions are taken, until the degree to which the extract must be diluted so that it does not inhibit hæmolysis altogether is found. The strength of the reaction is expressed by the weakest dilution, with which there is no trace of hæmolysis. For example, if there is a trace of hæmolysis with a dilution of 1 in 150 and none with a dilution of 1 in 100 the serum will be said to give a reaction at 1 in 100. If there is hæmolysis at 1 in 30 the reaction is probably absent, but if present is extremely faint. He usually tries also a dilution of 1 in 20. In a certain proportion of cases he tries dilutions of 1 in 10, either with normal sera or with sera which he has found to give a negative reaction at 1 in 20. This serves as a check on the extract. This should not be neglected; the few occasions on which he has obtained anomalous results have all been times when the extract has altered suddenly. The advantages of a quantitative method are numerous. It enables us to detect small traces of a reaction which would otherwise be overlooked. For instance, with a properly standardized extract he has never seen a complete reaction at 1 in 20 in any patient in whom syphilis could be excluded. At the same time, it is impossible to say that it might never occur, so that its significance is determined by the conditions of the case; for instance, it would render the diagnosis of syphilis in a case of tabes practically certain, but would be of much less importance in the case of a patient with a doubtful secondary rash and sore throat, in whom we should expect to get a much stronger reaction. Slight reactions—i. e., those at a dilution not greater than 1 in 30—are met with in very early cases, in very late cases, and in patients partially under the influence of mercury. In general, patients with well marked syphilis give reaction at 1 in 75 or 1 in 100, and often much higher. In a general way he believes that a high reaction indicates a severe case, but a very much more important question is how the reaction behaves under treatment.

6. Cranial Asymmetry Due to Postural Causes.—Armstrong states that the causes of cranial asymmetry may have been forces acting upon the bones from within or from without, and the earlier in life that they have been brought to bear the greater is their effect, owing to the yielding nature of the young bones. In infancy, too, the attention is drawn most forcibly to cranial asymmetries. Many interesting abnormalities have prenatal origin, or are due to traumatism in parturition; others arise from cranial or intracranial disease. The author deals in his paper only with posture as a cause of deformity, and more particularly with one characteristic variety. The effect of posture is, of course, the application of the law of gravitation. The position of the normal baby is so frequently varied that gravitation, if it have any effect in molding the cranium, acts symmetrically in the production of a normal skull. When the baby, or the circumstances surrounding it, are not normal, the action of gravity produces variations. A rachitic child, for instance, being soft of bone and inactive muscularly, lies much on its back, and the calvarium is consequently pushed forward—or rather "upward," as the child lies. This is one of the factors concerned in the production of the well known frontal prominence of the rickety head. To be strictly accurate, it is the face and base of the skull which, acted on by gravity, are pulled downward (backward) away from the calvarium, which, supported by the occiput, lies on the pillow and can descend no further. In cases of so called congenital torticollis, which are probably due to injuries of the sternomastoid and adjacent muscles at birth, a marked facial and cranial asymmetry is seen. The face is said not to develop fully on account of pressure on the carotid artery. This may be so; but if a sheet of paper is held in front of the face dividing it vertically into two halves, it will be seen that not only is the affected side smaller, but there is also a projection of the skull cap and chin toward the same side; a central line drawn down the face will thus be curved with the convexity away from the contracted muscles (the outline of which is traced from a professional portrait). This may also be the effect of gravity, acting partly as in the first instance (the child lies more comfortably on the healthy side), in part directly, when the infant is held in the sitting position. But by far the most marked examples of cranial obliquity occur as the result of nursing the infant at one breast only. The lopsided head which ensues is not so generally known as should be expected. The commonest reason for suckling an infant at one breast only is an abscess in the other, and one may often astonish an unobservant mother by diagnosticating that affection from the appearance of her baby's head. But one must not be too sure, as the fault can also be with the infant. Consequently, whether the alteration in the position of the head engendered by congenital torticollis can of itself give rise to a postural asymmetry or not, it certainly may do so secondarily in the manner described. The child is beginning to sit up unsupported; the additional weight in the left half of the head causes it to drop over to that side, thus perpetuating the state of affairs which led to this extra weight. With increasing strength this droop will be overcome. Most of these heads straighten themselves when suckling is over. For treatment he thinks it is well to instruct the mother or nurse to counterbalance the too frequent posture of nursing on one arm by carrying the child an equal length of time each day on the

... generally sleeps after being fed, this involves trouble, and the direction is rarely followed out. In addition, the mother should be told to be particularly careful while nursing to support that part of the head which sags, rather than to make the carrying point the usual one of the neck and base of the skull.

MUNCHENER MEDIZINISCHE WOCHENSCHRIFT.
February 27, 1911.

1. The Methods of Venepuncture and of Intravenous Injection, Particularly of Undefibrinated Human Blood, By MORITZ
2. Technique of the Intravenous Injection of Salvarsan, By IVERSEN.
3. Technique of Injections of Salvarsan. By BENARIO
4. The Specific Treatment of Yaws with Salvarsan, By STRONG.
5. Radiological Contributions to the Diagnosis of Ulcus and Carcinoma Ventriculi. By HAUDEK.
6. Nature and Treatment of Osteomalacia. By CRAMER.
7. Clinical Experiences with Adalin, a New Sedative and Hypnotic Containing Bromine, By SCHEIDEMANTEL.
8. Treatment of Sciatica with Epidural Injections, By GLIMM
9. Cancer Statistics in Bavaria during 1900, By THEILHABER.
10. Defect of the Pectoralis and Scapulæ Alatæ. By PUROKHAUER
11. Cavernous Angioma of the Brain Successfully Operated on, By BAUM.
12. Abnormally Long Retention of the Placenta, By HUEFFEL.
13. Mass of Hair in the Stomach. By KAMPMANN.
14. A New Orthodiagraphical Register. By BARDACHZI.
15. A New Sterilizer for Stomach Tubes and Catheters, By STREEBE
16. J. Forster, By BRUNS.
17. A Telecardiogram from Past Time. By BUCK

2 and 3. Technique of Injections of Salvarsan.—Iversen and Benario each describe an apparatus devised for the injection of salvarsan. The one described by Iversen appears to be the more simple.

4. Specific Treatment of Yaws with Salvarsan.—Strong reports the successful treatment of thirty cases of frambœsia, or yaws, with salvarsan. This forms a new evidence of the identity of frambœsia with syphilis. He considers it to be as distinct a specific against frambœsia as quinine is against malaria.

5. Radiological Contributions to the Diagnosis of Ulcus and Carcinoma Ventriculi.—Haudek gives as radiological criteria of the presence of a chronic ulcer of the stomach: 1. A diverticular protrusion in the picture of the distended stomach, usually along the lesser curvature. 2. The movability of this quantity of bismuth by palpation. 3. The remaining of a trace of bismuth at this place. 4. A semicircular bubble of gas above the spot of bismuth; this symptom complex he calls the "niche symptom" (*Nischensymptom*); sometimes when the patient is lying on his back this cannot be seen, but becomes visible when the patient is turned. 5. The constant contraction, sharply drawing on the greater curvature, may lead to an hourglass contraction. 6. The left position of the pyloric portion of the stomach, particularly marked in men, with the last piece of the greater curvature ascending sharply, are to be looked upon as the consequences of the contraction of the cicatrix of an ulcer situated high up and are therefore not indicative of a florid ulcer. 7. Great reduction of the motility of the stomach, so that a large part of the food remains at the end of six hours after the introduction of Rieder's meal. 8. Antiperistalsis of the stomach are both due to the spasm of the pylorus accompanying the ulcer, especially when it occupies a high position and thus are indicative of a florid, high placed ulcer. In ulcer of the stomach the niche symptom is frequently associated with a point of resistance sensitive to pressure in the region of the left rectus muscle above the navel.

7. Adalin.—Scheidemantel says that adalin, a combination of bromine and urea, is indicated in conditions in which a strong, restful action of bromine is desired and not a strong hypnotic. It thus occupies a place between the group of simple sedatives and that of the pure hypnotics.

9. Cancer Statistics.—Theilhaber finds from the statistics presented that cancer of the rectum is particularly apt to occur in persons who suffer from hæmorrhoids, and, secondly, in carpenters and blacksmiths, who are apt to have a venous stasis in the pelvis. Cancer of the stomach is a disease of poor people par excellence. Cancer of the face attacks chiefly those who work in the open air. The markedly great proportion of cancers of the stomach met with in old peasants as compared with well to do city people gives rise to the presumption that cancer is not a disease which is propagated by advancing culture.

12. Abnormally Long Retention of the Placenta.—Hueffel reports a case in which the placenta was removed after it had been retained at least eight weeks. It had caused very little trouble and its removal excited no inflammation.

WIENER KLINISCHE WOCHENSCHRIFT
March 2, 1911

1. Psychology and Pathology of the Emotions, By J. BERZE.
2. Studies Concerning the Value of the Antiformin Method of Detecting Tubercle Bacilli in the Tissues, By C. HART and O. LESSING.
3. Cardiac Murmurs and Enlargement of the Heart, By BIACH and CHILAIDITI
4. Epidemiology of Microspores in Vienna, By OTTO STEIN.
5. Acute Adenoids; a Contribution to the Study of Glandular Fever, By FELIX SCHLEISSNER

2. Detection of Tubercle Bacilli.—Hart and Lessing state that it is positive that tubercle bacilli in tissue subjected to the action of formol for half an hour and then frozen do not lose their vitality, as can be proved by animal experiment.

3. Cardiac Murmurs and Enlargement of the Heart.—Biach and Chilaiditi say that dilatation of the heart is not the cause of all cardiac murmurs not dependent on valvular lesions, but that the conditions of the walls and circulation of the vascular system must be held responsible for them in many nonanæmic and chlorotic cases, because in such cases an enlargement of the heart cannot be demonstrated orthodiagraphically.

5. Acute Adenoids.—Schleissner prefers conservative treatment in these cases and warns against local treatment of the adenoids during the attack. During the free interval the tonsils may need to be removed, but usually the number and intensity of the attacks diminish, and yet the remaining traces of adenoid tissue afford opportunity for new infections.

EDINBURGH MEDICAL JOURNAL.

March, 1911

1. Arterial Pressure, By G. A. Gibson.
2. Iodides in High Blood Pressure and Arteriosclerosis, By Edwin Matthew
3. On Congenital High Scapula. By David M. Greig.

1. Arterial Pressure.—Gibson, in speaking of arterial pressure, says that from numerous observations with our modern instruments by a large number of reliable observers it may be assumed with certainty that the normal systolic pressure in the young male adult does not exceed the limits of from 90 to 130 mm. Hg, while the diastolic is from 70 to 100. It is less in healthy women than in men of the same age, and still less in children. In healthy individuals variations in the arterial pressure take place without the presence of abnormal conditions, and must be accounted as normal. Daily fluctuations, probably dependent upon the condition of the whole system, are always found. The pressure usually reaches its highest level in the forenoon, after which it falls, frequently, however, manifesting another but smaller rise in the afternoon. Recognizing that such changes exist, we will be wise if we always take our readings in any individual at the same hour. When the pressure is studied by means of continuous tracings smaller variations, both in the level of the pressure and the amplitude of the oscillations, may be observed. They are clearly analogous to the Traube-Hering curves seen in physiological tracings taken with the kymograph, and they undoubtedly depend upon changes in the influence of the vasomotor nerves. The external temperature must exert some influence, but we still remain in want of sufficient observations upon the subject. So far, the general result of the investigations which have been made shows us that when an individual is exposed to any considerable alteration of the external temperature the arterial pressure is apt to rise. The atmospheric pressure exerts considerable influence over arterial pressure. Most of our knowledge upon this subject is due to Crile, who has shown that the external atmospheric pressure and the internal arterial pressure stand to each other in a direct ratio. Posture exerts a certain amount of influence. There is not much difference in arterial pressure between the recumbent and the sitting postures, but there is a much greater difference between sitting and standing. It is the diastolic pressure which undergoes the greatest changes, so that in this way the pulse pressure is diminished in the upright position. The influence of food is not constant. After a meal the pressure sometimes rises and sometimes falls. Diminution of pressure is easily accounted for by the diversion of blood into the abdominal viscera, but this may be balanced by reflex stimulation of the vasomotor system. Muscular exercise produces remarkable effects. Gentle exertion has little, if any, influence in raising arterial pressure, even when it is continued for a considerable length of time. Violent muscular exercise is followed first by a considerable rise of pressure, and this is succeeded by a striking fall at a later stage. Mental exertion has similar effects, but these vary with the intensity of psychical processes. The arterial pressure certainly falls during sleep; it is lowest in the early hours of normal sleep, rising gradually from that period until the hour of waking. The age of the individual has considerable influence. Until middle life there is no great departure from the normal limits of arterial pressure, but after that period there is undoubtedly a much greater tendency to a higher level. There are undoubtedly many individuals who retain comparatively low pressure during long lives, while in others a high pressure begins almost in youth. As a general rule, however, increase of age brings with it elevation of pressure.

2. Iodides in High Blood Pressure.—Matthew observes that iodides have a marked lowering action in high blood pressure, without arteriosclerosis; in advanced arteriosclerosis with high blood pressure iodides have no such action. Iodides act as vasodilators. To produce a beneficial effect in excess of tension, ten grains potassium iodide should be the initial dose. This should be rapidly increased if necessary. Organic iodides—in the therapeutic doses recommended—contain too little iodine to be efficient. Only in cases where iodides are contraindicated by alimentary disorders should sajodin (monoiodobehenate of calcium) be substituted in corresponding doses.

GLASGOW MEDICAL JOURNAL

March, 1911

1. What Are We Doing to Combat Infant Mortality By Leonard Findlay.
2. The Dr. James Watson Lectures on Recent Advances in Hæmatology. By William K. Hunter.
3. An Unusual Complication of Measles. By Alexander J. Cooper.

2. Hæmatology.—Hunter, in his paper on recent advances in hæmatology, speaks also about scurvy. He says that the ætiology and pathogenesis of scurvy still remain but imperfectly understood. The older theory, that it was due to an acid intoxication, has in recent years raised many objections, the chief being that in a considerable number of what seem to be cases of genuine scurvy there is no reduction in the alkalinity of the blood, and little abnormality as regards its coagulability. At present there is a tendency to regard the disease as infective in origin, and Babes has isolated a bacillus which he states is the specific microorganism of scurvy. Hutchison seems to favor the view that scurvy is an infective disorder, and he suggests that unsuitable food, exposure to cold and damp, fatigue, insanitary surroundings, and other conditions which formerly were thought to produce the disease, do not act as exciting causes, but rather by lessening resistance predispose to the growth of some specific virus. The blood in scurvy has the characters of a secondary anæmia, and in the majority of cases there seems to be little if any leucocytosis. The coagulability of the blood, as is known, is not materially altered, so that the hæmorrhages in scurvy cannot have the same explanation as in hæmophilia. Microscopical examination, too, has failed to show any definite lesion in the bloodvessels. From this point of view, then, it would seem as if scurvy should be classed with diseases of infective origin rather than with diseases of the blood.

Proceedings of Societies.

WESTERN SURGICAL ASSOCIATION.

Twentieth Annual Meeting, Held in Chicago on December [illegible] and [illegible], 1894.

The President, Dr. JOHN P. LORD, of Omaha, in the Chair.

(*Concluded from page 551.*)

Dr. GEORGE N. KREIDER, of Springfield, Ill., would say that with the latest development of the x ray picture we could definitely outline the kidney, distinguishing the pelvis from the substance of the kidney by the Snook type of x ray machine. It might be well to give the patient methylene blue, which would undoubtedly cause staining of the tissues about the injured kidney, and this with the radiogram might prove of great assistance in the diagnosis of these cases.

Dr. B. B. DAVIS, of Omaha, thought a great many nephrectomies had been done in the past unnecessarily, and we were beginning to realize the wonderful reparative power the kidney possessed. He had had one case in which he cut off the lower end of the kidney, removing about one third of the organ, and putting in a mattress suture below, with recovery of the patient. He believed that in many of these cases the suture was very much to be preferred to gauze drainage or gauze used to control hæmorrhage.

Dr. F. A. DUNSMOOR, of Minneapolis, said that it was not the mere escape of blood which produced death in these cases, but it was the mixture of urine with the blood and its absorption into the tissues, particularly in those complicated cases in which the abdominal cavity was contaminated.

Dr. ARNOLD SCHWYZER, of St. Paul, said that blood in the urine might be very scant. The first urine obtained should be examined not only by the eye but microscopically.

Dr. A. W. ABBOTT, of Minneapolis, wished to speak of some experiments which were made by a Minneapolis physician (Dr. J. Frank Corbett) for the purpose of determining the ultimate results of injury to the kidney. In the first place, where the kidney had been injured and the capsule only sewed together, if there was much blood left in the kidney, it was followed by inflammatory trouble usually, and then by a scar, and a large part of the kidney was rendered useless. The same results followed packing. The best results were obtained by the through and through suture, which passed through the kidney directly at about the outer limits of the pyramid. This was followed by less scarring, etc.

Dr. DANIEL N. EISENDRATH, of Chicago, wanted to endorse the position taken by Dr. Davis in contradistinction to that taken by Dr. Connell and Dr. Frick, and his experience was based on a personal observation of fifteen cases of subparietal rupture of the kidney. The conclusion from the study of these cases had been forced more and more upon him that the more conservative we were in the treatment of subparietal rupture of the kidney, the greater would be the percentage of recoveries, and he thought that was the tendency we saw in the foreign literature on this subject. He had seen some extremely severe cases where he thought he would do nephrectomy, but he had watched these patients bleed and bleed, and by simply leaving them alone they had recovered. Why did they recover? Granted that the kidney was extensively impaired, these patients were not good subjects for operation; they were suffering from considerable shock, and the manipulation necessary to find and grasp the bleeding artery, which perhaps had already become partly or completely occluded by blood clot, and then starting hæmorrhage in a fresh field, was attended with more harm than if we let these patients alone. We knew from experimental work on the kidney that if we tied off the renal vessels and left the kidney *in situ*, that kidney underwent complete atrophy, and within a period of a few months the kidney would be a mass of cicatricial tissues. That condition undoubtedly took place in a certain proportion of cases where the kidney had been severely injured.

Dr. E. W. ANDREWS, of Chicago, spoke of the case of a man with a ruptured kidney on whom he had operated and declined to remove the kidney, because he thought he had successfully ligated the bleeding point. Three days afterward there was another severe hæmorrhage and the man died within a few minutes. We could not get away altogether from the old teaching that a ruptured kidney was apt to terminate fatally, conservatively treated, nothing being done in the way of interference. He did not think we should stand by and let these patients with ruptured kidney have one hæmorrhage after another without doing something for them; but it did not necessarily follow that nephrectomy was the only operation of choice in these cases, for sometimes, as he had done in the case of injury to the spleen or liver, we could make a closure operation. In addition to ligating the bleeding points, we could close the injured kidney with rows of mattress stitches, and if such an operation was done under aseptic conditions it might give a percentage of successful results which would compare favorably with nephrectomy as a life saving measure.

Dr. WALTER COURTNEY, of Brainerd, Minn., had seen a good many cases of injury of the kidney. If the surgeon would wait a few days, as he might in most cases, provided hæmorrhage was not alarming and secondary anæmia had not taken place, a large number of these cases would gradually clear up, and it would be found that the kidney had only been contused.

Dr. JAMES E. MOORE, of Minneapolis, thought that it was only in exceptional cases that nephrectomy was justified for rupture of the kidney. A patient was brought into the University Hospital recently, thirteen days after he had been thrown in a runaway accident, and presumably had sustained a rupture of the kidney. He was brought to them in a moribund condition with his bladder full of clotted blood. He died. At the post mortem examination they found that he had sustained a rupture of one of the terminal branches of the renal artery just before it entered the kidney, and the presence of blood in the urine was accounted for by the fact that through pressure the blood had broken through into the pelvis of the kidney at a point below and found its way down the ureter into the bladder.

Dr. DONALD MACRAE, of Council Bluffs, said it seemed to him that it was well to take a middle

ground in dealing with injuries of the kidney. If we made a positive diagnosis of postperitoneal rupture of the kidney or of contusion, the case was not fraught with as much danger as other forms of injury to this organ. But if we found a patient was doing badly, we should resort to incision, with drainage or whatever was necessary to be done at the time. It was better, however, not to fuss with the kidney if we could help it.

Intussusception, with Special Reference to Adults.—Dr. Ellsworth Eliot, of New York, stated that intussusception in adults was of more importance than previous study would indicate. The causes in children were largely confined to acute intestinal disturbances, while in adults they were more varied. The rarer causes were foreign bodies and parasites, less rare were ulceration from diarrhœal diseases, tuberculosis, fæcal masses, etc. A more common cause was trauma, especially from severe muscular effort. Meckel's diverticulum was more common in children. The most frequent cause was a tumor, especially the benign polyp, with constricted base. The clinical course in children was fairly characteristic, while that in adults varied from one most acute to the very chronic. Of the individual symptoms there was a great variety. Constipation was the rule, but normal stools or diarrhœa might occur. Blood or mucus in the stools was less frequent and usually signified a tumor. A tumor varying in size and shape, especially during the attacks of pain, and changing its position along the course of the colon, was characteristic. The tumor appeared first in the right lower quadrant, but should be looked for in the pelvis or in a position covered by the liver or spleen. Distention, general or local, was variable. In the protracted cases the natural processes might cause sloughing of the intussusceptum, which was passed by the rectum. Of these, forty three cases were collected. Hope for such relief should not encourage conservative measures of treatment, for in usually less than eighteen months secondary obstruction occurred. He suggested, therefore, that after the acute symptoms had disappeared lateral anastomosis be done, connecting the bowel above with that below the affected portion. Treatment should in most cases be radical. With conservative measures complete reduction was never certain; recurrence was likely, and the initial manipulation lowered the resistance to subsequent operation. Reduction in the first twenty-four hours was accomplished by combined expression and contraction in from ten to fifteen minutes, reduction by either alone being dangerous. Recurrence was avoided by anchorage of the cæcum to the abdominal wall, by plication of the mesentery, or by long longitudinal endoplication of the cæcum along the anterior longitudinal muscular band. Gangrenous intussusceptum and intussuscipiens demanded resection followed by anastomosis or temporary enterostomy. Temporizing measures were enteroanastomosis and artificial anus. The procedure of choice was to gently reduce as far as possible and then resect. Complete reduction followed by resection was employed only where a tumor or the like was concerned.

The President's Address.—Dr. Lord greatly deplored the giving of commissions and dividing fees, and said that, realizing as he did that the practice of fee division, secret division, joint fees, commissions, graft, and possibly taking money under false pretenses, was increasing at an alarming rate among the younger element, and that in many cities and towns it was the usual thing, he undertook to arouse the members from their seeming lethargy. Teachers and hospital surgeons, as a rule, were established in their respective communities, and had not felt the force of this evil to so great a degree as to compel action. Those who followed would feel it keenly. Many young men were wrestling with this moral problem and would yield to the general trend of practice unless some aroused moral force within the profession or the effect of publicity checkmated this menace to professional honor, dignity, common honesty, and decency. He agreed with those who favored publicity as the speediest and most effective remedy. Then, too, they needed some Roosevelts to keep up a rapid fire attack upon this dishonest practice, and they should maintain a professional and public sentiment against any countenance of graft. The practitioners who had for years adhered to an inelastic fee bill found themselves with their financial wings clipped and unable to rise above the level of customary fees. The specialist was something of a law unto himself and most often got what he asked. These practitioners, therefore, availed themselves of the specialist's faculty of fee getting and asking to add a sum for them, as the people would object to paying them a proper amount.

The medical schools had been remiss in their ethical instruction to students. The subject had been eschewed in some faculties for fear of engendering feeling, developing strife, and endangering the integrity of the organization. The same silence had prevailed in medical societies because it might cost something to speak. Students were now without the close contact that was enjoyed in the days of the preceptors, whereas they now needed more of the moral and ethical side than ever before.

There had already been more harm done than could be overcome for a generation. Delayed action meant more sacrifice. The organized profession should busy itself in reformation and take its stand in the medical colleges, hospitals, and societies, and as individuals and organizations educate the public and reform their own members. The most hopeful view might be taken of the result. Any practice which even smacked of graft or of obtaining money under false pretenses could not endure before a righteous public opinion. Nor would it continue in a profession which had cherished ideals from Hippocrates and the whole line of medical saints, religiously followed by the vast majority during all the ages of the history of medicine.

Intestinal Obstruction due to Kinks and Adhesions of the Terminal Ileum.—Dr. Charles H. Mayo, of Rochester, Minn., said that the stomach suffered from many reflex conditions; only one patient in ten with gastric symptoms showed actual lesions. Many bowel conditions, such as obstruction and appendicular concretions, simulated symptoms of ulcer. The development of the midintestine included from below the common duct to and including the part of the transverse colon. Ten inches of the ileum was pelvic, was originally fixed

[illegible] and [illegible] detached at first except for a lateral opening. When this failed to take place obstruction was more apt to occur. In extensive appendicular operations in cases with obscure symptoms, Dr. Lane had noted an intestinal kink near the ileocæcal valve. He believed this to cause obstruction, often noninflammatory, and probably resulting from traction of the loaded cæcum to the pelvis. The symptoms often simulated those of appendicitis, ulcer, and various forms of constipation. With the present increased facilities for intestinal exploration, the four terminal inches of the ileum should be examined when possible in obscure cases of digestive disturbance.

Typhoidal Cholecystitis.—Dr. John E. Summers, of Omaha, said that much discussion had taken place as to the mode of invasion of the gallbladder by the typhoid bacilli. According to Chiari, the route of infection was not by ascension from the intestinal tract, but his theory of gallbladder infection by the typhoid bacillus was, first, the intestine, thence the blood, and then the gallbladder.

Dr. Summers reported several cases, one of which was a pure case of typhoidal cholecystitis, the gallbladder involvement giving symptoms at the beginning of the first relapse. The absence of any obtainable history of gallstones prior to the illness could fairly fix the initiation of the formation of the stone found in the common duct as taking place probably during the first part of the attack. The time from the beginning of the attack to the time of removal of the stone was from April 1st to August 22d—sufficient time for its formation. In so far as he was informed, this was the first case of typhoidal cholecystitis with probable formation of the stone during the attack in which the stone was removed from the common duct. Cultures from the centre of the stone were sterile—a finding which did not negative the origin of the stone as due to typhoidal chloecystitis. Cholecystostomy upon typhoid carriers, he thought, should be done whenever there was evidence of any infection in the gallbladder or ducts. In cases where no signs of inflammation could be found, it might be considered that possibly the nesting place for the bacilli was in the diverticulum, and an operation was not indicated. There was favorable evidence for the carrying out of cholecystostomy in these dangerous persons.

Plication of the Anterior Broad Ligament for Retrodisplacements.—Dr. A. W. Abbott, of Minneapolis, said the round ligament was not a natural support of the uterus, while the broad ligament was. Suture of the broad ligament just below the round ligament made an efficient support and conformed to the natural anatomical requirements. The operation was rapidly done. The failures were fewer than by other methods, and there was less pain after the operation.

Abdominal Exclusion of the Fundus in Complete Procidentia. Dr. Joseph Riley Eastman, of Indianapolis, stated that the question as to whether the uterus in its normal state was suspended by its ligaments and thus secured in position or was supported or upheld by the muscles and fasciæ of the pelvic floor, the ligaments serving only as guides, became in the presence of complete procidentia a question of lessened importance, for in these extreme cases hysterectomy or the abdominal operation with fixation was absolutely necessary, in addition to a thorough repair of the vaginal supports, with amputation of the elongated portio vaginalis and curetting. The fixation here referred to was not a classical one by which the fundus was sutured to the abdominal aponeurosis, but one in which the uterine fundus was drawn quite through the abdominal wound, the entire fundus being excluded and secured with a large transfixing pin. The pin was allowed to remain in place for two weeks and a half. It was not a rare experience to find a few months after a simple fixation the abdominal wall sunken in at the site of fixation and the prolapsus returning. In excluding the fundus in cases of complete procidentia, the aim had been to fix the uterus higher than could be done by an ordinary fixation, to provide for firm attachment of the peritonæum, muscles and aponeurosis at a low level upon the anterior, posterior, and lateral aspects of the uterine body. All the layers of the abdominal coverings were drawn snugly around the uterine body and sutured to that organ anteriorly, posteriorly, and laterally. The transfixing pin in the three cases reported was passed deep enough to exclude the entire fundus. Two patients thus operated on, though they were past fifty years of age, had not passed the menopause, and in one of these the uterine appendages were drawn snugly around the uterine body and sutured to that organ anteriorly, posteriorly, and laterally. The transfixing pin in the three cases reported was passed deep enough to exclude the entire fundus. Two patients thus operated on, though they were past fifty years of age, had not passed the menopause, and in one of these the uterine appendages were removed and in the other the tubes were divided and the peritoneal screen suggested by Ries interposed. In all three cases the abdominal operation was preceded by curetting, amputation of the cervix, anterior and posterior colporrhaphy, and perineorrhaphy. In each case the fundus had been covered over with skin, growing centrally from the periphery within two or three weeks. Owing to the firmness of the attachment and the elevation given by the transfixing pin, the possibility of sagging or detachment was minimized. The method offered the greatest possible uterine surface for fixation in the abdominal coverings. It made possible reduction of deformities caused by extreme relaxation as a simple intraabdominal fixation could not do, because the uterus was drawn higher and the firmer fixation prevented a yielding ligamentous fixation or a complete sundering of the attached structures, an accident which was perhaps less rare than was imagined.

Lesions of the Hip Joint and their Management.—Dr. John B. Murphy, of Chicago, spoke of the elements in connection with lesions of the hip joint and of an important principle governing the final results obtained in pathological conditions and in fractures. In his recent work in connection with fractures, in attaching the upper end of the femur frequently he found a definite condition occurring, namely, absorption of the neck. No such absorption took place in fractures in any other part of the body. It never occurred when there was a fracture in the upper end of the humerus. This absorption was due, he believed, to the primary condition of the circulation in the neck of the femur. When there was a fracture, a lesion, or disease, the repair of that lesion depended more upon the condition of the circulation in the neighborhood than on any other one thing, taking into account always the regenerative potency of the individual structure. In fractures that occurred close to the head of the femur there was practically no absorp-

tion at all; no fatty degeneration, no breaking down, no liquefaction of bone. When a fracture occurred close to the base of the neck and there was attachment to the trochanter, it did not tear off the bloodvessels in the capsule inside. That capsule went down and out and back in again, and the bloodvessels went in a proximal and distal direction, but the bone for a certain distance in a great majority of cases was absorbed. If there was a fracture of the neck of the femur which did not tear off the bloodvessels, then the portion between the trochanter and the head remained, and it was capable not only of revascularization, but of ossification, of regeneration, and of sustaining the neck.

In the management of fractures of the femur it had been the custom to dress them with a straight external splint. What did this do? It tended to shortening by shortening of the adductors, and shortening of the gluteal group of muscles attached to the trochanter, and not only that, the tendency of the adductors was to draw the limb inward, and there was shortening in that position. What the surgeon wished to do was to reduce to a minimum contraction during the process of absorption of this portion of the head of the femur, so that when absorption had taken place and the tissues were ready for regeneration, it was essential to have the parts in apposition. They could be best maintained in apposition by relaxing the group of muscles which did so much to cause shortening by putting on extension. The ambulatory management of tuberculosis of the head of the femur was wrong in his opinion. An ambulatory apparatus was applied to prevent motion, and as far as it inhibited motion in a joint it was valuable. But what should it be applied for? To prevent pressure on the inflamed part. When the products of infection were held under tension there was rapid destruction of tissue. This tension should be relieved. The first main principle should be to separate these articular surfaces by an extension apparatus, and then build up the patient to stimulate the process of repair.

Officers for the Ensuing Year were elected as follows: President, Dr. Amos W. Abbott, of Minneapolis; vice-presidents, Dr. A. E. Halstead, of Chicago, Dr. William Frick, of Kansas City, Mo; secretary-treasurer, Dr. Arthur T. Mann, of Minneapolis.

Kansas City, Mo., was selected as the place for holding the next annual meeting, on December 18 and 19, 1911.

Book Notices.

edge no obligation to review them all. Nevertheless, so our readers are likely to be interested.]

the Jefferson Medical College, Philadelphia, Dermatologist to the Howard and Philadelphia Hospitals, etc. Sixth Edition, Thoroughly Revised. With 289 Illustrations in the Text, and 34 Full Page Colored and Half Tone Plates. Philadelphia and London: W. B. Saunders Company, 1910. Pp. 1195. (Price, $6.)

The fact that this work has gone on to a sixth edition in [illegible] years is in itself the very best evidence of its superior quality. Dr. Stelwagon has improved on all previous editions by rewriting and adding to the text, eliminating some things that are now unimportant, and substituting twenty-five new illustrations for some that were of doubtful value. In consequence of the renewed interest in pellagra in this country, due to its recent development here, the author has wholly rewritten this subject, giving to it the importance it deserves. Sporotrichosis, grain mite dermatitis, brown tail moth dermatitis, granuloma annulare, and lichen nitidus have all been given due consideration.

Owing to the growing importance of tropical medicine to us in the United States, gangosa, tropical ulcers, and ulcerating granuloma of the pudenda have been incorporated.

The most important new treatment mentioned is that by refrigeration, particularly with carbon dioxide snow. The vaccine treatment of sycosis, acne, furunculosis, etc., is not extensively mentioned, the author believing that this method must still be viewed with conservatism and reserved for obstinate cases.

The section on tuberculosis cutis, including lupus vulgaris, scrofuloderma, tuberculosis verrucosa cutis, tuberculosis ulcerosa, and tuberculosis disseminata we consider one of the best in the book. The illustrations, as a whole, are good; the text throughout is very lucid and practical, reflecting the author's wide experience and mastery of the subject. The book is in every way a valuable and safe guide to the practitioner.

[illegible] Pp. 429.

The National Association for the Study and Prevention of Tuberculosis has published its transactions of the sixth annual meeting, which was held in Washington, D. C., May 2 and 3, 1910. After giving the usual business reports, the book contains a number of valuable contributions on the subject of tuberculosis. Very interesting also is a geographical list of the members of the society. Dr. Edward L. Trudeau, of Saranac Lake, N. Y., is the only honorary member, and the State of New York contributes the largest number of members, Pennsylvania being a close second.

Prof. Dr. Max Rubner. Leipzig: Akademische Verg[illegible] Pp. 48[illegible]

[illegible] Von Geheimrat Prof. Dr. Max [illegible] Leipzig: [illegible] m.b.H., 1908. Pp. 143.

The author of these two books succeeded Du-Bois Reymond in the chair of physiology at the Berlin University. But this is not the only reason why we Americans should listen to his words. His book on Power and Material in the Household and Nature is a beautiful credo of this German scientist, and is written in such a way that it will interest both laymen and professionals. It is a book which fascinates the reader and which, when we have finished it, we are sorry to leave.

The second book by Dr. Rubner touches a subject of great interest [illegible] furnish the best nutrient in the cheapest way. The Fourteenth Annual Congress for Hygiene and Demography, which convened at Berlin in 1907, had put up the thesis *Die*

volkswirtschaftlichen Wirkungen der Armenkost. (The economical results of a poor man's food.) Dr. Max Rubner and Professor Blauberg were asked to report upon this question. At the same Congress Professor Tigerstedt and Professor Forster reported on the thesis: What is the smallest amount of albumin by which man can thrive? All these essays appeared in the official communications of the meeting. Professor Rubner has in this book amplified his report and has written his side of the view of the second question.

Remedial Gymnastics for Heart Affections Used at Bad Nauheim. Being a Translation of *Die Gymnastik der Herzleidenden* von Dr. Julius Hofmann und Dr. Ludwig Pohlman. Berlin und Bad Nauheim. By John George Garson, M. D. Edin., etc., Physician to the Sanatoria and Bad Nauheim, Eversley, Hants. With Fifty-one Full Page Illustrations and Diagrams. New York: Paul Hoeber, 1911. Pp. xvi-128. (Price, $2.)

The admirable results that have been attained in the treatment of cardiopathies at Nauheim and the possibility of purchasing an apparatus that may be used anywhere to give the baths make the appearance of a book that describes the remedial gymnastics employed at that resort timely.

The author describes the chief systems of remedial gymnastics used in heart affections, the indications for and against the use of exercises in those maladies, the medical supervision necessary and methods of controlling the effects of gymnastics, the methods of testing their effects, the different ways in which they may be used, and the order of exercise.

The translator has performed his task satisfactorily, and his work will be of great assistance to those members of the medical profession who wish to know that part of the Nauheim treatment that may be carried out in ordinary medical practice.

Gynæcological Therapeutics. By S. Jervois Aarons, M. D. (Edin.), M. R. C. P. (Lond.), Gynæcologist to St. Anthony's Hospital, Fellow of the Royal Society of Medicine, Member of Obstetric and Gynæcological Sections, etc. With Foreword by Sir Halliday Croom, M. D., F. R. C. P., F. R. C. S., Professor of Midwifery in the University of Edinburgh. New York: William Wood & Co., 1910. Pp. xiv-178. (Price, $2.)

In this little volume the author has essayed to give the medical as opposed to the surgical treatment of gynæcological conditions. In the genuinely surgical conditions he does not hesitate to give surgical advice; while in many of the borderland cases no doubt many women could be relieved if the suggestions given were carefully followed. There is good advice given on douching and on tamponnade of the uterus, and a sensible chapter on constipation is included. As a handy reference book for the general practitioner in suitable cases, it can be recommended.

Manual of Diseases of Women. By W. E. Fothergill, M. A., B. Sc., M. D., Assistant Gynæcological Surgeon, Royal Infirmary and the St. Mary's Hospital, Manchester, Clinical Lecturer on Obstetrics and Gynæcology in the Victoria University of Manchester. With 144 Illustrations in the Text. New York: William Wood & Co., 1910. Pp. xix-433. (Price, $3.)

This manual of gynæcology presents a rather broader view of the subject than one expects to find in this class of work. Throughout, anatomical and pathological considerations prevail, and the treatment of diseased conditions is based upon the data furnished by these elements. In this respect the book differs widely from the frequently crude fellows of its class.

Beginning with diagnosis, the author takes up next developmental errors, circulatory changes, and mechanical conditions and injuries, including those of obstetric origin. Then follow sections on infection—this part of the book is especially good—on neoplasms, and on retrogressive conditions, including the menopause and "superinvolution." Throughout, there is manifested a spirit of scientific endeavor and of cautious criticism which renders it safe for the student's hands.

The illustrations are almost entirely original and depict very well what they are intended to show. For a small book on gynæcology, this is an admirable presentation of the subject.

MEDICOLITERARY NOTES

A very chaste corset advertisement states that the use of its subject will not enlarge the upper limbs; investigation of this remarkable statement shows that "upper limbs" is intended for a refined synonym of thighs.

* * *

Robert W. Chambers has created in The Common Law what really seems to be an entirely new situation in fiction. Miss Valérie West, in the April *Cosmopolitan*, has become engaged to be the hero's mistress early next June; meanwhile, the hero seems to have decided to use every possible artifice to entrap her into matrimony. We admit the possibility of this plaster hero, but the villainous artist in Shaw's The Doctor's Dilemma seems to us to be much more plausible. Craig Kennedy, the psychological detective, Arthur B. Reeve's hero, solves in this issue the mystery of The Seismograph Adventure, which will recall to older newspaper readers several famous murder trials in the vicinity of the metropolis. People who do not approve of polygamy will read with interest and indignation the continuation of The Viper on the Hearth, by Alfred Henry Lewis.

* * *

The Philanthropist, by Richard Washburn Child, in the April *Cosmopolitan*, Mr. Brimmer by name, does not like Dr. Shackford and thinks the doctor does not like him because he has announced that the patient has hepatic cirrhosis and will shortly be an unlovely spectacle from ascites; Mr. Brimmer is mistaken. Beneath Dr. Shackford's rugged professional exterior beats a kind and generous heart, and he permits the millionaire philanthropist to go and die in a public ward of a hospital for the sake of the company, according to the expressed whim of the eccentric old gentleman. We think that the heroine of Why I Left My Husband, by Virginia Terhune Van de Water, was justified in her unusual step, but the husband was an extraordinary pig even among husbands; every man knows a husband to whom he would like to send a marked copy of this story. The article on Wonderful Feats of Wizards of the Air impresses upon us the unsuitability of aviation as a recreation for a busy practitioner.

Judge Lindsey, of Denver, has lent his influence to the movement to raise the ban on training children for the stage. Forbidding children to act is a relic of old superstitions regarding the theatre. There are no happier youngsters anywhere than those engaged in theatrical performances; their hours are short, the pay is liberal, and they are treated kindly, all of which forms a tremendous contrast to the circumstances under which the factory child passes his weary and underpaid hours. The grim humor of the situation is that many States which forbid children the stage as a profession allow many thousands to do the hardest kind of work in factories. The morals and manners of grown up players are the same as those of other kindly and well to do people, better, as a rule, than those of the average factory hand. The only drawback to the employment of children on the stage is the likelihood of their "schooling" being neglected; that is a matter that could be easily remedied.

* * *

Any moralist can draw an obvious parallel between the condition of the Central Park squirrels and that of an exclusive and moneyed class of human beings. The squirrels have been ruined by luxury; they lose their teeth, suffer from indigestion, and are so fat and lazy that they get run over by vehicles. This degeneration is the outcome of feeding by visitors, which has also caused the squirrels to forget their habit of hoarding nuts for the winter. The remedy proposed is to import two hundred and fifty wild squirrels. We do not believe that the latter will interbreed exactly as expected; rather they will destroy the males among the fat and lazy urban citizens. It will be an invasion of the Goths, the beginning of a new civilization, and a repetition of the present history. Doubtless the females will abandon their obese lords and hasten to the wiry and soldierly newcomers.

* * *

We hope that the experiment of giving Sunday to the letter carriers has proved to be a success; they are a hard working, civil, and obliging class of citizens, and even their excellent health hardly compensates them for the lack of a weekly holiday. The result is said to have been, in part, a great increase in the work of a few clerks in preparing the mail for Sunday morning distribution at the stations. Why not do away with Sunday morning distributions? Men who cannot wait till the beginning of the business week for their mail are afflicted with a mania for commerce that needs a check. In no fanatical spirit we urge such people to visit the churches; they have little idea how interesting and beautiful the services have become during the past two or three decades. There is a real scientific basis for church going, to say nothing of the claims which are out of our province.

* * *

Doctors ought to read Other Girls Are Pretty; Why Can't I Be? by Claire Wrenn in the *Ladies' Home Journal* for March 15th; it tells of complexions and physiques ruined by quacks, who inject paraffin and prescribe corrosive sublimate with ignorant recklessness. A muddy complexion or a face marred by an eruption is the doctor's business as an obvious symptom of some pathological condition; some of these cases are due to *syphilis insontium*. The profession is not sufficiently jealous of its rights and privileges; it allows refraction, deafness, and dermatological and genitourinary cases to go over to irresponsible quacks without a murmur, actually increasing disease and suffering. Soon the regular graduate will be restricted to bedridden cases. There is too much individualism in the medical profession and not enough team work. The system of popular lectures under the auspices of the public schools as conducted in New York should be introduced into every town and hamlet in the land; then the doctor, always welcome as a free teacher, can tell the people, among other things, that quacks deal generally with methods and remedies that the regular physician is busy forgetting. We cannot help thinking that bacteriology can be made entertaining to a lay audience by the proper lecturer; there has been, *semper, ubique, et ab omnibus*, a racial fear of the invisible powers of the air. Show the people that we are the only accredited St. Michaels to cast them into the pit.

* * *

The *Delineator* for April contains a posthumous article by David Graham Phillips, What is a Successful Wife? It is a bitter arraignment of a certain type of modern American women, well worth reading and likely to elicit intelligent contradiction. What was particularly needed is its denunciation of the pseudoculture that deceives so many of its possessors into the notion that they are intellectual. What Your Husband Doesn't Tell You is an article by A Discerning Wife; fortunately, colleagues, the list is very incomplete.

* * *

A lecturer told the hotel stewards of New York recently that most of the preserved fruits served to guests contained ethers, chloroform, or formaldehyde; that the maraschino cherry was first bathed in sulphurous acid, dyed with a red aniline, and subsequently preserved in benzoic acid; that the molasses contained sulphur dioxide; that the rice was overpolished; and a few other important facts. Now, if the hotels begin to serve absolutely pure food, shall we be able to pay the *additions?*

NEW PUBLICATIONS

Fifty-first Annual Report of the Medical Superintendent of the Matteawan State Hospital for the Year Ending September 30, 1910. Pp. 62.

Preliminary Announcement of the Eighth International Congress of Applied Chemistry, to be held in the United States in September, 1912. Pp. 31.

Twenty-sixth Annual Report of the Adirondack Cottage Sanatorium, Saranac Lake, N. Y., for the Year Ending October 31, 1910. Pp. 22.

Wiley, Harvey W.—Foods and Their Adulterations. Origin, Manufacture, and Composition of Food Products; Infants' and Invalids' Foods; Detection of Common Adulterations, and Food Standards. With Eleven Colored Plates and Eighty-seven Other Illustrations. Second Edition, Revised and Enlarged. Philadelphia: P. Blakiston's Son & Co., 1911. Pp xii-641. (Price, $4.)

Morrow, Albert S.—Diagnostic and Therapeutic Technic. A Manual of Practical Procedures Employed in Diagnosis and Treatment. With 815 Illustrations, Mostly Original. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 850. (Price, $5.)

Cumston, [illegible] [illegible] Textbook of Surgical

[illegible] Second Edition. Revised, with 389 Original Illustrations. Philadelphia and London: W. B. Saunders Company, 1900. Pp. 675. (Price, $5.)

Gouraud, F. X.—What Shall I Eat? A Manual of Rational Feeding. With a Preface by Prof. Armand Gautier, of Paris. Only Authorized Translation into the English Language, by Francis J. Rebman. With a Glossary Containing Definitions of the Principal Technical Terms, and an Index of Diseases Referred to in the Text. New [illegible] Rebman Company, 1911. Pp. xvi-379.

The A. T. Still Research Institute. Bulletin No. 1. August, 1910. Pp. 63.

Hale, Worth.—Digitalis Standardization and the Variability of Crude and of Medicinal Preparations. Hygienic Laboratory Bulletin No. 74. Washington, D. C.: Government Printing Office. Pp. 53.

Frost, Wade H.—Acute Anterior Poliomyelitis (Infantile Paralysis). A Précis. Public Health Bulletin No. 44. Washington, D. C.: Government Printing Office, 1911. Pp. [illegible].

Miscellany.

Pellagra as Seen in Italy.—Caccini states that "pellagra" is a word of the dialect of Bergamo, Italy, where the disease first appeared, and is a compound of the words *pelle* (skin), and *agra* (rough). Particularly in view of the recent discussions as to the ætiology of the disease, he believes that a good definition of it is still that of Bouchard: "La pellagre est un maladie générale chronique, à exacerbations vernales, caractérisée par des désordres variés du tube digestif et de l'axe cérébrospinal et par un érythème qui siège sur les parties exposées aux rayons solaires." Lombroso, from the testimony of Barnino, Maffei, and other writers of the sixteenth century, gathers a description of a condition similar to that of pellagra, affecting the North American Indians, who fed on damaged corn. Spanish writers of the same period describe a disease that was frequent in Mexico, affecting horses which fed on corn (paretic or tabetic conditions, with loss of intelligence and hair). Since 1735 Consal observed pellagra among the peasants of the Asturia provinces of Spain. He described it only in 1765, and called it "mal de la rosa." Italian observers described cases somewhat before Frapolli (1771) published a description of it distinguishing it from other diseases There is reason to believe that it had long before existed and that it was simply overlooked, by the fact that in 1789 it had so vastly spread throughout the northern part of the country that the government of Joseph II had to open a special hospital at Legnago. It traveled very slowly, for we see that after a lapse of two centuries since it was first described in Italy, it was only now beginning to invade the central and southern provinces. Interesting observations were published in Italy by Zanetti, Gherardini, Odoardi, and Fanzago in the eighteenth century, before Consal's work became popular: it was Fanzago who, in 1789, revealed the identity of the new disease in Italy with the "mal de la rosa" of Consal. Hameau in France, in 1828, communicated to the Académie de Médecine of Bordeaux cases observed by him ever since 1818. About 1850 it was discovered in Rumania, Poland, and Greece. Roussel, in his *Traité de la pellagre*. Paris, 1866, describes cases in North Africa. At present the disease is limited to certain portions of the northern provinces of Spain, the western and southern provinces of France, northern and central provinces of Italy, and the Danubian and Balkan States—Moldavia, Wallachia, Rumania, Greece, and Poland. It occurs frequently in Egypt and occasionally in India, Mexico, and South America. In the United States the disease has been described only lately, occurring sporadically; and after the publication of cases seen by Gray, of Utica, N. Y. and Tyler, of Somerville, Mass., no case was recorded in the North American medical literature until 1883, when Sherwell, and later Harris, of Atlanta, Ga., described one case each. It was not until 1907, after the observations of E. J. Wood, R. H. Bellamy, and J. B. Wright, all of North Carolina, that the disease attracted much attention in the United States. In 1908 J. J. Watson and J. W. Babcock, of South Carolina, identified the disease as the Italian pellagra. At the present time, although in small number, cases are discovered all over the country. ——The essential cause of pellagra is still unknown. While we should follow with keen attention the new theories and the result of the researches on the ætiology of pellagra conducted through new lines far apart from the theory well established by Lombroso, based on the use of Indian corn, and to its late modifications, we must still be cautious in casting aside the result of careful investigations (based on well established data coming to us from the history, statistics, epidemiology, and the clinic, as well as from the laboratory) to embrace in our enthusiasm mere suggestions of young observers. Sambon's and Alessandrini's theories that would tend to make of pellagra a disease of protozoal or parasitic nature, respectively, are yet to be considered as mere suggestions, rather than theories or even intuitions of a new theory. As to the development in the United States, he concludes that pellagra has been present in the United States in sporadic cases for a long time, but it has lately been diffused everywhere in the different States, assuming an epidemic character. In the United States the disease assumes a more acute course in contrast to its characteristics in Europe, and particularly in Italy, where, although very common, it has always the character of chronicity, and the erythema never assumes the severe character which it does in the United States. The disease is relatively frequent among the well to do class in America, while in Europe it is essentially limited to the poor farming [illegible] (*Medical Record* March 11, 1911.)

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of [illegible] cholera, yellow fever, plague, and smallpox [illegible] reported to the surgeon-general of the United States Public Health and Marine Hospital Service during the week ending March 10, 1911:

Places	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Arabia—Aden	[illegible]	[illegible]	[illegible]	[illegible]
Arabia—Hodeida	[illegible]	[illegible]	30	[illegible]
Arabia—Mocha	[illegible]	[illegible]	50	20
Arabia—Obeid	[illegible]	[illegible]	[illegible]	[illegible]
Arabia—Zeila	[illegible]	[illegible]	[illegible]	[illegible]

Place.			
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

HESS, LOUIS T., Major, Medical Corps. Ordered to proceed to Galveston, Texas, and report for duty with the field hospital to be established at that place.

HOFF, JOHN VAN R., Colonel, Medical Corps. Ordered to proceed to Albany, N. Y., to read a paper at the meeting of the Medical Society of the State of New York, on or about April 18 or 19, 1911, on the subject of Experience of the Army with Vaccination as a Prophylactic against Smallpox.

KELLY, JOHN P., First Lieutenant, Medical Reserve Corps. Ordered to duty at Fort Hamilton, N. Y.

KOYLE, FRED T., First Lieutenant, Medical Reserve Corps. Ordered to proceed to Newport News, Va., for assignment to duty on a transport.

LOWE, THOMAS S., First Lieutenant, Medical Reserve Corps. Ordered to proceed from Whipple Barracks, Arizona, to Fort Apache, Arizona, for temporary duty.

MANLY, C. J., Major, Medical Corps. Will proceed without delay from San Antonio, Texas, to Galveston, Texas, and report to the Commanding General, First Separate Brigade, for assignment to duty.

MARIETTA, SHELLEY U., First Lieutenant, Medical Reserve Corps. Resignation accepted by the President, to take effect on March 10, 1911.

O'CONNOR, C. H., Major, Medical Corps. Ordered to proceed to San Antonio, Texas, and assume command of Ambulance Company 38, to be assembled at that place.

PURNELL, HARRY S., Captain, Medical Corps. Ordered to the Army General Hospital, San Francisco, California, for duty.

RAGAN, CHARLES A., Captain, Medical Corps. Relieved from treatment at the Walter Reed General Hospital, D. C., and from further duty in the Philippines Division and assigned to temporary duty at the Walter Reed General Hospital, Takoma Park, D. C.

REYNOLDS, F. P., Major, Medical Corps. In addition to other duties will perform the duties of medical superintendent of the transport service at Newport News, Va.

WEED, FRANK W., Captain, Medical Corps. Ordered to proceed to Galveston, Texas, and report for duty with the field hospital to be organized at that place.

WHITCOMB, C. C., Major, Medical Corps. Promoted to the rank of major in the medical corps, from January 1, 1911.

Orders have been revoked which directed the following officers in the Medical Corps to take a course of instruction at the Army Field Service School for Medical Officers, Fort Leavenworth, Kansas: Major F. P. Reynolds, Major P. C. Fauntleroy, Major Jere B. Clayton, Major William N. Bispham, Captain James L. Bevans, Captain Henry D. Thomas, and Major Elmer A. Dean.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy during the week ending March 18, 1911

BENTON, F. L., Surgeon. Detached from the *Idaho* and ordered to the *Franklin*.

COOK, F. C., Surgeon. Detached from the *North Carolina* and ordered home to await orders.

CRANDALL, R. P., Surgeon. Detached from the *Hancock* and ordered to treatment at the Naval Hospital, New York.

DYKES, J. R., Passed Assistant Surgeon. Detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the Navy Yard, Portsmouth, N. H., and to additional duty in connection with the *Southcry, Topeka*, and Naval Hospital.

HOYT, R. E., Passed Assistant Surgeon. Detached from the Naval Hospital, Mare Island, California, and ordered to the *Buffalo*.

MCDOWELL, R. W., Assistant Surgeon. Detached from the Naval Academy and ordered to the Bureau of Medicine and Surgery, Navy Department.

MICHELS, R. H., Acting Assistant Surgeon. Appointed an acting assistant surgeon from March 10, 1911.

MORRIS, L., Surgeon. Detached from the naval supply depot, Navy Yard, New York, N. Y., and ordered to the *Hancock*.

OHNESORG, K., Surgeon. Detached from the *Virginia* and ordered to the *Prairie*.

OLD, E. H. H., Passed Assistant Surgeon. Detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the *North Carolina*.

PLUMMER, R. W., Surgeon. Detached from the *Idaho* and ordered to the *Franklin*.

RICHARDSON, R. R., Surgeon. Detached from the *Prairie* and ordered to the *Virginia*.

WIERZBICKI, S., Pharmacist. Detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the *Solace*.

Births, Marriages, and Deaths.

Died.

AYO.—In Thibodaux, Louisiana, on Saturday, March 11th, Dr. Samson A. Ayo, aged thirty-eight years.

BOWDITCH.—In Jamaica Plain, Massachusetts, on Monday, March 13th, Dr. Henry Pickering Bowditch, aged seventy-one years.

BOYD.—In Philadelphia, on Monday, March 6th, Dr. John S. Boyd, aged sixty-two years.

COOPER.—In Troy, New York, on Friday, March 17th, Dr. William Clark Cooper, aged fifty-one years.

EVANS.—In Williamstown, Ohio, on Friday, March 3d, Dr. Benjamin David Evans, aged eighty-two years.

FRY.—In Miami, Florida, on Monday, March 13th, Dr John W. Fry, of Syracuse, New York, aged fifty-five years.

GRAY.—In Jenkintown, Pennsylvania, on Sunday, March 12th, Dr. Alexander R. Gray, aged seventy-eight years.

GUMBERTS.—In Rochester, New York, on Wednesday, March 15th, Dr. Albert R. Gumberts, aged fifty-three years.

HALL.—In New York, on Friday, March 10th, Dr. Samuel Hall, aged ninety-one years.

HAPGOOD.—In Pittsburgh, Pennsylvania, on Monday, March 6th, Dr. Lowrie Payne Hapgood, aged thirty-five years.

HARGROVE.—In Natchitoches, Louisiana, on Friday, March 10th, Dr. J. B. Hargrove, aged thirty-seven years.

HART.—In Butler, Pennsylvania, on Monday, March 13th, Dr. Charles A. Hart, aged thirty-three years.

HIEBER.—In Pittsburgh, Pennsylvania, on Saturday, March 11th, Dr. John H. Hieber, aged sixty-eight years.

JOHNSTON.—In Wellsburg, West Virginia, on Saturday, March 4th, Dr. J. P. Johnston.

KUHNS.—In Centre Valley, Pennsylvania, on Monday, March 6th, Dr. Harry B. Kuhns, aged forty-five years.

LIGNON.—In Mobile, Alabama, on Friday, March 10th, Dr. Greenwood Lignon.

MCCONNELL.—In Altoona, Pennsylvania, on Sunday, March 12th, Dr. Charles W. McConnell, aged forty-three years.

MILLER.—In Hartford, Kentucky, on Saturday, March 11th, Dr. Joseph T. Miller, aged seventy-one years.

OUTTEN.—In St. Louis, Missouri, on Sunday, March 19th, Dr. Warren B. Outten, aged sixty-six years.

RICHMOND.—In Newark, New Jersey, on Sunday, March 12th, Dr. John B. Richmond, aged eighty-one years.

ROEBUCK.—In Lititz, Pennsylvania, on Thursday, March 9th, Dr. Peter J. Roebuck, aged seventy-two years.

RUGGLES.—In Brewster, New York, on Tuesday, March 7th, Dr. W. S. Ruggles, aged thirty-one years.

SACRIDER.—In East Randolph, New York, on Sunday, March 12th, Dr. John H. Sacrider, aged sixty-two years.

SCHIEMANN.—In New York, on Friday, March 10th, Dr. Hosias Schiemann.

STEWART.—In Mount Clemens, Michigan, on Tuesday, March 7th, Dr. George Duffield Stewart, of Detroit, aged fifty-six years.

TAYLOR.—In Biloxi, Mississippi, on Thursday, March 9th, Dr. Frederick C. Taylor, of Cleveland, Ohio, aged forty years.

THRIFT.—In Madison, Virginia, on Monday, March 6th, Dr. E. M. Thrift, aged thirty-nine years.

WAY.—In Woodsfield, Ohio, on Thursday, March 9th, Dr. Joshua Way, aged seventy-four years.

WHEELER.—In Flushing, Michigan, on Friday, March 10th, Dr. Charles S. Wheeler.

WILLARD.—In Goresville, Virginia, on Monday, March 6th, Dr. Daniel B. Willard, aged fifty-four years.

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TRACHOMA

As it Exists in the Disease as Encountered [illegible] District of Philadelphia.

BY SAMUEL HORTON BROWN, M.D.

Philadelphia

The renewed interest recently taken in the subject of trachoma in Philadelphia prompts a citation of the work done in this disease at Mt. Sinai Hospital, the only fully equipped hospital in the Ghetto district of this city. The disease is more or less familiar to the foreign population on account of the examination of the United States Government inspectors, but the real nature of the disease and its status in the United States is not fully appreciated. In order to make this essay more complete and also to illustrate the great advance that has been brought about by the United States Government's attitude, the work of J. Boldt on *Trachoma* has been freely drawn upon for data as regards history and distribution of the disease, for which acknowledgment is hereby made.

Trachoma is a very old disease and has been referred to by the ancient Greek and Roman writers as early as the fourth century B. C. An examination of nearly two thousand Nubian mummies by Elliot Smith and Wood Jones shows that trachoma existed among these early people. As ophthalmology was practised 3,400 years ago in Egypt it is reasonable to assume that the disease must have received considerable attention at that time if it existed to any great extent. However, it is difficult to believe that Egypt was the birthplace of the disease, as is so frequently stated, in view of the wonderful works of the early Egyptians, which certainly required a high degree of visual acuity. In fact, Hippocrates referred to it as a most hygienic locality. Herodotus informs us that it did not become an unsanitary country until after the visitation of the plague in 532 A. D. It is reasonable to suppose, therefore, that trachoma as an epidemic dates from the decline of civilization in this section. The earliest reference to the disease as a pandemic eye disease in Egypt was made by Prosper Alpinus, a Venetian physician, who practised in Cairo in 1580. The disease was not designated as Egyptian ophthalmia until after the Napoleonic campaign in that country.

It is probable that the disease existed in ancient India and China, but it is doubtful if it was isolated from the other contagious diseases so prevalent there. The innumerable references made to the disease by Aristophanes, Hippocrates, Plato, Plutarch, Ovid, Seneca, Galen, Paulus Ægineta, and other early Greek and Roman writers attest the antiquity of the affection. It went by the name of "ophthalmia," "lippitudo," and "aspritudo" until 60 A. D., when it received the designation "trachoma" from Pedanius Dioscorides, which term was popularized through the efforts of Rosa in 1834 and by other subsequent investigators. The extensive bibliography of the disease shows that the affection was quite common in ancient times in Greece, Asia Minor, Sicily, Lower Italy, and in the Hellenic empire of the Roman emperors.

It is curious to note in passing that while the Arabian physicians, especially Rhazes and Avicenna, were very keen in their observations upon ocular affections, their writings upon prevailing ophthalmias are very vague and confusing. Reference to the writings of the early physicians of Europe tends to disprove the statement that Egypt and Napoleon Bonaparte are alone responsible for the disease, as is so frequently stated. In the thirteenth century it is mentioned by Benvenutus Graphæus, who states it was more prevalent in the East than elsewhere. Guy de Chauliac described it in the fourteenth century, and Ambroise Paré refers to it in the sixteenth century. Franco writes of it in 1561. Bartisch outlines treatment for it in 1583. St. Yves considers it in 1722. About the same period, or perhaps a little later, it was observed in Spain and Portugal by Lusitanus. The disease was seen in Holland by Forestus. It was observed epidemically among the English troops as early as 1699. The English physicians of this period referred to it as "mulberry eyelids." Penada observed it in Padua in 1788, and Joseph Beer wrote of it in 1792.

However, despite its widespread distribution, trachoma did not become an infection of great importance until the Napoleonic expedition when by reason of the several contributing factors it attained an astonishing virulence, constituting one of the greatest plagues in history.

In the early summer of 1798, Napoleon Bonaparte landed a large army in Egypt and took part in several victorious engagements but failed to take into consideration the season of the year and the diseases incident thereto. Consequently in no time the victorious army was attacked by virulent types of the various military epidemics, prominent among which was trachoma. While the mortality from the other infections was high, the effects of trachoma lessened the fighting efficiency of those that survived. After the army left the coast section in 1799,

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the affection gradually disappeared, but when the troops were moved toward Alexandria in the spring of 1801 it began to spread again, so that within a very short time more than two thirds of the French army was attacked. The soldiers stationed along the banks of the Nile were affected with greatest frequency. The epidemic did not subside until the remnant of the French army was removed in August 1801, in English vessels.

With the return of the army to France, the epidemic character of the disease disappeared (in the French army) and only sporadic cases were observed from 1801 to 1816. The affection did not attack the civil population of France to any noteworthy extent.

The English troops under Abercrombie, which landed in Egypt in 1800, were almost all attacked by the disease, so that special hospitals had to be erected to accommodate the soldiers of both armies. The French army surgeons regarded it as an ordinary catarrhal condition of the eyes, but the English immediately recognized its contagious nature and specific characteristics. While the French troops returned to France and the disease they carried subsided, the English army staid until 1803 and disbanded after the evacuation. The English soldiers then were distributed to Malta, Sicily, Gibraltar, Portugal, Spain, Great Britain, and other countries, only to infect the inhabitants and perpetuate the disease as an epidemic. The effects of the disease were so marked that by 1818 there were over 5,000 recorded cases of blindness from this cause among the English soldiery, and the English government was compelled to donate approximately $500,000 a year for their care. The civil population of England was also affected to an astounding degree.

While the French soldiers did not carry the disease into France to any extent, they were responsible for having infected the Italian troops on their way home from Egypt, as the disease made its appearance as an epidemic directly after their landing on Italian soil in 1801. The disease maintained its epidemic form in Italy, and the civil as well as military population suffered extensively. Some authors, however, have shown that the disease existed in parts of Italy as early as 1792. The Italian troops communicated the disease to the Hungarians. The Austrian and Prussian armies remained comparatively free from the disease as the result of their contact with the French and Italian troops. Doubtless the Egyptian campaign was responsible for the epidemic character of the disease and its introduction into Europe, yet it is scarcely just to regard the French army as the sole intermediate host, since their soldiers did not suffer to any extent on native soil, and ten years later did not carry the disease anywhere in their campaigns to any appreciable extent.

In 1813, the Prussian army was infected, not by contact with the French, as at this time the latter were comparatively free from the disease, but by reason of having been stationed in the region located north of the Carpathians and extending to the Gulf of Finland, in which locality a nidus of infection had existed for some time. In the Russian and Prussian provinces of this section, trachoma had been endemic since time immemorial, and was rapidly cultivated by the several features of military life. Compulsory education and conscription served to bring the cases together. Instances of the disease rapidly multiplied, and at the time of the battle of Waterloo had reached alarming proportions. It subsided in 1816, but made its appearance among the Prussians again in 1818, attacking by preference the recruits from the lower Rhine and Nassau.

The Austrian army was not attacked until after 1816, after which it suffered three serious epidemics. It was not due to contact with the French troops, but to enrollment of soldiers of fortune who had served in the various campaigns of the period in other armies and had contracted the disease. Since the epidemic of 1851 the disease has been more or less endemic in Austro-Hungary.

The Russian army escaped during the Napoleonic wars but became infected in 1818. In the Russian-Polish war of 1831 the disease became very marked and since has remained more or less epidemic in the army. Lax examinations of recruits are considered to have been the great factor in its production. In the Crimean War and in the Russo-Turkish War of 1877, all participating troops were affected.

The Dutch and Belgian troops acquired it in 1815. The civil population of the latter countries was infected by some bungling officials who refused to recognize its contagious nature and allowed subjects to return from army to civil life in great numbers. Later the patients were given especial care and the disease was reduced considerably. The Swedish army was attacked in 1813 probably as a result of contact with the Prussian army. However, it is but just to remark that the disease was endemic in Sweden and Finland in the eighteenth century. The Danish army suffered an epidemic in 1848 and this was attributed to the German troops. In 1849, the Portugese army suffered an epidemic but it had previously acquired the disease from the English who had been in the Egyptian campaign.

The beginning of the disease in America is difficult to determine. It was never a factor in any of our wars, and even at its height seemed to be confined to the institutions of the seaboard cities.

Trachoma as a distinct military epidemic has not been observed for many years but the disease does exist in endemic form in certain well defined areas. In Germany, for instance, it is found in the eastern and nothwestern sections, especially the eastern. There are a few centres in western Germany but central and southern Germany are practically free. It is found in Prussia in the eastern and western portions, in Posen, and in the border districts of Silesia. It follows the trade routes thus infecting Pomerania, Saxony, Westphalia, Holstein, and Hanover. The Russian and Polish laborers in the east, the Italian laborers in the south, and the migrating labor from the Netherlands on the north tend to additionally infect and thus maintain trachomatous areas.

Russia is the great trachoma country. Hirschberg failed to find any districts absolutely free from the disease or even slightly affected. The affection has existed in an endemic form since time immem-

cial and can scarcely be attributed to the Napoleonic campaigns. In 1825 it was stated by a Russian physician, named Lang, that the disease had been sporadic in the Crimea for centuries, especially among the lower class of Tartars, and that between 1728 and 1805 there were two severe epidemics of it. He attributed it to the pilgrims traveling from Mecca and passing through Cairo. Since 1820 to the present day, the disease has been continuous in the Russian army, most of the cases being on the Crimean peninsula, next in order, the Western provinces, St. Petersburg, and the Caucasus military districts. The statistics of blindness in the Russian army from trachoma are appalling, and this condition is due to the enrollment of recruits affected with the disease. As long as the cornea is not seriously affected, recruits are mustered in and the influence of barracks life encourages the propagation and transmission of the disease. Discharge of these men tends to further infect the peasants. It is necessary for the military department to make a good showing in the numbers enrolled, and hence the disease is propagated and blindness produced in the face of warning and knowledge given by experts to those in charge. Improvement in the sanitation of the barracks has led to some decrease. In the navy since 1883, trachomatous recruits have been rejected, consequently the disease in that branch of the service has been greatly diminished. The civil population is greatly affected by it, especially in the Baltic provinces which constitute a very old focus. Livonia is a particularly active focus. It will also be noticed that the disease increases in numbers in passing from southern to northern Russia. In Finland the disease is very prevalent. Siberia is likewise affected to a great extent.

Austro-Hungary, while regarded as one of the trachomatous countries, is not so greatly affected as Russia, but the eastern part engages the attention of those interested to a considerable extent. It is not common in the mountainous districts. The Slavs in the north and the Jews in the south are especially affected due to poverty and dirt. The army is a factor here as elsewhere, as is also the army of mechanics and laborers that travel along definite trade routes especially from Italy. There are two chief foci in Austro-Hungaria; one called Alföld in the south between the Danube and the Theiss and east of the Theiss; and one in the north, the Privigy district of Neutra. The army infected Alföld. The focus in the north was brought about by the peasants seeking work in the south becoming infected and carrying the disease back to their homes in the north. The Austrian regiments recruited in Alföld years ago suffered greatly from the disease. Strange as it may seem it was only in 1883 that the disease was recognized in Alföld by an authority, although its existence there for years was known but its seriousness was not appreciated. When the disease attacks a peasant community it is next to impossible to eradicate it as the mode of life is under no intelligent supervision, and the unsanitary surroundings of the peasant favor the spread of the disease.

In Turkey, Rumania, and Bulgaria the disease is rather widespread. In Italy, the affection is most common in the south above the [illegible] it is quite prevalent in the army but was greatly reduced by rejecting suspicious as well as pronounced cases among the recruits. In Spain, the populace is greatly affected and there is a high percentage of blindness from this cause. The same may be said of Portugal. Switzerland is free from the disease except at the Italian border. France is comparatively free from the affection doubtless on account of the cleanly habits of the people. The Irish suffer considerably from the disease, and it is prevalent in the coast provinces of Belgium and Holland. Denmark and Sweden have few cases, but it is very common in Asia Minor. In Palestine it is a national scourge, and in Syria it is quite commonly prevalent. Arabia, Persia, India, China, and Japan are hotbeds of the disease. Along the coast sections of Africa it is common, as well as in Egypt.

In Egypt, as has already been mentioned, the disease is extremely common. On the lower Nile it is said to be very prevalent even among horses, oxen, sheep, and dogs. The disease is endemic at all times with frequent epidemics. Very few of the natives have normal eyes. Among the Europeans, the Levantines, the desert tribes, the Nubians, and the Soudanese the disease is very infrequent. The slight ptosis characteristic of the Oriental races is said to be the result of trachoma. As late as 1901, investigators found from eighty to ninety-three per cent. of cases among school children. The philanthropy of Sir Ernest Cassell, an English financier and railroad king, and the personal efforts of Mr. MacCallan, an English oculist, together with the aid of the English government have reduced the disease considerably. Acute conjunctivitis of various types is common among the native Egyptians, and it is difficult to determine just when trachoma begins.

The ophthalmic organization in Egypt consists of five hospitals, three permanent hospitals, and two traveling hospitals. The traveling hospitals consist of ten or twelve large Indian tents which can accomodate about ten or twelve inpatients, and can treat about three hundred outpatients daily. The clinical work extends over six hours daily. The hospital seldom stays in the same location more than six months. In connection with this work the pupils of the government primary schools at Tanta, the chief town of Gharbieh, the largest province in Egypt, were examined, and the report published in the *Ophthalmoscope*, October, 1909, showed 96.13 per cent. were affected with trachoma. The same report showed that of the 18,234 patients attending three of the special hospitals, 6,439 had trichiasis and entropion due in most cases to trachoma. The census of 1907 showed more than half a million persons blind in one or both eyes, 4.57 per cent. of the total population of 11,189,978. These figures are rather low. The hospital figures show during the three years prior to 1909, of the 84,133 patients examined, 7.3 per cent. were found blind in one or both eyes. Monocular blindness was 4.69 per cent. and the binocular blindness 2.61 per cent. Comparing this with the condition of affairs in the United States it becomes more striking. In the latter country blindness in one or both eyes numbers about 85.2 in each 100,000 of the population while in Egypt it is about 4,650 in each 100,000.

The colored population of Idaho has but 590 to each 100,000 blind in one or both eyes, which is perhaps the greatest in any part of the United States.

Mr. MacCallan reaches the conclusion after this enormous experience that the reduction in the disease has occurred only in the most acute forms, and that the chronic types of the disease are as prevalent as ever.

In Tunis and Algiers the affection is common. It is also very frequent among the Kaffirs and Hottentots. While it is rare among American negroes it is not uncommon among West Indian negroes. It is common in Brazil and Argentine, but rare in Bolivia.

In Australia, the disease is not very common and is introduced by immigrants and convicts. It occurs mostly among the residents of the dry sections and during the summer months. In New Zealand it is very rare.

In Great Britain the disease is very common. It doubtless prevailed prior to the Napoleonic wars but was greatly increased thereby. The disease is very well eradicated from the army and navy, but the schools, jails, workhouses, etc., are affected to an alarming degree. Emigration to the United States being *via* English ports and ships, has led to the detention in and the return of rejected immigrants to Great Britain following the order of 1897 which compels the return of trachoma subjects. This has served to increase the disease greatly. Measures are being taken to limit the affection. Not only does the disease come into England from the continent but from Ireland as well.

Trachoma is not common in Canada except at the ports of entry and is due in large part to the immigration law of the United States. The disease is not on the increase due to government regulation.

The United States owing its population almost entirely to immigration was not slow to acquire the disease, especially the seaport cities. New York having a large number of Irish in the early part of the nineteenth century was readily infected. The records of the Civil and other wars in this country do not show a prevalence of ophthalmias of any kind so that the disease must be attributed to the foci imported. However, with the increase of immigration following the Civil War cases poured into this country from all the infected sections of continental Europe and the disease threatened to gain a foothold in all the institutions on the Atlantic seaboard. Nevertheless, a prompt appreciation of the seriousness of the infection resulted in the commissioner of immigration being instructed by the Treasury Department, October 30, 1897, that the disease should be classified as "dangerous contagious" in accordance with the immigration law of 1891, which requires deportation of aliens with diseases so classified. On the other hand, infected institutions received prompt consideration until the disease is now comparatively rare. In New York prior to 1897, the work of Dr. A. E. Davies showed trachoma to constitute four per cent. in over half a million subjects with contagious diseases observed by him; three years later only a little over two per cent. were seen in nearly 100,000 cases of contagious diseases. Trachoma subjects also act as intermediate hosts for other infections. There are a few foci in Kentucky West Virginia, and southern Illinois where the subjects are of American parentage. It is well to bear in mind that in these infected sections, many of the subjects are the posterity of fugitives from justice and doubtelss carried the disease from eastern penal institutions prior to the propaganda for the eradication of trachoma. The American army and navy have never been threatened with trachoma owing to the strict examination and inspection of the recruits and candidates for admission.

Although New York city probably has the greatest number of cases of any one focus in America, it is absolutely on the decline when the marked increase in population from natural and imported sources is taken into account. The New York Municipal Bureau of Health recorded something like 10,435 cases of trachoma in 1908, while in 1909 the number reported was 7,090.

In Baltimore the disease is on the decline, and in Cleveland it is also on the decrease. In Toledo, Ohio, on the other hand it is said to be spreading. In Akron, Ohio, it is also on the increase. In Dayton, Ohio, it is assuming larger proportions. It is interesting to note this increase in smaller towns and cities, while in the larger cities it is under effectual control. This is likewise true of all contagious diseases; the smaller communities never seem to be able to put in force the procedures that would insure prompt eradication of the particular infection. In Chicago, where the population is cosmopolitan and apparently difficult to handle, the disease is stationary.

In our own city of Philadelphia, there is no question that the disease is markedly on the decline; that the cases already here have lost their virulence, and that the new cases observed are an attenuated form of the disease lacking many of the characteristic features of the disease in former years. At the Wills Hospital in the year 1872, out of a total clinic of 2,876 there were 161 cases of trachoma; in 1908 out of a clinic of 18,426 there were only 151 cases. In 1872, the percentage was 5.9, in 1908 it was 0.7. Dewey observed only three cases in an orphanage containing 200 children in a service extending over several years. He also noted the case of a woman with the disease since childhood who raised a family of seven children without infecting any of them.

Forst, in a large experience at Girard College does not recall a single case in the last ten years. Zentmayer, in observing 700 boys in a reformatory, found the disease to be of rare occurrence. He also states that from 1870 to 1910 at Wills Hospital trachoma fell from 5.5 per cent. of cases to 0.6. The experience of ophthalmologists connected with the various institutions in and about Philadelphia, has been practically the same as the foregoing

The Philadelphia Hospital, however, has shown an increase of cases since the recent trachomatous research has been instituted. In 1908 the Health Records showed only forty-two cases, while in 1909 sixty-one cases were corralled. Cases in patients too poor to receive treatment at home or the dispensary were compelled to avail themselves of the advantages of the city hospital. For September, 1910, the State Department of Health at Harrisburg recorded but sixty-two cases of the disease.

The records of Mt. Sinai Hospital show that out of a total of 5,591 patients seen during 1908, 1909, and 1910 there were 127 patients with trachoma, a percentage of 2.27. These cases were not suspicious, but undoubted cases of the disease, and already had the opinions of other ophthalmologists before coming to this hospital. The majority of the patients are still under our observation. Our experience has been similar to that of Mr. MacCallan in Egypt, in that our best results were obtained in the acute cases; the chronic cases we have felt content if we could arrest their progress and have given up hoping for a complete eradication of the disease.

Trachoma is an infectious disease, the infective agent being as yet unknown. The disease is due to the direct transfer of the infectious material from the diseased eye to those otherwise normal, such transference and propagation of the infectious material being facilitated by poverty, ignorance, and dirt. Many microorganisms have been found from time to time, showing that many cases are mixed infections. Some microorganisms are conditionally infectious, that is, they require certain favorable conditions of the conjunctiva to produce the inflammatory changes, while others give rise to their characteristic disease product without special aid. So many contributing factors enter into the causation of trachoma, it is likely that its ætiological factor embraces conditionally infectious pathogenic microorganisms.

Halberstadler and V. Prowazek rather recently, while working in Java on the subject of syphilis, noted the great frequency of certain round bodies smaller than cocci lying within the protoplasm of the epithelial cells of the conjunctiva in cases of trachoma, and ascribed the disease to these bodies, which have received the name of "chlamydozoa" or "trachoma bodies." These bodies have received the serious consideration of nearly every investigator on the subject with more or less constant results. However, they have been found in the normal conjunctiva and in cases of gonorrhœal ophthalmia, and many workers regard the "bodies" as merely an involution stage of the gonococcus or other microorganisms. Nevertheless, it may be said that the cause of the disease lies in the discharge. The influence of race, age, sex, climate, altitude, etc., are of minor importance compared with this factor. A previous inflammation of the conjunctiva is a predisposing cause of great importance. Crowding together for an indefinite period of individuals, in unsanitary and unhygienic quarters is a contributory factor of serious import. Hence immigrants, soldiers, paupers, foundlings, etc., are continuously exposed to the disease. The American negro enjoys comparative immunity. The same may be said of the majority of American born people.

The disease is characterized essentially by granulations upon the inner surface of both eyelids. It may follow an acute inflammation of the conjunctiva of any character whatsoever or the granulations may occur during such an acute affection. This has led many writers to regard the disease as acute and chronic. Acute trachoma, so called, in most if not all cases, consists of a mixed infection, the acute phenomena usually being due to the gonococcus, and the granulations representing the reaction of the lymphoid tissue to the marked irritation. Nearly all persons with trachoma have enlarged lymphatic tissue in different portions of their anatomy; children, especially, showing signs of trachoma, are in most instances the subjects of enlarged tonsils and adenoids. It is therefore within the range of possibility that any form of conjunctival inflammation might develop into trachoma.

According to the grade of infection and resistance of the conjunctiva, either the enlarged papillæ of the conjunctiva or lymphoid follicles may predominate. In the presence of discharge from the conjunctiva, all sorts of pathogenic bacteria in their several involution forms may be found from time to time in the discharge and within and between the cells of the granulations.

When the attendant catarrhal or purulent inflammation of the conjunctiva can be held in check or effaced, the granulations will remain stationary in ordinary cases, but in very mild cases undergo absorption. The latter is the more common termination in native born American children under average hygienic surroundings. In children in which the granulations remain but have no discharge, ordinary conservative treatment will serve to prevent further complications. In the presence of discharge, either as the result of accidental or purposeful infection (as with jequirity or the gonococcus) the granulations eventually slough off and scar tissue marks their former site. The scar tissue produces by its contraction deformities of the eyelids, known as entropion (turning in of the eyelids), ectropion (turning out of the eyelids), distichiasis, and trichiasis (abnormalities of the eyelashes), symblepharon (union of the lids with the globe of the eye), and ankyloblepharon (union of the lids with each other). In profound cases of long duration, the mucous membrane loses its characteristics and becomes a fibrous sheet. This condition is called xerosis.

Either as a result of the disturbance of the nutrition of the cornea by the inflammation of the conjunctiva or direct infection or injury due to inversion of the eyelashes or all three causes in varying combinations, the cornea becomes the seat of infiltrations and ulcerations. According to the degree in which the integrity of the cornea is threatened, bloodvessels make their appearance in the cornea, a condition known as pannus. The injury to the cornea affects its sight in proportion to its involvement. Corneal complications of any ocular disease point to a lack of care and attention.

Patients with trachoma have a sleepy look, due to the drooping of the upper lip which is weighted down with granulations inside the lid. There may or may not be discharge. The eyes itch and burn as the result of the inflammation or the irritation of the lashes. Most of the patients dread the light. The sight may be only slightly impaired, but in true cases blindness is rather common. Both eyes are usually affected. The disease is essentially chronic and tends to relapses.

Having obtained a knowledge of the manner in which the disease is disseminated and how its ravages have been held in check, it is our duty to ac-

cept the facts of the condition and profit accordingly. Thus we have no choice but to support the Treasury Department and Marine Hospital Service and if anything to urge upon them more rigid inspection. Any propaganda having for its purpose the compelling of the government to admit mild cases provided they are under treatment is very dangerous. Trachoma is not a curable disease. The countries that regard the disease as curable are those that seem to have the most cases. Those countries that belittle its contagious nature likewise have the most trachoma. It thrives among the immigrants, and the importation of such a focus is certain to be attended with disastrous results. While the disease among us at the present time is certainly of attenuated virulence, that in the immigrant is most active. It is due to the unrelaxed vigilance among the American ophthalmologists that the disease here has been brought to its present state, and it should be maintained so.

Cases occurring within our bounds require careful attention. It has been shown that cases under continuous treatment mostly remain stationary. Therefore cases of the disease should be reported to the board of health, and the respective boards of health should require the patient to be treated continuously until the attending physician considers it time to place the patient on parole. There are plenty of hospitals and physicians so that this works very little hardship upon the patient. In this way the patient is able to retain his position and the community is protected. Special trachoma hospitals and schools are unnecessary in this country if the facts of the disease as they are known are taken into consideration.

Trachoma in institutions or schools calls for the same measures as any other epidemic, plus the special treatment for the eyes. As the disease does not arise spontaneously, the greatest care should be taken in examining the candidates for admission. In the public schools, where day pupils only attend, the possibility of infection is slight. Statistics have failed to show any great contamination of the classes by the presence of one or two trachomatous pupils, especially where there is no discharge or the patient is under treatment. Reports on this phase of the subject are misleading. Many of the cases upon close and continuous examination have shown lately not to have been trachoma at all. Many have remained stationary and have failed to present any symptoms other than enlarged follicles. The injustice of keeping these children from school is very obvious, especially since most of them belong to that class of society in which elementary education is so essential.

The Mt. Sinai Hospital, Philadelphia, has cooperated with the Department of Health in an effort to efface the disease from the down town district. The enthusiasm of the Bureau of Municipal Research and the Trachoma Committee of the State Medical Society of Pennsylvania, has stimulated the local inspectors, teachers, and nurses to greater activity, so that not only marked cases but slight suspicious cases have been tabulated as worthy of attention. The location of Mt. Sinai Hospital is such that most of these cases have been brought here for treatment by the school nurse, Miss Roberta Laird, whose painstaking work in this connection is worthy of remark.

Marked cases of the disease receive operative treatment. If the granulations are large and excessive they are removed by scraping or by squeezing out of their contents by special instruments designed for that purpose. In older patients, various operations are performed on the lids to overcome the deformities. Patients who refuse operation or those in which it is inadvisable receive careful treatment with harmless but effective remedies. Staining of the eyes black (argyrosis) is rarely observed in this clinic except as the result of previous treatment elsewhere. Corneal complications and infection of the tear sac are given close attention and are seldom if ever observed in cases under continuous observation. This is important to remember as it proves conclusively that the daily treatment of the eyelids by the clinician has an effect other than a relief of one's conscience. Many of the patients are unable to use local applications themselves, for one reason or another, so that these patients are encouraged to come to the clinic every day and receive treatment at the hospital.

As to the matter of records, every kind of data that might throw light upon the distribution, dissemination, or virulence of the disease is kept on a special record. The number of people in the house and the number of cases in the same house is also ascertained and filed for future reference. In only three instances out of an experience of three years covering the ghetto district of Philadelphia has it been possible to find more than one case of real trachoma in the same house. In all of these cases the patients were closely related (in one case brother and sister, in another, two brothers, and in the other two sisters). In nearly all instances the whole family was personally inspected in good light by one of the ophthalmologists of the hospital. In nearly all the cases of the children examined adenoids and enlarged tonsils were present. The refraction was found to be deficient in all patients even in those without corneal defects or complaints that would call attention to the eyes. On the whole vision among our patients was improved materially.

In the actual handling of the cases it is our practice to regard even the least suspicious case as of great potency, as we consider that in this way only the virulence of the disease can be kept in its attenuated form. The patients are recruited from a class of society in which dirt, squalor, ignorance etc., are no novelty and the responsibility rests not upon the patient who knows nothing better, but upon the attending physician who understands, or who should understand, the sociological features of the disease. Hence, the physicians in the clinic are never too busy to wash their hands carefully after treating each case. This may seem trivial, but it has the additional effect of emphasizing to the patient the contagiousness of the disease and is more eloquent than hours of wordy argument.

Those patients having mucopurulent or purulent discharge are instructed in very simple treatment, but are urged to follow this regularly. Hourly irrigations with warm boric acid solutions (ten grains to the ounce of distilled water) is the most efficacious of any one treatment. This is usually

supplemented with the instillation of one drop of a ten per cent. aqueous solution of protargol, night and morning. Argyrol is recommended by some observers, but has no effect other than its percentage of silver would produce. It and other deeply colored preparations will stain the conjunctiva when used over a prolonged period. When a certain effect is desired there is no preparation comparable to silver nitrate solution.

In all other cases, the best results have been obtained by us through the regular application of fifty per cent. boroglycerin in glycerin. This seems an easy way to dispose of the treatment of trachoma, but after careful observations and experiments with the innumerable astringents, such as lead acetate, zinc sulphate, etc., we have found that *our* cases do best upon the continuous application of boroglycerin. It is perfectly harmless and the lacrimation it produces helps to flush out the innermost recesses in the conjunctival rugæ. The glycerin must exercise its hygroscopic effect, since the granulations become smaller under its use.

In the event of corneal complications, they should receive the same treatment as under other circumstances. We have found the best results from iodoform (fifteen grains) and atropine (one grain) in petrolatum (two drachms). This is an old Wills Hospital prescription, and its value is undoubted. In the late stages when the cornea is pretty well scarred the instillation of ten per cent. aqueous solution of dionin (ethyl morphine hydrochloride) daily is often of value. In cases of xerosis of the conjunctiva, the use of dionin in unguentum aquæ rosæ is of value. In one of our cases of xerosis, a very old man, where vision was reduced to light perception and the culs-de-sac were obliterated, it was found that the application could be made only in ointment form. After eight months' use of a ten per cent. dionin ointment, the vision was improved to the extent that the patient is able to go about unattended and has perception of gross objects.

With the persistence of these simpler methods, and persistence is the keynote of the treatment, we have had no marked complications to deal with, and consequently have no suggestions to offer as to their treatment. Only the mildest kind of pannus was encountered. Extension to the lacrimal apparatus was not observed. A certain proportion of cases had lacrimal disease, but we could not assure ourselves that there were granulations in the passages. The ordinary treatment, not the radical, served to bring about a patulous condition of the tear passage and eliminate any purulent accumulations in the lacrimal sac.

Of the operative treatment, we have found best results follow expression of the granules and "grattage" (scraping and scrubbing with bichloride of mercury solution after the method suggested by Darier). The older patients, those who had been the rounds of the clinics in Philadelphia and New York city, as well as those in Russia and Germany, attest the uselessness of the radical operations for the disease. Excision of the tarsus, as observed at our clinic at a remote period following the operation, leaves something to be desired.

The operations for lid deformities are always advisable if there is no complication present that might affect the result. Most of these operations leave the patient better off than before the operation. Most of our patients who should have these operations, having been the rounds, are very sceptical as to the benefit to be obtained and submit very reluctantly to them; in our younger patients the disease is not permitted to progress to the stage requiring them.

The great factor in the eradication of trachoma is education. Almost any kind will do. As the sociological condition of the patient improves he will naturally take to conditions of living that will insure the proper care of his affection and that of his neighbors.

CONCLUSION.

From a careful study of the cases that have come under our observation we conclude that: Trachoma is an infectious, contagious disease, of chronic nature, attended by most disastrous results to vision, and practically incurable. The fact that a few recent cases in persons under the best surroundings have promptly responded to treatment should not be taken to invalidate this statement.

The only effective means of treating the condition is by refusal of admittance of infected patients to noninfected communities or countries.

Trachoma as it exists in America, and especially in Philadelphia, at the present writing, is a most attenuated form of the disease, particularly in the native born individual. These cases are of no greater importance than a host of ocular conditions, and while necessitating treatment do not call for isolation and segregation.

Trachoma cases with discharge, in America, are more dangerous than those without, but no more dangerous than any other discharging ocular affection, and not so much so as some.

In American cities, all "groups" of adults and children should be subjected to routine ocular examinations at regular intervals in order to detect new foci of the disease, but this does not imply that these patients should be subjected to rigorous quarantine measures. The disease is essentially chronic, and years may elapse before deformities occur, and the hardship quarantine thereby entails is obvious. Operative measures are unsatisfactory. Applications that lessen the discharge serve to retard the disease and make the patient comfortable.

1001 Mt. Vernon Street.

A HURRIED BIRD'S EYE VIEW OF THE PROBLEM OF THE MODERN CARE OF THE INSANE.

By Meyer Solomon, M. D.,
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[illegible]

As the internist should try to keep pace with the advancement of modern medicine in all its branches, it seems to the writer not at all out of place to take this opportunity to acquaint his fellow workers with the advance and trend of modern psychiatry.

Up to twenty-five years ago, with the exception of paresis, the knowledge of the pathology of mental disorders was practically *nil*. To-day we find that it is only those mental diseases, like the psychoneuroses, which in themselves are not fatal, that have not a more or less definite pathology. This ad-

vance has been going on, not in one single branch of psychopathology, but all along the line. Witness the rapid strides already made in the understanding of ætiology, symptomatology, and treatment. And witness also the abundant and active work now being done along scientific lines to unravel the mystery. It is only by a thorough knowledge of the ætiology, pathology, clinical course, and outcome of mental disorders that we can hope to gain anything of value for prophylaxis, early diagnosis, early treatment, and prognosis. And this knowledge can come to us only through persistent scientific endeavor.

In what way, and how much has psychiatry really advanced? It is needless to call your attention to the ancient views of insanity. An individual who had lost his mind, perhaps only temporarily, was considered to be possessed of an evil influence, the devil was in him, he was one to be shunned and feared. He was chained down—very often for life—or put into a narrow cell, well barred and locked, and subjected to all manner of torture. Most cruel methods of caring for the unfortunate insane were instituted, all having for their object the limitation of possible motion on the part of the patient, and an increase of his wretchedness and discomfort, with absolutely no regard for his physical, let alone his mental needs. He received no exercise of any kind, was frequently chained down or boxed in or celled up tightly for life, too often underground, without air or sunlight, with poor and insufficient food, little clothing, absolutely no accommodations made for toilet, and with no friends to visit him. Indeed, the only visitors were those who came to look on in wonder at beings, who, they believed, had lost all human instincts, and to see whom they were even willing to pay a fee. We find that Dickens himself gives us a somewhat similar picture in his first description of the old shoemaker in *A Tale of Two Cities.*

Excited patients were tied down and became still more excited. The inhuman treatment they were subjected to hardened them, and only too frequently really did reduce them to a state but little short of animalism. Depressed patients, if treated likewise, had no other alternative than to become more depressed. No wonder we see such awful looking pictures of the insane in those days—the miserable environment, the worse than harsh treatment, the disregard for external and internal physical needs, the longings and desires of the human souls are powerfully brought home to us in the faces of the poor wretches. Surely these could truthfully say:

"O Grave, where is thy victory?
O Death, where is thy sting?"

For them, death was indeed salvation.

Up to the latter part of the eighteenth century, the religious and philosophical prejudices were opposed to any other tendency than that which was in harmony with spiritualism—and so psychiatry was neglected. The renaissance that occurred in the eighteenth century was due much more to social than to scientific causes. When at the Bicêtre and the Salpêtrière in Paris in 1792 the great Pinel struck off the shackles from the men and women who had for years been chained to posts like wild animals, the world saw the dawn of a new era in psychiatry. Pinel's work in France was ably and nobly taken up in America by Dorothea Dix about 1840. When it was found that the insane men and women did not have to be kept in restraint, they began to be cared for more decently. This was a change from the chain and dungeon era to the asylum era. Greater and greater freedom was allowed the unfortunates. First they were kept in well guarded structures that looked like the castles of mediæval barons. Then more simple structures were built, the buildings all in the same line and continuous with one another; and even these finally gave way to buildings which, although they still connected directly with one another, were not in the same line, but in a more broken up, winglike formation. And now we have the cottage plan.

The writer, in giving the following very superficial account of a modern hospital for the insane, has taken as a model the institution with which he is connected. It may be here mentioned, however, that a similar method of hospital organization is pursued by the New York State Hospitals with the Pathological Institute as a central laboratory.

Hospitals for the insane are generally on the outskirts of, and not within cities. The reason for this is obvious. Complete mental and physical rest is required. The cottage plan is now the ideal plan. In this, comfortable separate cottages are built at sufficient distances from each other to allow of each being surrounded by a fair sized grass plot. The smaller cottages each accommodate thirty to fifty patients, more or less. The larger cottages have several (as many as four) wards, with a total capacity of about one hundred and twenty. The arrangement of the interior depends on the type of patients. Segregation is carried out as much as possible and as far as practicable. The white and the colored, the male and the female, the acute, the chronic and the convalescent, the criminal and the epileptic are separately housed. The tuberculous and those suddenly overtaken by a contagious disease are likewise respectively segregated. Each of these is in itself a formidable proposition and can not here be gone into. Suffice it to say that the acute and the convalescent, but more especially the chronic and bed ridden, are treated in buildings on the hospital plan, the male as well as the female cases of this type being in charge of female nurses. Wherever possible, the wards are neatly and comfortably furnished with rugs, chairs, curtains, flowers, etc., pictures hung on the walls, a piano installed, and with big, open sitting rooms and porches, with the sun pouring in, and good ventilation, the patient is made as much at home as is possible under the circumstances. Of course there is a great range in this scale of treatment, but this depends entirely on the type of patients we have to deal with.

Those who are bed ridden receive even better personal care than they could receive at home, and at more expert hands. Some patients, for one reason or another, must be confined to rooms; others can be out on the dormitory, in bed or up and about on the ward, having the privilege of going out on the big porches. In the discretion of the physician in charge, parole about the building or the grounds of the institution may be granted, but in doubtful cases, as also in practically all cases for permission to ex-

tend parole to visit town or in cases presented for diagnosis, trial visit, discharge (as recovered, improved or unimproved, in care of family or friends or another institution), and final diagnosis (in the case of death), the matter must be brought up for consideration and discussion at the regular staff conferences. These are held every morning, except Sundays and legal holidays, from 11:30 a. m. to 12:30 or 1 p. m., as the work requires, and are attended by all the members of the staff except those of the scientific department. You will thus see that the whole thing is a gradation system—the patient is given a chance to show that he can be trusted more and more, and those chances are gradually increased for him. For the fiscal year ended June, 1910, we had an average daily population of 2,873, the total number under treatment during the year being 3,502. There were 650 new admissions during the year, and the number of discharges (including 260 deaths) was 586. During the year 542 cases were brought into the staff conferences, thirty-seven for diagnosis, seventy-six for trial visit, 356 for discharge, and seventy-six for final diagnosis (deaths).

For diversion and to vary the monotony of what might otherwise be a very humdrum existence, there is a first class amusement hall or modern theatre with a seating capacity of about 1200. Here, during the cooler months, dances are held every Tuesday night, a theatrical production or moving picture show every Friday night, and special entertainments for holidays. On Sunday afternoons chapel services are held in rotation order for the different religious denominations. In the summer months open air band concerts are held on the lawns twice a week. Selected patients are allowed to take trips to town in the hospital carriages. There is a fair sized patients' circulating library, in connection with which there is a "question box." Suitable but simple employment is offered to desirable patients.

The physical side of the institution is in care of persons especially qualified for this work, and so is taken entirely out of the realm of the general medical staff, relieving them of these cares, so that they may devote their time and energy more exclusively to the onward march of the scientific side. This administrative and business side is in the hands of a steward, disbursing agent, and purchasing agent with the necessary help. It is concerned with the support and clothing of the patients; the food and kitchens, the farm and its products, the buildings and grounds, including the roadways and gradings, the heat, light, and water systems, the laundry, the stables, the fire house, the sewing, mending, and repairing work, the work rooms, etc. This necessarily heavy burden is thus taken off the shoulders of the medical staff. Including the nurses, we have approximately 800 employees, practically every one of whom eats and sleeps in the institution.

We have not been content, however, to maintain our institutions merely on a boarding house plan—purely custodial care and attention to physical needs only. It has become for us a medical problem. We have advanced to a scientific stage. Of course, to do all these things in the right way costs money—$220 per capita in the institution with which the writer is connected.

In order to make the nurse more competent and sympathetic in the treatment of the mentally afflicted, we develop here the "mental nurse." She is given a two year training course in our training school for nurses, and in addition to being a competent general nurse, she is developed especially along the lines by which she can be of most use to her patients. This is thus a refinement of the general hospital idea. We try to maintain the proportion of one nurse to every ten patients. I have already mentioned the desire to have female nurses in charge of male and female patients wherever practicable, and we find that they are gradually and constantly increasing the range of their usefulness throughout the hospital. And so there, on their wards, with the help of assistant male nurses or attendants, these noble young women tend to the medical and physical wants of the patients, and keep the beds and general condition of the wards spotlessly clean and in perfect order. The object of an institution of this sort is also to supply the community with mental nurses in private cases where the family does not like to send the patient to an institution.

Next comes the medical man. At present we have twenty-four resident physicians; the proportion of one physician to one hundred and fifty, or still better, to one hundred patients should be tried to be maintained. The institution is divided into groups of buildings or services. There is an Administration Building for the clerical force, the record room, the medical library and the physicians' offices, dining rooms, and quarters. There are receiving buildings for white and colored, male and female; buildings for the disturbed, infirm, and chronic, the convalescent, tuberculous, etc., in each division. Each service is in charge of an executive officer or charge physician, with the title of senior assistant physician, who has under him one or more assistants (junior assistant physicians and internes). These charge physicians are directly accountable for their services to the superintendent, and work in cooperation with the clinical or medical director, and with the scientific department (to be considered later). The general medical officer has his letter writing, seeing of patients' relatives, and the general medical administrative supervision of his service. Time can not here be taken to enter into an account of the necessary routine and clocklike systematic working of the various departments of the entire institution.

The patients receive medical and surgical treatment as they would from private physicians or in a general hospital. We have two modern, up to date operating rooms, looked after by the chief of the training school. There is a resident dentist, a weekly visiting dentist, and an eye, ear, nose, and throat specialist, with a large consulting staff of some of the best specialists in town.

In the special treatment of excited patients with insomnia, etc., restraint is not at all used, except in its mildest form in most unusual cases, the use of hypnotics is reduced to a minimum, and hydrotherapy in all its different methods of application holds the upper hand. We have several hydrotherapeutic outfits, and the results are most gratifying, alike to patient, nurse, and physician. In cases of persistent refusal of food, tube feeding may have

to be resorted to. Depressed and suspectedly suicidal patients must be carefully watched.

An effort is made to work up every case thoroughly as regards complete family history, past personal history, and onset of psychosis to time of admission. On admission every patient is given a thorough physical (including neurological) and mental examination, and his picture is taken, all this going into the record of his case, which, with his name and number, is filed in the record room. In acute cases every month, and in chronic cases every three months, or as more often as may be necessary, a note is made of the patient's physical and mental condition from the time of his admission until the severance of his connection with the institution, whether by discharge or death. In addition, a routine mental examination is given each patient, as far as is possible, to serve as a standard for intelligent comparison and to permit of the study of the cases for statistics and otherwise.

The record room is especially important because it is there that we keep, in charge of two competent clerks, all the records of our patients, dead, discharged, or still resident with us, with the correspondence in those cases, the photographs of the patients, and the addresses of relatives; these respectively are kept in separate divisions, and all carefully catalogued. Here also is an index catalogue for mental cases, in which every patient who is discharged or dies is classified respectively under mental, clinical, and anatomical diagnosis, under the latter two heads being considered only those general conditions, like tuberculosis and cardiovascular disease, which have a more or less direct bearing on the mental state. All this is in typewriting, done by a competent office force of stenographers.

The medical library is another landmark. Here are found the best American and foreign journals on general medicine, surgery, neurology, and psychiatry, with a liberal supply of books on general medicine, surgery, and the specialties, particularly nervous and mental diseases. And here also we have, besides the *Index Medicus,* the *Index of the Surgeon General's Library,* and duplicate index cards of every medical book in the Library of Congress. Thus practically all of the medical literature of the world is here catalogued and can be had in a few hours, as it is right in the city of Washington.

This leads us to a brief, though most important, consideration, or rather hurried review, of the scientific department. This consists of a scientific director and psychologist, with an assistant psychologist, a pathologist, a histopathologist, and a clinicopathologist. They should work in harmony as much as possible, cooperating with each other and with the regular medical staff. Each of these has his own laboratory and is actively engaged along special as well as general scientific research lines, which cannot here be gone into. The psychologist does special work in skin sensations, knee jerks, fatigue, functions of the cerebrum, functions of the frontal and occipital lobes, etc., as well as comparative results with the association test in a long series of normal and abnormal mental cases. Every effort is always made to obtain consent to autopsy, and the record of the complete post mortem findings in each case is kept by the pathologist. The histopathologist does excellent work in making final diagnoses in all doubtful cases, and devotes considerable time to special problems—anterior poliomyelitis, pellagra, effects of cold and hunger, etc. This work is done, wherever necessary, in conjunction with the clinicopathologist, whose work, in addition to general bacteriology and clinicopathology on blood, urine, sputum, etc., lies especially in the cytology, chemistry, and serology of the cerebrospinal fluid, thus including quantitative and qualitative cell count, determination of the protein content, the regular Wassermann reaction, the comparative quantitative Wassermann reaction of the blood and cerebrospinal fluid, and the effects of the regular antisyphilitic treatment, and of "606" on constitutional syphilis, syphilis of the nervous system, and the metasyphilitic affections.

Under the direction of the superintendent, the various members of the scientific department now give a course of instruction every spring to the younger members of the staff in the scientific side of psychiatry, thus making them better qualified for general clinical work. In order to awaken the general practitioner to the problem before us, a series of staff meetings is held yearly during the winter months. To this, physicians from town are invited, and papers of a general or scientific nature are read by members of the staff.

And what is the purpose of all this work? Each is doing his little share toward the great common end. It is only by compiling and combining their respective results that we can advance in psychopathology. It is all to get a better understanding of the causes, nature, and outcome, with prophylaxis and early diagnosis and proper treatment as our ultimate aim. And just as in the treatment of physical disease, you must first know the physiology and pathology, so in mental disease, we are trying to find out what the individual's normal mental type was, what changes have taken place in it, why and how they took place.

Kraepelin, in 1895, took a great stride forward when he showed us that the cases which had been classified as mania or melancholia belonged to one of at least two types—manic depressive insanity, which did not lead to mental deterioration, or dementia præcox, which, however varying its course might be, always ended in deterioration. From then on, as separate clinical mental entities have been recognized, attempts have been made to variously classify them, generally symptomatologically or ætiologically. But we are now coming to realize that the important thing is not giving a case a name and then pigeonholing it, as if it had been fully understood. It does not really matter what we call the condition, so long as we know what kind of individual we have before us, and what the character of his mental trouble is.

"What's in a name? That which we call a rose
By any other name would smell as sweet."

And are there also not different kinds of roses? It is "not the nosological label, but the pathological physiology." Let this be understood better and classification will be more uniform and exact.

If we consider insanity as "a disorder of the

mind due to disease of the brain manifesting itself by a more or less prolonged departure from the individual's usual manner of thinking, feeling, and acting, and resulting in a lessened capacity for adaptation to environment," it is easy for us to see how these mental states merge one into the other. There is no absolutely well defined, sharp borderline. It is just this which has given rise to the terms "borderland cases of insanity" and "semiinsane and semiresponsible."

In the consideration of the relation of one individual to other individuals, that is to say to society, we must not fail to look upon the individual under consideration as a distinct biological unit. His whole mental life is imbedded in the biological world. We must study his origin, his development, and his adjustment to his environment. We must study him not in cross section, but in longitudinal section. We must study the full life history and not a detached portion thereof. Each person has a distinct character—a definite make up. He is unto himself a type. True, he may form but one of a larger group, in which all the members are more or less of a similar type; but these types are only relative. "Human nature is cast in types." And each type reacts differently to its environment. And as the mind is an adaptive mechanism, as its function, to use Herbert Spencer's definition of life, is "the continuous adjustment of internal relations to external relations," the individual to existing conditions, it is therefore of the utmost importance to know the type or make up that we are starting with.

We may classify mental disorders from the clinical, ætiological, pathological, and psychological points of view, the best classification, of course, being one that considers and combines them all. But, though we may recognize signs and symptoms, root out the probable causes, and find in many cases gross or microscopic pathological changes, which are more or less accountable for our clinical findings, still, to understand the mechanism—the gradual changes wrought—we must now approach a subject from the psychological side. And before we study the abnormal, the pathological, we must first know the normal, the physiological.

And this can be attained only by the study of individual psychology. Witness Freud's new psychology as applied to the psychoneuroses by psychoanalysis, as explaining dreams, peculiar occurrences of everyday life, etc.! It is this which is replacing hypnotism and suggestion—because it digs down into the root of the tree and does not flap away at some of the larger branches. True, it may, like every reform, at first stir things up temporarily, but, especially if gently done, the storm will pass by and leave a steady calm. This viewpoint will also make us better understand the importance of the psychogenic factor, and of the basic factor of heredity as the predisposing cause of insanity, not failing at the same time to pay due respect to environment and training. It is this which will stimulate us to a proper conception of the means of prophylaxis and prognosis. It is then that we will fully realize that the mind, being an adaptive mechanism, the psychosis is but a failure of compensation—the mind meets stress and strain, tries to make outside conditions measure up to its standard, and, failing to do so, breaks down. A broken compensation! Like an acute exacerbation of a chronic cardiac or nephritic condition, the basal defect was there all the time, but did not show itself till hard pressed. That mind is best which allows of the greatest range in adjusting itself to conditions met with, however adverse they may be. The "broken mind" of the mentally unbalanced has failed to "get square with the difficulties" of the situation before it. The seed of stress and strain has fallen on fertile soil, on good ground.

We must understand that it is absolutely impossible to draw sharp lines of distinction in mental disease, nor often is the line very sharp between the sane and the insane; it is really not a matter of quality, but one of quantity—of degree. The psychosis, we must not forget, is but the changed condition, often a mighty short step from it to normal. For this reason, our attitude toward the insane has entirely changed.

The study of insanity is primarily a study of the mind, and as the true problem "does not consist in the identification of the causes of insanity, but in the analysis of the manner in which these causes operate on the cerebral organization"—the pathogenesis—we should attack the problem from every available quarter—biological, anthropological, psychological, sociological, economical, ethical, and philosophical, as well as anatomical, cytological, physiological, chemical, and pathological. "In no science," says Lugaro, "do so many sciences dovetail into each other as in psychiatry."

Let us here hope that the deplorable conditions still existing in the care of the insane in some States, as in Maryland, will soon be a thing of the past. Let us appreciate that all persons suffering from mental disturbance are entitled to treatment as *sick* individuals; that the general acceptation of the term "insanity" is a legal one and applies to only a small portion of the great mass of mentally disordered; and that in the broad conception, essentially and fundamentally, it is a mental and not a physical trouble that confronts us in the whole group of borderland cases (neurasthenics, hysterics, neurotics, etc.), as also in the criminal, the pauper, the inebriate, the idiot, the imbecile, the feeble minded, the psychopath, certain special cases of deaf and dumb and blind and the epileptic. These types must be more thoroughly studied and understood.

And let us not forget that our very next step in the right direction should be a change in the present method of commitment, from trial by a jury of laymen or inexpert medical men, to voluntary admission or admission on certification by qualified or specially designated experts. Any one who is physically ill can gain admission to a dispensary or a general hospital. It should be no more difficult for the person with a "broken mind."

The after care of the insane is another question which requires proper consideration and attention by the State, or by philanthropic individuals or societies.

We all know how little, in the way of cure, can be accomplished with the end products of disease—mental or physical. We can but console ourselves

by caring for these cases on broad humanitarian principles. The kindly and deserved protection of the aged suffering from mental or physical decay incident to senility calls for their special care and treatment in separate institutions. It seems cruel to place our senile dements, our apoplectics, etc., among our other insane. Likewise, in a truly altruistic spirit and from a humanistic standpoint, the organization of separate hospitals for inebriates, of observation hospitals (connected, if desirable, with general hospitals) for acute cases especially, and of agricultural colonies for the employment of our patients, should be more extensively carried out.

But, while we are taking care of all these classes, how, I ask, can we fail to be most powerfully impressed by the tremendous importance of the problem of prevention? To advance toward this ideal goal, we must devote our utmost energy to the study of methods for the betterment of social conditions; the relation of eugenics and degeneracy to marriage and asexualization (or human improvement by better selection of marriage mates and the control of reproduction of the defective classes); the connection between criminality and mental deficiency or disorder; and the reformation of the juvenile offender by early detection and training in a wholesome, pure environment where he must remain under an indeterminate sentence until pronounced "cured" so that he may reenter the community with safety, rather than incarceration of the adult criminal within prison walls for an arbitrarily determined period, at the expiration of which he only too frequently goes forth again into the outer world only to become a more confirmed enemy of society than ever he was before.

Lugaro's Modern Problems in Psychiatry gives us a good résumé of the unfinished work we still have before us. It shows us that psychiatry is still in its infancy.

Browne, in his *Religio Medici*, says: "I am not only ashamed, but heartily sorry, that, beside death, there are diseases incurable; yet, not for my own sake, or that they be beyond my art, but for the general cause and sake of humanity, whose common cause I apprehend as my own." It is for just this reason that we should not rest on our oars and look on helplessly, but enlist in the fight and try to contribute our mite toward its ultimate solution. Let us but remember that it is all for the common end—the greater whole, the ultimate good.

And so, now that we have decently housed our mentally disordered patient, given him comfortable, homelike surroundings with proper temperature, air, and sunlight, fed and clothed him, freed him from the petty cares and worries of the sordid world, and assured him of competent medical attention, let us now, I say, put our shoulders to the wheel and do our share toward this scientific advance in the study of psychiatry. For the cooperation and education of the medical profession to the problems of neurology, psychiatry, psychology, and the functional diseases in general must precede the dissemination of this knowledge amongst the public.[1]

[1] The author [illegible] from acknowledging its indebtedness to Dr. William A. White, superintendent of the Government Hospital for the Insane, as the inspiring and fertile source of the majority of the views here briefly and hurriedly expressed.

CONCERNING CERTAIN IMPROVEMENTS IN THE OPTICAL CONSTRUCTION OF CYSTOSCOPES.

By Leo Buerger, M. D.,
New York.

In the development of recent improvements in the design of the catheterizing cystoscope,[1] it was necessary to sacrifice certain optical features that are of advantage in the ordinary observation instrument. In order to gain room for two large catheters, the size of the telescope had to be correspondingly diminished. This was necessarily attended with a loss of light and a certain constriction of the field of view. Although I believe that the angular field of view of the cystoscope designed by me some three years ago is quite as large as that of any other cystoscope employing a telescopic tube of similar diameter, it was deemed desirable to make an effort to improve both the field of view and the amount of light. From the optical standpoint it is of greater importance to obtain a brilliantly illuminated picture than one of large surface capacity. It was particularly in quest of an optical system giving ample light that the efforts of Ringleb, of Germany, and of other workers in this field have been directed.

R. Wappler, in his construction of the Otis-Wappler-Nitze telescopes, had already approached the solution of part of the important problem of illumination when he increased the number of lenses between the objective and ocular. Since then Ringleb has achieved even better results by a still greater multiplication of lenses. In his system an Amici prism and several middle lenses were employed. The reason for the utility of increasing the number of middle lenses in the telescope is very easily comprehended if we remember that the amount of light is, to a great extent, determined by the size of the beam of light that can enter the objective. The entrance beam is theoretically limited by the so called "entrance pupil."

For the sake of clearness let us recall to mind the arrangement of lenses in a simple cystoscopic telescope in which, for simplicity, the prism has been omitted, and which consists of an objective, a middle lens, and an ocular.

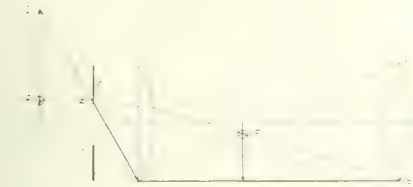


Fig. 1.—The course of the rays in a simple Nitze telescope in which the prism is omitted for the sake of clearness.

Referring to Fig. 1 we see that the actual field is concentrated, as it were, by the objective, which forms a minute image of a relatively large area, at a point close to the lens and indicated in the diagram by the small arrow. This large image is transplanted by the middle lens to a point close to the ocular, where it is enlarged by the latter. It is then evident that only the rays of light that strike the middle or inverting (for it inverts the first image) lens reach the eye. The question then arises as to what rays really do strike the inverting

[1] [illegible]

middle lens. Fundamental optical principles teach us that the size of the entering beam is determined by the so called "entrance pupil" of the lens system under consideration. In a simple cystoscope we have a lens system the objective portion of which



is made up of a field lens, which may contain two or even three planoconvex lenses in a tube, whose length is determined by the degree of separation of the objective and middle lenses. The size of the pupil is measured by an imaginary diaphragm, such as can be constructed in the object space[2] in front of the objective, and which shall represent the image of whatever interferes with the rays at the site of the midde lens. Theoretically the limitation of light at the site of the middle lens is dependent on the tube wall or the lens margin. Practically this "stop" is somewhat less than the tube diameter, since all the peripheral rays falling on the lens are not available. If we construct an image of the middle lens, as if it were thrown backward through the objective into the object space, we will have the so called "entrance pupil."

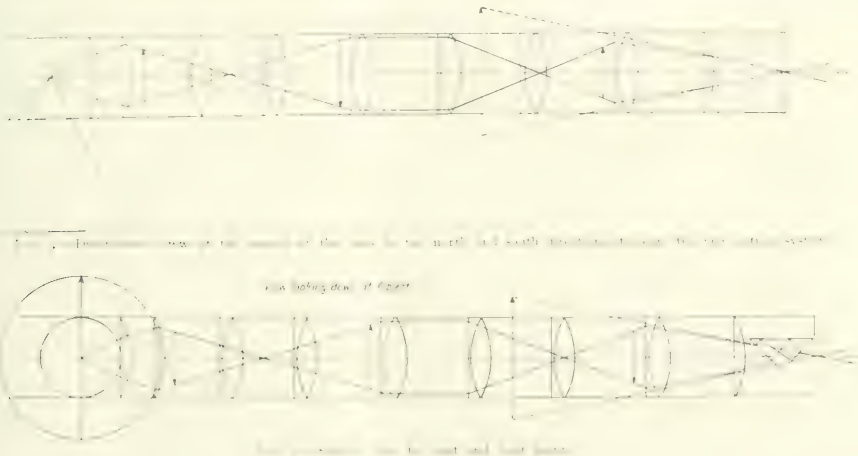
Fig. 2 will explain how the rays are limited by the entrance pupil. Let L be the objective, $A\ B$ the middle lens of the cystoscope, $C\ P$ the plane of the field, and $P'\ C'$ the image thrown in the tube by the objective lens. Let us construct $B'\ A'$ as the image of the stop $A\ B$. Then only such rays from the object $C\ P$ will strike the middle lens as are limited by the imaginary diaphragm $B'\ A'$. The beam of light $B'\ P\ A'$ enters the lens L, is focused at P', and meets the middle lens $A\ B$; in other words, it can reach the eye. Let us follow a ray $P\ R\ S$ that falls outside of the pupil $B'\ A'$. Such a ray intersects the others at P', but strikes the tube in its further course to R' and is lost.

It is evident, then, that the amount of entering light is determined by the size of the entrance pupil.

If we diminish the distance between the inverting lens and the objective, the conjugate image of this lens or stop will be situated farther from the other side of the objective and the pupil will be correspondingly larger. Let $L\ S$ (Fig. 3) be the



objective $R\ T$, the middle lens and $T\ R$ be the image of $R\ T$ on the side of the object space. $T\ R$ is the entrance pupil (P). Given a system in which the inverting lens is placed at $R_2\ T_2$, the entrance pupil will be situated farther from the objective, at $T_2\ R_2$, and will be larger.[3] With a larger pupil we attain the desideratum of a larger entering beam of light and consequently better illumination. In order to conserve this light and to keep the exit pupil (or that which is determined by the ocular side of the lens system) relatively large, we must again multiply our lenses on the ocular side of the



[2] By "object space" we mean the space in front of the objective, in contradistinction to "image space" which is situated inside of the tube.

[3] Thus the value of obtaining the pupil at the position $T_2\ R_2$ has been greatly enlarged. In the cystoscope system these pupils are usually very small in relation to the tube diameter.

system for the same reason already given for the objective side of the telescope.

After considerable experimentation I finally adopted for the catheterizing cystoscope a combination of lenses and prism that, thanks to the skill of Mr. Reinhold Wappler, seems to give a larger field and more light than any other cystoscope of the same or even larger diameter constructed heretofore. For the objective we have employed the most recent improvement of the Otis-Wappler prism, namely, the hemispherical lens with one plane side. To increase the angular field, one, and in thin tubes, two planoconvex lenses were added. Six middle achromatic lenses and an ocular lens make up the rest of the system.

Let us follow the course of rays in this combination of lenses. The objective lenses bring about one reversal of the picture, and the middle lenses are so selected and placed as to cause two additional reversals. In the sense of north and south the prism causes another inversion, so that we have a total of four reversals for north and south points and three reversals for east and west points. This naturally results in the production of an image whose north and south poles are upright and correct, and whose east and west points are reversed. The interchange of these points is then brought about by a simple reversing prism of 90° that is placed in front of the ocular. The course of the rays as regards north and south is illustrated in Fig. 4 and as regards east and west in Fig. 5.

SUMMARY.

By means of the Wappler lens prism and a combination of middle lenses, giving two inversions[4] of the tube image, it has been found possible to conserve as much, and even more, light in a small catheterizing telescope than we have been able to retain heretofore in the large simple observation telescopes. The field of view has been also increased, resulting in an angular field of view showing a gain of 30°, or about half again as large as in the older instruments.[5]

40 East Forty-first Street.

THE PROBLEM OF PROSTITUTION AND VENEREAL DISEASES IN NEW YORK CITY.

By Frederick Bierhoff, M. D.,
New York.

(*Concluded from page 501.*)

Control: The law states that prostitution is a crime, and the prostitute a criminal. But are they so? Is the prostitute, in strict justice, more of a criminal than are those individuals who sell the products of their brains, or hands? I think not, so long as she does not persist in her activities, after knowing herself to be infected with a transmissible disease. The prostitute who, knowing herself to be diseased, still persists in her work, is, however, guilty of a crime, and equally guilty with her, and equally to be punished, is the male, who, knowing himself to be diseased, persists in indulging in coitus.

The law, in this city, has ever harassed the prostitute. The guardians of the law have, here, as elsewhere, taken their shameful, cowardly toll from these women, in the shape of bribes and hush money, and the law has taken its share in the shape of fines. We continuously hear the cry that it is shameful to license prostitution, or to enter into any compact with the prostitutes: *yet the compact is there, although beneath the surface.* What else is it than a cowardly, dishonest compact, which has connived at the existence of brothels, so long as they have paid tribute to the police and their political backers? What else is it than a license, which the city demands of these women, in the shape of repeated fines, when they are arrested for solicitation? Why try to disguise the compact? Only because we are hypocrites.

Surely we control the prostitutes, in this city! But how? By arresting and rearresting those who are seen to accost men upon the streets; by fining them and sending them out upon the streets again, to earn enough to pay for the next fine, or for protection from arrest and persecution. By driving those who live in brothels, from one precinct, over the boundary line, into the adjoining precinct, and back again, or by compelling them to pay well for freedom from molestation.

How great is the sum of the license tax which these women annually pay in this city? No one can tell. The clerks of the courts cannot, or will not; and no one else can, under the present system—or lack of it—of keeping records, accurately compute the amount. Whitin reports that from January to August, 1907, the amount of the fines imposed upon women, for "disorderly conduct" (which also includes intoxication, etc.), was $17,765, while the amount of the fines imposed upon the keepers of disorderly houses was $18,350. Thus, for the two categories, at the same average, the amount for one year would be about $38,000. What was spent in the same time, in bribes to officials, who can tell?

Why not, in preference, follow the suggestion of a former police commissioner, and segregate prostitution? Those who have lived, with open eyes, in this city, during the past twenty years, must have seen how the evil of prostitution has spread all through it, and should welcome the confining of the activities of the prostitutes within certain prescribed districts of the city, as was the case before the ill advised activities of certain fanatics broke their bonds and allowed them to wander at will, and to pollute every part thereof.

Let there be prescribed certain limits within which the prostitutes shall not be molested, *so long as they do not commit any breach of the peace, or give evidence of infection with venereal disease.* Do not license; but, also, permit of no exploitation by police or political "grafters."

Punish, with the utmost severity, both the bribe takers and the bribe givers. This will not entirely eliminate the factor of graft from this traffic, but it will tend greatly to reduce it, if the general run of the bribe takers know that the complaints of even a prostitute will receive a proper hearing before a just court.

A great obstacle in the way of obtaining any satisfactory results from any control, in this city, is

[4] By the employment of nine middle lenses giving three reversals, or a total of five reversals for north and south, four for east and west, together with a correcting prism, the small catheterizing telescope conserves the light quite as well as the six lenses do in the [illegible]

[5] I am indebted to Mr. R. Wappler, through whose skill the develop[illegible] was made possible

the fact that the police court judges are, at the present day, to so great an extent the tools of the political "bosses," to whom they are beholden for their positions. Until we can completely eliminate the factor of politics and its harmful influence from the administration of justice, our hands will be tied. The political police judge has it in his power—seeing that the police courts are the courts of first resort—to oppress, or to condone, as he sees fit.

I cannot, however, share the optimism expressed by this former official with regard to his belief that a zealous police commissioner can restrict prostitution to specific districts and, with the aid of the Health Department, keep it under absolute control. Unless we have a system of registration of all inhabitants, with a record of their removals, etc., as is the rule in so many European cities, we shall never be able absolutely to keep track of the prostitutes and their parasites, the procurers, cadets, pimps, etc. That system we shall probably never have.

Furthermore, so long as the positions of commissioner of police and commissioner of health remain political "spoils," to be disposed of by various mayors to their henchmen, as rewards for political activity, so long shall we have a more or less disorganized police force. The commissioners of police and health should be appointed for life, or until resignation, or removal after public trial upon charges. The positions should be divorced from politics—and its hand maiden, graft—and appointments should be made only upon the basis of service, fitness, and experience, and upon a competitive examination. No police or health commissioner can give this city the best service, or build up a perfect organization, when he can never be sure that his position may not be lost to him at the whim of, or as a result of, the enmity of some political leader.

I fully agree, however, with his view that prostitution should be restricted within certain districts, although not licensed, and I believe that it would be far more easy to exert control, even if only partial; to limit the activities of the prostitutes; to check their exploitation and their rapidly growing alliance with crime and criminals, and to prevent, in a measure, the spread of venereal diseases, if we were thus to restrict the field of prostitution.

The police should be permitted to interfere only when complaints are brought against a particular resort, or inmate, or for breaches of the peace.

It may be claimed that the toleration of brothels (by this term I mean any house, apartment, or room in which prostitution is practised) would open the way for a greater development of white slavery, blackmail, etc. I doubt that. If the "white slaver" be prosecuted ruthlessly in company with all of his helpers and protectors; if the punishment for this crime be made *adequate to its enormity*, and the prison sentence be one of sufficient length to act as a real deterrent, I think that the traffic would soon flag. And with regard to blackmail, I believe that, under toleration of prostitution, it would be made far less easy of accomplishment than is possible under present conditions. This holds good not only for the tribute annually levied upon the prostitutes themselves by various males and females, but also for the blackmail and hush money levied upon men by prostitutes, particularly of the clandestine type.

Restrict, then, the activities of the prostitutes, so far as is possible, to certain districts, whose boundaries shall be fixed by those authorities having jurisdiction in such matters. So long as the prostitutes remain within these districts, refrain from solicitation upon the streets, commit no breach of the peace, and comply with the requirements of the Health Department, *let them alone*. Molest them only in case of disobedience of the regulations, whether they live in brothels, or in single apartments.

If a house or an apartment is to be occupied for purposes of prostitution within this area, require that notice of this fact be given to the Police and the Health Departments. It should then be the duty of the former to find out whether there are any objections to such a proposal from the immediate neighbors in this particular street, and whether there is a criminal record against the keeper and the inmates. If objection is made, or the keeper has a criminal record, permission must be refused. So, also, in the case of proposed inmates. The Health Department should, before the establishment is permitted to receive visitors, cause an examination to be made of each and every inmate, and exclude all those found to be diseased.

No brothel should be permitted to exist upon any street on which there is a public or a private school or a church or Sunday school. No brothel should be permitted to exist in any building in which there are children. If, in a tenement house, the owner should consent to rent apartments to prostitutes, he must not, under severe penalty, rent to any family with children. Should he do so, then he or his agent (whichever signs the lease) should be punished. Should children be born to tenants in such a tenement, then the prostitutes—being the law breakers—should be made to vacate it.

Put the keeper of every brothel—house or apartment containing one or a number of inmates—under bonds, to insure the maintenance of peace therein; but give him, or her, the right to call in the police for aid in the case of any disturbance by visitors.

Permit no more than one woman, outside of the keeper, to live or sleep in any brothel. In other words, insist that only the keeper of the place and one servant may live there. All other inmates who may prostitute themselves in the place must have some dwelling place entirely distinct and separate from the brothel. This would prevent, in a measure, the incarceration or enslaving of women in brothels, and limit the power of the "pimps" and "cadets" over them.

Permit no liquor whatsoever to be sold or served in these places. Should it be proved that this was done, however, then prosecute the keeper and the inmate who served or sold it, for violation of the excise law.

Proceed vigorously against street walkers.

Make the first offence of solicitation upon the street, if proved, or if the woman admits to being a prostitute, punishable by a warning, or by com-

mitment to a probation officer's supervision, if she expresses a desire to reform.

Punish second and subsequent offences by workhouse sentences, graded in length according to the number of the offence. Should a woman who has been repeatedly arrested for "street walking" express a desire to reform, give her the chance—*after she has completed her workhouse term.*

Have an examinations made, by specially trained female physicians, of every woman arrested for street walking on the first arrest, to determine the presence of venereal disease. If disease is present, commit the prostitute to a hospital, where she shall remain until pronounced cured. She may not, however, be definitely released until reexamined and pronounced cured by the female police or court physician who brought about her commitment.

Compel the police to keep accurate records of the individuals arrested for "solicitation," or prostitution, with the disposition of the case, etc. The arrests should not, as at present, be classed under the general heading of "disorderly conduct," with intoxication, etc. When kept as at present, it is impossible to get any accurate idea of the wide extent of this evil.

Do not leave the punishment of this class of misdemeanors to the discretion of the police justices. Stipulate certain punishments and, when the charge is proved, visit them upon the offenders. If an arrest upon such a charge is made by a detective or police officer, and the proofs required by the police regulations be wanting when the prisoner is arraigned in court, let a charge for arrest upon insufficient grounds be entered against the officer making the arrest, and let this be heard and tried against him at Police Headquarters. This would do away with a good part of the arrests "for revenue only."

It may be advanced that these measures constitute an alliance with vice. If so, then it is, at least, an alliance in the hope of a betterment of conditions and the protection of the community. The alliance which exists under present conditions exerts its influence all in the other direction.

Limitation of the spread of venereal diseases: Probably the greatest tax laid upon the community at present as a result of prostitution is the fearful one of disease, invalidism, and death. The annual loss in earning power of the venereally diseased is, as has been stated before in the course of these papers, an enormous one. If we were to add to this the loss occurring as a remote result, I believe that the total would equal, if not surpass, that which is the result of tuberculosis.

Is it not a civic crime, that the venereally diseased are allowed to spread contagion practically unchecked?

Is not the position maintained by society toward the venereal patient—that he, or she, is to be looked upon almost as a malefactor and criminal—a relic of barbarism?

We seek to reclaim criminals; but we neglect those whose sole crime has been the giving way to impulses which are entirely natural, and, through this neglect, subject others, even those innocent of any wrongdoing, to risks which could be avoided much more easily than those of the infectious and contagious diseases against which we now quarantine.

Why should the notification of the board of health of the existence of venereal disease, in any particular patient, be a greater breach of the professional secret than is the present day notification, *upon a postal card at that*, of the existence of tuberculosis, typhoid, scarlet fever, etc.? Methods could easily be devised—were venereal diseases to be placed upon the list of "notifiable" diseases by the Department of Health—that would not be a public advertisement of the fact, and, just as the regulations of this department have been kept from becoming a hardship, in the case of those suffering with any of the diseases at present upon the list, so they could, also, in the case of venereal diseases.

The initiative, then, which may open the way to any sanitary control of venereal diseases, *must come from the Department of Health of this city*, with the help of the general hospitals and dispensaries.

How can we hope to control venereal diseases in any degree? It has struck me that the following plan of procedure might offer us at least the hope of doing *something*, even if, as I am well aware, it cannot hope to reach the great mass of the venereally infected. We may only say to ourselves that every source of infection—particularly among the prostitutes—which we may be able to eliminate, will mean that we have prevented the development of a number of further infections.

We have the possibility of accurately diagnosticating the presence or absence of the two most important venereal diseases, gonorrhœa and syphilis, in the large majority of cases, through the detection of the gonococcus of Neisser, in the case of the former disease, and by the finding of the *Spirochæta pallida* and by the application of the Wassermann test in the latter. If all of our sanitary prophylactic work be based upon the scientifically carried out diagnostic methods now at our disposal, we shall succeed in detecting the disease in the large majority of those cases which may come under observation.

Let the Department of Health issue a call for applicants, female as well as male, for the position of examiners or inspectors, specially qualified in skin and venereal diseases, and appoint a number of such applicants, after due civil service and medical examinations, to its regular staff of inspectors, or let the department permit a number of its already appointed inspectors to fit themselves out, by special study, for service in this particular branch of its work. Let these inspectors have a general supervision of this work, in dispensaries, hospitals, courts, prisons, etc.

Divide the city into districts, just as is done in the case of ambulance work, assigning a certain district to every hospital or dispensary which receives financial aid from the city funds.

Compel each and every dispensary which receives financial aid from the city to maintain a department, under the supervision of specialists, whose competence shall be passed upon by the Department of Health, and who shall act as "deputy in-

spectors" of the department, unpaid by the Department of Health, however, in which males and females afflicted with venereal diseases shall be treated, free of any charge, and according to the regulations of the Department of Health.

Compel each and every hospital which receives financial aid from the city to receive and treat, in its wards, according to the regulations of the Department of Health, such patients suffering with venereal disease as may be referred to it by this department, and, in its private rooms or wards, such patients as present themselves voluntarily for treatment and are able to pay the usual charges for such accommodation. The charges for nonpaying patients, sent by the Department of Health, might be paid by the city from the funds of the Department of Charities, at the regular per diem charges of the particular hospital, or at a per diem rate agreed upon beforehand for all such cases.

Meet the refusals of institutions to accede to such requirements by the withdrawal of financial aid by the city, since there is no justification for their discrimination against the venereally diseased.

Let the Department of Health maintain a suitable place to which all prostitutes arrested for "street walking" shall be brought by the police for examination, without charge, by the special inspectors of the department, to determine the presence or absence of venereal diseases. Let at least all examinations of first offenders be made by a female physician, a member of the special staff. If a first offender be found diseased, let her be placed in one of the "probation homes" for treatment until cured, or sent to her home, or placed in that hospital within whose district her dwelling has lain. Permit no first offender, so placed, to be discharged from observation until pronounced definitely cured by the Department of Health inspector after reexamination. In the case of old offenders, let them be sent to those hospitals in whose districts they live when found to be infected with gonorrhœa. If infected with syphilis, in the active stage, then let them be sent to the Workhouse Hospital, where they may be put to some labor which will help toward reimbursing the city for their maintenance during the long period of the treatment necessary.

Let the Police Department furnish to the Department of Health the names and addresses of all inmates of houses or apartments of prostitution. Let the Police Department notify these individuals that, so long as they report regularly at the required intervals for medical examination, and are found to be free of venereal disease, they will not be molested. And only if they do not report regularly for examination, let the Department of Health inform the Police Department of the facts, if, after due notification to the prostitute, she fails to appear, or to give a valid reason for her nonappearance. In case of such notification from the Department of Health, it would then become the duty of the Police Department to search for the offender.

Let the Department of Health make it known that all individuals who believe themselves to be venereally diseased will, upon application to the department, be referred to some dispensary or hospital for examination, and, if necessary, for treatment. The records of such cases would, of course, not be referred to the Police Department.

Require each and every hospital, dispensary, and physician to make a weekly report to the Department of Health of the number of cases of the different varieties of venereal diseases under treatment, with the disposition of the same. There need be no report of names other than the initials, excepting in the case of prostitutes referred from the Department of Health.

Should any dispensary or hospital, not receiving financial support from the city, express its willingness to receive and treat venereal patients *free of any charge to the patient,* then it might be arranged that the city pay a fixed sum per treatment to the dispensary, or per diem to the hospital.

Under no circumstances should the inmates of brothels of any description be permitted to substitute for the departmental examination that of private physicians, nor should it be permitted any of the examiners connected directly or indirectly with the Department of Health in this work, to examine or treat as their private patients, any of the persons coming under their observation or care in their departmental work.

Provision should be made for the examination of individuals, males as well as females, suspected of being the sources of venereal infections. Individuals believing themselves to have been infected by some particular person, male or female, might make mention of that suspicion to the Department of Health, in a *sealed communication,* whereupon the department might address a communication to the accused, directing him or her to appear for examination, within three days, at the department's bureau, where an examination might be made, *in private,* to determine the presence or absence of venereal disease. Should it be absent, then both accuser and accused might be advised of the fact, and no further notice taken of the matter. If present, then *only the accused* might be informed thereof, and required to present documentary proof, within further three days, that they have placed themselves, for treatment, in the hands of reputable practitioners or institutions. They might, further, be required to present themselves for reexamination at the department when pronounced cured by their medical attendants.

Should the individual accused fail to appear within three days after due notification, then a warrant might be issued to the police officers detailed to duty on the "health squad," empowering them to arrest and bring the individual to the department for examination.

Failure to produce the proofs of submission to treatment when pronounced infected, might be punished by arrest and incarceration in the workhouse hospital or the department's hospital for infectious diseases for compulsory treatment there until pronounced cured.

There would be little, if any, possibility for blackmail in such a procedure. There would, also, be no violation of the rights of the individual, since the Department of Health has the right to seize and confine diseased persons, whose being at large might be of danger to the health of the community. If a

proper punishment were to be visited upon those who might seek by repeated complaints to annoy any individual, I feel confident that such attempts would soon be practically unheard of. Certainly, such invitations to appear for examination should not be made public, and as any complaint should, in order to be considered, bear the name and address of the individual making the charge, redress for any malicious accusation would be easy for the accused to obtain.

Will the prostitutes avail themselves of the means for examination and treatment, or will they seek to escape either, or both? It is hard to say; but, from my own experiences with them, I am led to believe that all but the hardened offenders will welcome the opportunity to keep themselves free of disease *when they know that they are to be treated like human beings, and that they are not to be robbed of the little that they have been able to save.* It has repeatedly occurred that I have been able to trace the infection of some one of my patients to some particular prostitute, usually, I must confess, to those of the "clandestine" type. In almost every instance the woman was eager to embrace the opportunity to be treated, when she found that this was to be free of any cost to herself, and, in almost every case, she was regular and faithful in her attendance until pronounced cured.

It may be argued that it is almost useless to treat prostitutes at all, since they are so liable to reinfection, almost as soon as cured of the former disease. That holds good of those women who, in brothels, cohabit with a number of men at short intervals. The only method of protecting such women is the examination of the men by the prostitute before cohabitation. These women soon learn to recognize the clinical appearances of venereal diseases, and refuse to cohabit with those whom they suspect to be diseased. If the inmates of brothels were, in addition, to be *systematically and properly examined*, at frequent intervals, say every second or third day, infections might be detected at their inception and their further transmission checked.

It may be said that the cost of the examinations and treatment by the Board of Health and its branches (the dispensaries) would be an additional burden saddled upon the taxpayers of the city. If we can get an *honest disbursement* of the money the cost will be small, indeed, when compared to the present day loss to the city as a result of disease and invalidism.

We have seen, and are seeing, the ill and evil results of the *laissez faire* policy. We have tolerated, asserting not to see the evil. We have attempted to exterminate it, and have only seen it scattered over the city. And during all this time, the bountiful crop of disease has been reaped by guilty and innocent alike.

Is it not time that we recognized the fact that we cannot totally exterminate prostitution until we have remedied the social conditions which are the foundation thereof? Would it not be better to tolerate it, so long as we must, with our eyes open; to attempt to limit the field of activity of its devotees, and to seek to combat the spread of the diseases resulting therefrom, *which we can do?*

10 West Sixty-first Street.

A NEW METHOD OF DIRECT TRANSFUSION OF BLOOD.

With Report of Cases and Remarks on Transfusion in General.

By A. L. Soresi, M. D.,
New York,
Surgeon to the New York Hospital, Outpatient Department; Assistant Surgeon to the New York Polyclinic Hospital.

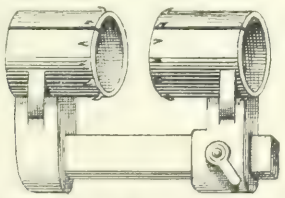
When one looks at illustrations showing methods of direct transfusion of blood and has never attempted it, it appears foolish on the part of any surgeon to devote his time and brains to find improved methods of performing it; in fact the illustrations appear to indicate that it is one of the easiest and simplest operations the surgeon is called upon to perform. The number of new methods presented in the last few years, however, is the best proof that surgeons are not satisfied with the ones previously used.

Such illustrations are very deceiving; they show the lumen of the bloodvessels wide open, the apparent ease with which traction stitches or hooks are inserted and sutures passed around the cut edges or the various cannulas, bridges, etc., introduced into bloodvessels. In reality a bloodvessel is a highly elastic tube the circular wall of which is only kept open by the pressure of the blood circulating in it, and when cut its lumen is not visible because the bloodvessels have the well known property of retracting and contracting, so that when, for instance, six or seven centimetres of the radial artery are isolated and placed in the serrefine and cut close to the distal end of the serrefine, the six or seven centimetres of a formerly large pulsating vessel are reduced to three or less centimetres of a cordlike string without visible lumen; pulling on the traction sutures or on the hook means frequent breakage of the vessel's walls; in fact, while too many to be enumerated, there are a great number of disagreeable possibilities such as leakage, blood clotting, not to mention the long training necessary to handle properly cut bloodvessels, which although not contemplated or suggested by the illustrations, hinder too often the operation of transfusion, so that a procedure which is described and therefore expected to last only a few minutes, oftentimes requires over an hour, taxing to the greatest extent the patient's resistance and the operator's patience and rendering all the work useless where emergency makes speed indispensable.

With all these considerations in view, I beg to present the little instrument, which I imagined a couple of years ago when doing some experimental work on dogs at the Surgical Research Laboratory of the Columbia Medical College and which I presented at the last International Medical Congress in Budapest. It is based on a new principle simplifying the procedure of direct transfusion of blood. The instrument does away with the necessity of opening the bloodvessels until they are ready to be brought together, so that the blood may flow immediately from one to the other. The surgeon is thus enabled to work on the bloodvessels while the blood is circulating in them, that is while the lumen is naturally open because it is full of circulating blood; therefore the bloodvessels not being contracted and retracted are easily grasped and se-

cured by the instrument. Then the intima can without any difficulty be so inverted that the intima of the two bloodvessels can easily be brought in direct contact. Beside the one to be described, no other special instrument, hooks, serrefines, or needles are necessary. *With any other method (sutures, cannulas, bridges, etc.) the bloodvessels must be cut as the first step of the operation; in the one to be described this first step of the others becomes the last, hence its simplicity.*

The preliminary part is the selection and isolating of the bloodvessels as in other methods and the surgeon will choose between an arteriovenous and a vein to vein transfusion. I shall confine myself therefore to some brief remarks. The donor should be free from arteriosclerosis, syphilis, malaria, or other diseases transmissible though the blood and be generally strong and healthy. When possible the affinity of the blood of the donor and recipient should be tested to avoid hæmolysis. The vessels to be selected are, when transfusing from artery to vein, the radial artery of the donor on account of its accessibility and size, and a vein of the forearm or leg of the recipient. When transfusing from vein to vein in dogs, I always use the internal jugulars for both donor and recipient; in human beings, I think a vein of the thigh of the donor and one from the forearm of the recipient most suitable. Local anæsthesia with a weak solution (1 to 500) of cocaine is sufficient, the only pain the patient may feel being when the bloodvessels are cut; no adrenalin should ever be used on account of its action on the contractability of the bloodvessels. No special instruments are necessary; a dissecting bistoury or two pair of scissors, one for the skin and the other for the deeper tissues, plain small thumb and artery forceps, a grooved director, some ligatures, and my instrument are all that is necessary. The radial artery is easily exposed by an incision of about seven or eight centimetres made in the wrist, which should be well extended and rest on a sand bag. When the deep fascia is reached, it is lifted up with forceps as it is done when opening the peritonæum and the grooved director introduced through a small incision which is continued over it. The artery must



be well freed for about four or five centimetres and every lateral branch ligated not too close to the main trunk. The vein is exposed for about eight or nine centimetres and also well isolated.

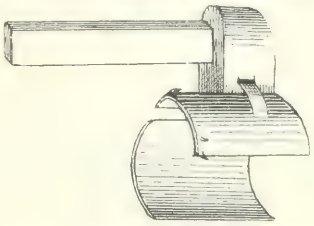
My instrument is composed of two small metal cylinders which are put and held together by means of a small bar and a screw (Fig. 1). Each cylinder

(Fig. 2) and at one end, a little below the edge, is encircled by a crown of small hooks, the points of which are turned toward the other end as shown by the illustrations.

To make the procedure of transfusion clear, it will be divided into three stages.

First Stage. Isolating the bloodvessels. After having, as described before, isolated the bloodvessels, a piece of dentist rubber dam, some rubber tissue, a flat retractor, or something answering the purpose, is passed under them in order to prevent the hooks of the instrument catching the tissues around the wound.

Second Stage. Placing the cylinders around the vessels and cuffing them over the hooks. Take

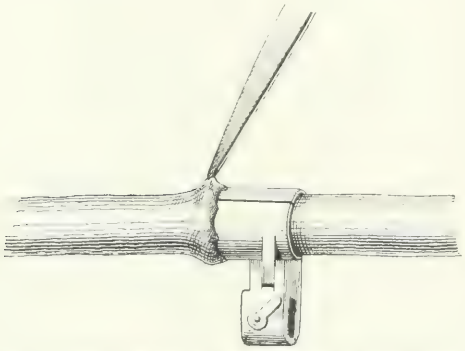


one of the cylinders, open it (Fig. 2), insert the bloodvessels in it, then close it. With a thumb forceps the bloodvessel is easily cuffed over the hooks of the cylinder (Fig. 3); the same is done with the other cylinder and the other bloodvessel; the two halves of the instrument will be put with the bar and the screw toward the operator so as to make twisting of the bloodvessels impossible.

Third Stage. Opening of the bloodvessels and making the anastomosis. The limbs of both donor and recipient are now closely approximated. The vein is first cut about two millimetres from the edge of the cylinder with a sharp knife, the distal end is clamped and after ligated, the other cuffed over the cylinder is examined to see whether the intima is well inverted. In case some part of it, either on account of not having cut close enough to the edge of the cylinder or because some of the hooks did not catch well, is not perfectly inverted, it can be easily and quickly done with the thumb forceps. The vein so prepared is covered with a piece of gauze soaked in warm, normal saline solution, so that air cannot enter the open lumen of the vessel. The artery is then cut in the same way while the assistant squeezes the proximal part between the thumb and index finger. The segment of the artery below the cylinder is now clamped and afterward ligated. The segment over the cylinder is rapidly examined and in case some part is not properly inverted, this is done with the thumb forceps as recommended for the vein. The two ends of the artery and vein inverted over the cylinders are now approximated, the little bar of one of the cylinders is introduced into the corresponding hole of the other cylinder; the assistant now releases the pressure on the artery so as to allow some blood to run through and be *absolutely sure that the*

The two cylinders are then closely approximated, the screw tightened and the operation is complete. The blood will now run freely from one bloodvessel to the other as if it were a single bloodvessel.

I must warn the surgeon against a very serious mishap which may possibly occur. If the blood is running too freely from the giver, there is a danger of acute dilatation of the heart of the recipient and syncope of the donor. This accident has happened to me in my experimental work and may happen to anyone using this method, unless, when he thinks



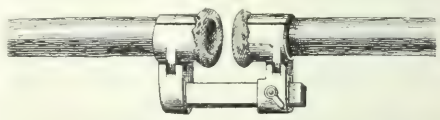
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that the blood is running too fast, he makes a little pressure on the artery with his finger so as to reduce the velocity of the blood stream. To one not well accustomed to the surprises of transfusion, this will appear strange, but I feel it to be my duty to caution strongly against it when using the instrument just described and especially when dealing with patients who have had severe hæmorrhages, and who, on account of the dryness of their tissues, really suck the blood from the donor.

The most practical way of learning whether the transfusion is going along satisfactorily or not, is to test the hæmoglobin of the recipient every five minutes and observe that the pulsation of the blood flowing from the artery is continued in the vein. The pulse of the donor must be examined at frequent intervals, his head kept low and he be laid down on a table well padded in order to make him as comfortable as possible, so as to avoid stretching or changing of position. The heart of the recipient should be examined every five minutes by percussion and auscultation and a constant watch kept on both donor and recipient in order to notice any change requiring assistance. Practice alone will teach the surgeon all the little details which cannot satisfactorily be described.

A word should be said about the attempts to measure the quantity of blood passing from donor to recipient; in theory it seems that if this could be done it would be a great advantage, but I confess that I fail to see such advantage. Transfusion is done in order to improve the condition of the blood of the recipient, and therefore the moment to stop transfusion must be left to the judgment of the operator, and no one can positively state what definite quantity of blood is required; the necessary improvement must be ascertained by the hæmoglobin test and by the condition of the patient as to heart beat, respiration, etc. A limit to the duration of transfusion also implies the capacity of the donor to furnish the blood, and this condition must be ascertained by continuous examination, which may necessitate stoppage even before benefit has been derived by the recipient. By selecting a good subject as donor, no troubles, however, will be met with on that score, and but little inconvenience has been reported by numerous surgeons who have performed transfusion. To determine in advance the amount of blood to be transfused would be the same as if the physician prescribing, for instance, digitalis should satisfy himself with a definite quantity and not be guided by the effects on the patient.

The method just described eliminates the most difficult steps of the older methods of transfusion. In every one of them as the first step of the operation the bloodvessel must be opened, and on account of the known property of the intima to roll on itself and so block the lumen, and owing to the fact that the cut bloodvessels retract, often a great amount of traumatism is done, and coagulation over the point of anastomosis occurs. The suture method has apparently only the hypothetical advantage of avoiding mechanical devices. In reality every surgical instrument is a mechanical device; in the suture method more special instruments are indispensable than in any other method, and, indeed, what are but mechanical devices, the special needles, so thin and small that they require much time to be threaded and a long training before any good work can be done; the serrefines, the fine glass tip with smooth ends attached to a rubber bulb syringe (see Pool and MacClure, October issue of the *Annals of Surgery*), which are necessary to accomplish the suture, which not only is very difficult, but a superfluous step, considering the fact that in the other methods it is not required. If we study the advantages given by Pool and MacClure we shall find that they are not real advantages. These authorities say: "An argument in favor of the Carrel suture is that the anastomosis is not guarded by a rigid mechanical, and can there-



[illegible]

fore be rolled and massaged with the rest of the exposed part of the two vessels if the flow appears too slow. Such stripping between the well petrolated fingers has, in our experience, tended to keep the vessels dilated, thus permitting a full stream of blood. Another favorable feature of the Carrel method is that the calibre of the vessel is not diminished, and extreme dilatation at the site of the anastomosis is possible because the line of suture is on the stretch during the anastomosis. The strain is divided among many stitches which, though frail in themselves, allow any reasonable amount of rough handling when combined. The

absence of apparatus also prevents the obscuring of the site of anastomosis, so that any twisting of the vessels is at once apparent and can be easily corrected."

Let us briefly examine these so called advantages in detail: The bloodvessels can be massaged if the flow appears too slow, but as further it is stated that in the suture method the calibre of the bloodvessels is not diminished, the flow can only be made slow by blood clotting around the suture line, or where the serrefines have been making pressure over the bloodvessels. Such being the case, it is very difficult to understand what advantage there can be to detach the blood clots with the inevitable danger of producing emboli; moreover, with my instrument, I never had slowing of the blood flow, but, on the contrary, the flowing of the blood has been at times too rapid. It is also difficult to understand why there should be any rough handling, even reasonable. The suture method does not obscure the site of anastomosis, so that twisting of the vessels is at once apparent and easily corrected, but twisting of the vessels is more liable to occur when using the suture method than any mechanical device, and it is impossible, unless done on purpose, with my instrument; the correction means a new suture, so it is easily seen that the advantage is only an hypothetical one. If in the suture method any needle, threaded with plain silk and no other special instruments were required, and if suturing of the bloodvessels was a more sure, speedy, and reliable procedure than using the so called mechanical devices these latter should be all dispensed with. But as long as special instruments are necessary to accomplish the suture, and all instruments are mechanical devices, the suture method is evidently inferior to the others when direct transfusion is considered as a help to the patient and not as a demonstration of the skill of the surgeon.

Over the other instruments and the suture, the one I have described has the following advantages: It eliminates hooks, needles, serrefines, or other instruments which traumatize the bloodvessels, and the point of anastomosis is directly between intimas which have not been submitted to any traumatism, therefore there is no possibility of blood clotting, as can be demonstrated by letting flow some blood from the artery when the two halves of the instrument are put together, that is, when the bar of one half has been introduced in the corresponding hole of the other half, but before approximating them tightly by turning the screw.

The greatest of all advantages which justifies the presentation of the instrument to the medical profession, is that the surgeon is enabled to work on bloodvessels full of blood, making direct transfusion a procedure easier, safer, simpler, and more rapid than by using any other method. I never had blood clotting, leakage, or any other trouble which could retard the anastomosis of the bloodvessels. I never had any accident that would stop or slow the flowing of the blood from one vessel to the other once the anastomosis was accomplished, and it never required more than five minutes to perform it. This I verified in numerous experiments on dogs and in the cases reported below. I have made anastomosis between the carotid artery and the internal jugular in dogs, and the blood has been found running without leakage after three days. At the last International Medical Congress in Budapest, I presented a dog with an anastomosis, between the carotid and the internal jugular, dating twenty-four hours, and the blood was running freely without leakage.

Only one size instrument made to fit the radial artery of an adult has been used in my experimental work and in the two cases reported below, and unless one has to deal with an extremely small artery, which would then be unfit for transfusion, it will be found appropriate for every case. If the bloodvessel with the blood circulating in it should appear too large for the instrument there will be no harm, but a certain advantage of being easier to cuff it over the hooks. The size of the vein has no importance, that is, it is not necessary to worry if the vein is larger than the artery; the vein should not be too small, and it is always possible to have a vein of good size, even in small children, by using the great saphenous.

As easy as transfusion appears to be and really is with the method just described, I do not recommend it being done by this or any other method unless the surgeon has had previous experience on dogs, because there are many little details which can only be learned by experience, little things which are nothing in themselves, but which, when working under the strain of an emergency, can spoil the simplest procedure. I will consider it a pleasure to furnish any additional explanations to surgeons desiring the same and will be pleased to do transfusion for any hospital patients requiring it, and will be very thankful to the surgeons reporting to me the cases in which they employed my method.

I will here report the two cases in which this method has been used. I will not make any clinical consideration, having limited this paper to the technique of direct transfusion.

Case I. J. B., a young woman, twenty-four years of age, strong and healthy. The husband returning home found her unconscious and in a pool of blood. When I saw the patient about twenty minutes afterward, the pulse was hardly perceptible and no sound could be detected over the heart, respiration shallow and about sixty a minute. I immediately gave the patient a warm enema of brandy and saline solution, raised the pelvis, bandaged the lower extremities. The hæmorrhage had been caused by an incomplete miscarriage of about four months. The placenta hung from the cervix and when I saw the patient, bleeding had stopped. From what could be seen around the room, the patient very likely struck against something, the fœtus was expelled, and she had tried to get to the bed but fell before reaching it, as was plainly indicated by a large amount of blood, where she was found lying on the floor. On trying to extract the placenta, I felt a fairly large size, rather soft uterus, which was cleaned as quickly as possible and tamponed. The condition of the patient failed to improve notwithstanding the enema and an hypodermoclysis of about a quart of water under the breasts, so I decided to make a direct transfusion, as the husband was very willing to give his blood.

When transfusion was started, the temperature of the patient was 97.2° F., the pulse was imperceptible, and she was unconscious. I thought it advisable (and think it should always be done) to give the donor a good drink of water and brandy so as to overcome the effects of bleeding, and thus have a ready supply of liquid which would be taken up by the body. As the recipient was unconscious, she was not anæsthetized. The radial artery of the left arm of the donor was used. The transfusion went along

[illegible] the only trouble [illegible] at the beginning the blood came too fast, and I feared an acute dilatation of the patient's heart. I made a little pressure over the artery of the donor, so as to slow down the passage of the blood. The pulse became perceptible after about five minutes and the respirations, which were very shallow, slowed down, and became deeper. After fourteen minutes, the patient became agitated, opened her eyes and drew a very deep breath; two minutes later she opened her eyes again, and began to gain consciousness, dropping again in an unconscious state. At the twenty-second minute the patient was conscious, the respirations were about 42 and the pulse 160. The respirations and the pulse dropped, the arterial tension improved rapidly, while the transfusion was progressing, till the pulse and respiration were 150 and 38, when transfusion was stopped, the time elapsed being thirty-one minutes. The donor felt very thirsty and weak, so I thought it advisable to give him a stimulating enema of about 800 c.c. of coffee saline solution and a little brandy, besides a drink of coffee, water, and brandy. No after effects were noticeable, and the recovery of both donor and recipient was very rapid and in every sense satisfactory. The husband resumed work on the third day.

Case II. In this case transfusion was done with Dr. Franz Torek at the German Hospital; female, married, age thirty-six years; gallstone trouble for several years; jaundiced five months, much emaciated and constantly losing weight, skin bronze colored. Operation revealed many adhesions around gallbladder which was gangrenous and contained stones. Bile flowing in opening gallbladder, to minimize danger the common bile duct was not explored, gallbladder removed and the cystic duct drained. At the end of the operation the wound was perfectly dry. On the third day after operation a little oozing began; injection of human serum given 30 c.c. three times a day. At first some improvement, then again bleeding continued; patient growing very weak. Patient lost consciousness and direct transfusion was attempted. Condition of patient moribund, the donor was her sister, very healthy and strong. Hæmoglobin 40 at the beginning. With my technique anastomosis between the radial artery of the donor and a vein of the forearm of the recipient was rapidly made. Blood running freely from artery to vein, patient rallied and seemed to gain consciousness, then sank again. Transfusion continued for about forty minutes; hæmoglobin reached 80, but patient failed to rally and died few minutes after. Donor in good condition.

20 West Forty seventh Street.

AN UNUSUAL CASE OF INFANTILE PARALYSIS.

With a Few Remarks, Especially as to the Possibility of the Colon Bacillus Being a Causative Factor.

By H. G. Harris, M.D.,
New York.

It is not for the purpose of describing an interesting, although possibly a questionable, case of anterior poliomyelitis that this paper is written, but to call attention to a number of unusual features noted during the acute stage.

Case. Family history was excellent, mother was slightly chlorotic; both parents were of slim form, and of the active nervous type of mentality. The mother was a primipara.

Previous history: Born March 20, 1910; birth tedious, necessitating the use of instruments; breast fed for six weeks, and then because of the parents' belief that the infant was not gaining as it should, they having in their possession a manual on infant feeding, modifications of cow's milk were combined with the breast feedings; this was continued with apparently good results up to the fifth month when, because of the return of menstruation, the breast feedings were discontinued.

The infant, other than being below weight, had apparently always been healthy.

Present illness: This was ushered in with a convulsion; believing this to be of intestinal origin, the usual treatment for such cases was instituted, viz.,—warm baths, calomel, oil, and warm colon irrigations. The infant rested well during the night and it was thought that all trouble was over, but on taking the temperature a few hours later, it was found to be 105° F.; vomited several times during the day but there was nothing characteristic in either the attack or the vomitus; very fretful and restless; at times mildly delirious. Did not appear like a baby with a temperature of 105° F., nor did the skin feel hot to the hand; facial expression typical of a pout; cry loud, very similar to the cry of meningitis, and was provoked usually by handling; feet drawn up.

Physical examination: A well developed and fairly well nourished female infant of seven months of age; white; American; weight, fourteen pounds.

Skin: Negative.

Head: Fontanels normal; skull well formed.

Ears: Examination of mastoids and drum membranes negative.

Nose: Slight secretion.

Mouth: Mucous membranes negative; the upper middle incisors can barely be felt beneath the gums.

Throat and neck: Negative.

Chest: Well formed; no prominences or beady conditions.

Heart: Negative; pulse weak and rapid, from 150 to 160.

Lungs: Respirations rapid, shallow, and markedly abdominal in character; occasionally a rest was taken, followed by a good deep inspiration, another rest, and on as before, usually ranging between 56 and 72; bronchovesicular in character; no râles were heard and no areas of consolidation were made out.

Abdomen: Bulging, tympanitic, and very sensitive to touch.

Extremities: No effusions or enlargements of the joints.

Reflexes: Active.

As my examination was practically negative, I repeated the treatment of the previous day; discontinued the milk diet, and restricted all nourishment to barley water.

Third day. The temperature continued high; pulse and respiration as before; vomited again; restless and irritable; the abdomen continued tense, and flatus was expelled on change of position; constipated, for although the calomel and the oil were repeated and this time with double the ordinary dose, the result was poor. On examining the throat a mild general congestion was found present, with a slight enlargement of the tonsils; transitory changes in the color of the skin were also noticed. A mild diaphoretic mixture was prescribed and the baths and the irrigations continued. Hot fomentations and stupes were also ordered. Beef juice was added to the diet.

Fourth day. Other than some difficulty in swallowing, or rather frequent swallowing, the condition remained unchanged. At no time had there been anything characteristic regarding the stools. Puzzled, I called a nearby pædiatrician in consultation, but like my own, his examination was negative, and other than with the advice to keep after the intestinal tract he could help but little. A uranalysis, in addition to the usual findings in cases with high temperatures, showed the presence of the colon bacillus. This was surprising to me as I had taken great care in catheterizing the patient. Chloral by rectum to assist the baths in controlling the restlessness was begun, the castor oil was again repeated, and the baths and the irrigations were continued.

Fifth day. More comfortable but very irritable following the examination; swallowed frequently and was showing difficulty in taking food; an attack of hiccough began in the morning, but it lasted for only a short time; later vomited about two drachms of a greenish colored fluid; the abdominal distention was still marked, and it was only slightly if at all relieved by the irrigations; no result from the castor oil given the previous night and none so far from a similar amount given in the morning. Temperature, pulse, and respiration continued as from the beginning. The number of the irrigations was diminished, and hexamethylenamine, two grains, three times a day ordered. Lime water to be offered freely between the feedings.

Sixth day. Skin mottled; hands and feet blue; both varying in intensity; the restlessness and the irritability had returned, and with them a cutaneous hyperæsthesia, a rigidity of the body and to a lesser extent of the neck and extremities; trunk boardlike; rolled head from side

side; both head and extremities resisted handling, the least disturbance producing a series of jerky movements, but not of a tetanoid character; the fists were closed, with thumbs turned in; these at times were under the fingers, at other times over them; this condition had been noticed in both hands separately and at the same time; the legs were drawn up, the feet equinovarus; knee jerks exaggerated; plantars active; Babinski sign present, but not sustained.

With anterior poliomyelitis and some form of meningitis in mind, but being unable to decide on either, I asked a well known internist to go over the case with me and was completely upset when he stated that he thought the case one of tetany. In addition to the previous treatment morphine 1/100 grain, to be repeated in an hour, was ordered; orange juice was added to the diet. Specimen of urine and blood sent to the laboratory.

Seventh day. Report on differential count taken the day before was as follows: For the combined polynuclears and the transitionals, the findings showed a relative percentage of 59.4, whereas the normal for an infant under one year of age should be thirty-five per cent. or less. Lymphocytes 28.2; large mononuclears 12.2; eosinophiles 0.2; mast cells 0. The uranalysis, a second examination and also a catheterized specimen, showed an acid urine, cloudy, and with a marked trace of albumin, a marked increase of urea, no casts, a few red blood cells, a few pus cells, many small round epithelial cells, mucus in very small amount, colon bacilli. Temperature, pulse, and respiration continued as before. A slight secretion was present in the right eye. The cheeks, the tip of the nose, and the edges of the ears were all of a fiery red. The left foot and leg were hot, especially as compared to the right which were cold. The knee jerks were exaggerated. With both the urine and the blood pointing toward some inflammatory process and because of the presence of the colon bacillus in the urine, the hexamethylenamine was increased to three grains, three times a day, and the previous treatment continued.

Eighth day. Still thinking the case to be one of anterior poliomyelitis, the blood count favoring such a diagnosis, I again asked for a consultation, and in addition to recalling the internist, asked a clinical pathologist to see the case with us. Both agreed on a diagnosis of tetany. The junior, however, added that a meningismus was present, which was probably due to a catarrhal pneumonia. The only changes were as follows: Mouth open; tongue dry and glazed; lips covered with sordes; squeezing the arm above the elbow with the thumb and forefinger, if held for several minutes and with sufficient force, would produce a drawing up of the muscles of the face and if continued would cause a cry; this phenomenon to my mind was devoid of any value; Chvostek's phenomen was absent. Morphine 1/100 grain, to be repeated in an hour, was again ordered.

Ninth day. Patient did not do well during the night; restless and irritable, sleeping at but short intervals; about midnight was attacked with a choking spell in which the respirations were mainly involved; a marked opisthotony was also present; both slowly subsided on placing the infant in front of an open window; several similar attacks but of a lesser extent occurred during the night. In the morning the left leg was found extended and limp; the right was still drawn up; knee jerks present in both; plantar reflex lost in left; Babinski sign negative, as it had been present off and on in both feet separately and at the same time. A coarse tremor of the tongue and lips was noticed, but this did not last for more than an hour. A bulging of the fontanel was also present; this latter prompted the performing of spinal puncture; the fluid emerged under considerable pressure, and about 8 c.c. was allowed to escape; immediately following the puncture there was an expression of relief, and in a short time the hyperesthesia and the irritability disappeared.

Tenth day. Castor oil given during the night, with no result, was found twelve hours later in the return of a colon irrigation; respirations more bronchial in character, and one or two stray mucous râles heard. Left leg continued limp; the right remained drawn up and rigid; a paralysis of the extensors of the hip, causing a contraction of the flexors, was present as the foreleg could easily be manipulated. Abdominal tenderness much less. General condition showed continued improvement.

Diet: Whole [illegible] concentration of the feed

showed undigested food; vomited several times and the vomitus also demonstrated undigested food. Left leg again active; right still rigid.

Twelfth day. Temperature, 101.2° F.; respiration, 32. With the exception of a slight cough the patient appeared comfortable; abdominal condition much improved. All treatment discontinued.

Thirteenth day. General condition continued good; temperature, pulse, respiration normal. Had a neurologist go over the case and the following were his findings: Paralysis of the extensors of the right hip with a resultant contracture of the flexors; wasting of both buttocks and of the entire left leg; left patella more active than the right, although both were diminished; plantar reflexes normal.

The report of the examination of the spinal fluid was as follows: Cytology, very few cellular elements; bacteriology, sterile fluid; chemistry albumin, O; sugar, Fehling's reduction.

Twentieth day. Since the last note was made, with the exception of the hip condition, the infant has been well. Ordered a return to milk feeding.

During the following week the infant began using the right hip, but on my attempting manipulation, it became rigid. Later both legs were unusually active.

The last note was made three months ago. During the interval the infant gradually gained in weight and strength. At the present writing it is in good condition, with no recognizable disturbance of function in either of the legs, and no appreciable deformity.

Conclusion. The interesting points in this case are the length and the severity of the acute manifestations; the presence in the urine of the colon bacillus; the effect of hexamethylenamine; the symptoms indicative of meningitis and tetany; the relief of the symptoms following the lumbar puncture; the appearance of the paralysis on the tenth day and its disappearance a week later.

Finally, it is my belief that the symptom complex tetany is a term not infrequently applied to atypical cases of anterior poliomyelitis. Also, that the question of whether colon bacillus infection may not cause symptoms characteristic of so called tetany, poliomyelitis, or meningitis is worthy of future study.

616 Madison Avenue.

REPORT OF A CASE OF DIABETIC GLAUCOMA AND OPERATION.

By Samuel Moskowitz, M. D.,

New York,

Attending Ophthalmologist to the Yorkville Dispensary.

The case I report is mostly of interest for its ætiology and for the purpose of showing that diabetics stand eye operations well, and, especially so, when their glycosuria is diminished to a minimum by treatment and diet.

I wish, in this report, to bring out the fact that the case was of diabetic origin and not coincident with the diabetes, and that the treatment for the disease had influence on the eye when the sugar in the urine was diminished or increased.

The patient had glaucoma absolutum in one eye, with threatening degeneration, which of course was not cured, but progress was stopped. In the other eye the patient's vision was improved almost to normal, with proper glasses, and tension reduced to normal, and remained so far almost two years.

Case. Patient, J. C.; age, sixty-four years of age; German; single.

Family history was negative, parents living to old age [illegible] trouble.

Personal habits: Patient was strictly temperate and did not smoke. Was careless as regards time and quality of eating.

Business: Outdoor insurance agent.

Past history: Patient had always been somewhat "near sighted," and never wore glasses for this trouble. For some years past has complained of frequency of urination, and of late, thirst. No history of rheumatism, tuberculosis, cancer, or syphilis. Came to me on May 6, 1909, with the following history: Right eye began to fail him a year and a half ago, and he had an attack, with pain in the eye, radiating to the side and back of the head, vomiting, and elevation of temperature. He went to his family physician, who treated him for "stomach trouble." His temperature went down to normal and his vomiting stopped, but the vision of his eye was much worse and he had had pain in that eye since.

Six months later he went to an ophthalmologist in New Jersey, who treated him with pilocarpine and eserine alternately until April, 1909. All that time the vision of his right eye became progressively worse, and he now complained of poor vision in the left eye, and seeing rings around lights.

Examination: The only thing found pertaining to the case was the urine examination of May 6, 1909, which showed: Specific gravity, 1.023; albumin trace, not enough to estimate; sugar, 2.2 per cent.; no diacetic acid or acetone.

Right eye: Vision, perception of light only; tension, plus two; anterior chamber very shallow; iris reacted sluggishly to light and accommodation; eye bulging, conjunctiva almost anæsthetized and very much injected; the ciliary injection being especially marked; cornea very hazy, and difficult to see through into the fundus, which showed marked cupping of the optic disc and venous stasis.

Left eye: Vision, fingers at one foot; tension, plus one; anterior chamber very shallow; cornea, clear; iris reacted sluggishly; fundus did not show cupping of the optic disc, or anything to suggest so marked a diminution in vision, except myopia.

Retinoscopy of the right eye could not be determined but the ophthalmoscope showed myopia.

Retinoscopy of the left eye showed myopia of 2 diopters. Right eye could not be improved by a glass, which was tried as a matter of routine.

Left eye with a —2 spherical gave patient 20/200 plus vision.

For two weeks I treated the glycosuria by diet solely until the sugar was reduced to one per cent. and patient felt better. I also gave the patient solution of eserine sulphate, 0.5 per cent., for both eyes, and prescribed glasses, O.D.—plano, O.S.—2 spherical. During this time the patient was in bed the first six days.

May 23, 1909. Vision in the left eye with a —2 spherical equaled 20/80.

Admitted the patient to a private hospital, and prepared for operation.

Operation was performed on May 24, 1909. In the left eye I performed a superior broad iridectomy with a scleral flap of about 1 mm. in width. The anæsthetic used was holocaine, two per cent., and adrenalin, dropped in every ten minutes for thirty minutes. There was no pain while excising the iris. The patient was then put on a sugar free diet and kept in bed for four days. He was very much benefited by the operation. Tension was about plus ½. After ten days, vision was improved to 10/200 without a glass, and with a —2 spherical which he had, to 20/70. No pain was present.

On May 29, 1909, the right eye was operated on to prevent, if possible, further increase of tension and degeneration. The iris was very much adherent on account of a very shallow anterior chamber, and the exudate; excision of the iris was painful, and the bleeding was more free, and had to be washed out. The resulting iridectomy was not as regular as the left eye, but no complication, as incarcerated iris or vitreous followed, as I had feared.

June 23, 1909. Right eye. Vision, no improvement; no pain; tension, plus 2; conjunctival and ciliary injection much less; cornea, clear.

Left eye: Vision, 20/100; with a —2 spherical (accepted no cylinder) 20/30 minus 2 letters; no pain present.

Patient was going about attending to some business, whereas, before treatment (May 6, 1909), he had to be led around.

Patient stayed away for three weeks, and became very careless and indiscreet in diet. He came back to me with two per cent. sugar in the urine, and tension increased in both eyes. The vision in the left eye was diminished from 20/30 with a —2 spherical, to 20/70. He was ordered to bed again, and a nurse gave careful attention to his diet. After two weeks of good care, he was better than before the relapse.

The patient lived with his brother, and was an old inveterate crank; he could not be impressed with seriousness by any one, and after many months, his brother came to me and wanted to have the patient put into a general hospital (which I did), where he is now being treated and dieted very strictly.

None of the usual causes enter into causation here, except the age.

Predisposing causes have been said to be: 1. Hypermetropia, this patient was myopic. 2. Heredity, there was no history of any. 4. Race, the Hebrew having it much more often; this patient was not a Hebrew. 4. Arteriosclerosis, the patient had very little, even less than would be expected for that age. 5. Sex, the female having it more commonly was not an element here.

About myopia, Fuchs makes the statement in his book (p. 406): "Strangely, myopic eyes are to be regarded as having almost immunity against the disease."

In conclusion, I wish to say that the healing properties of this patient were in no way diminished, because the wounds healed well and quickly, without any scar formation.

317 East Thirteenth Street.

THE TREATMENT OF WHOOPING COUGH

By Carlos L. Henriquez, M. D.,
New York.

In spite of all methods of treatment and the numerous new remedies which are from time to time introduced as cures for it, whooping cough still ranks first among the infectious diseases in its mortality in children under seven.

I shall not attempt to describe the ætiology or symptoms of this disease, but shall adhere strictly to its treatment, describing a method of treatment which, after two years of trial both in my hands and that of other physicians, has convinced me that it is specific for whooping cough.

After making a diagnosis I order a fluid diet and prescribe:

℞ Compound syrup of squill, ...5iii;
Compound syrup of cocillana, ...5iv.

Dose to be regulated according to age as follows: From one to two years, fifteen drops; from two to three years, twenty-five drops; from three to four years, forty drops; over four years, teaspoonful; dose to be repeated every four hours.

This treatment will result in a cure in the severest case, in from four to twenty-one days. In every one of my cases the paroxysms were reduced in number from the first day, and by the end of the first week, were either from three to six hours apart or had entirely ceased. Vomiting is rare after the first week and bad nights the exception. The paroxysms during this time are easily borne by the child, and in the great majority of cases the child will not be frightened at its approach, but keep right on with its play.

In three cases the whoops ceased entirely after

the first dose and the disease was completely aborted. In six cases I obtained a complete cure in one week; in another case complicated with bronchopneumonia the paroxysms were reduced from one every twenty minutes to every five hours, a cure resulted in twelve days. Nine stubborn cases resisted treatment, and I had to gradually increase the dose until I had doubled the original dose, and cures resulted in from sixteen to twenty-one days. In all the other cases, ranging in ages from one to sixty-five, the disease ran a comparatively mild course after the first week, and in none were there any of the complications which usually go with this disease.

Each patient demands constant watching, and the dose must be increased or diminished according to the symptoms. In not one of the cases which I have treated directly or indirectly during the last two years were there any bad effects produced by the drugs used; and although the doses may seem large to some it is absolutely essential in a severe attack to push it to the limit.

One word in regard to the drugs used in this mixture. After trying syrup of cocillana alone, and although it produced marked results, still, by the gradual addition of the compound syrup of squill up to three drachms, I obtained the most perfect results.

13 West Eighty-eighth Street.

INFUNDIBULIN IN HÆMORRHAGE DUE TO UTERINE CARCINOMA.

By John C. Scott, M. D.,
Philadelphia,
[illegible] Medico-Chirurgical College.

In the laboratory study of physiological action of pituitary preparations, especially those of posterior or infundibular lobe, upon the various organs in cats and rabbits, forcibly called my attention to the strong contractile activity of the uterus after giving this agent. This was previously described by Dale. Its action on the vascular system is by slowing and strengthening the beats of heart and raising the blood pressure, its action being slower but more lasting than that of adrenalin. These facts led me to use it in the following case with good results.

Case. Mrs. B., age thirty years; married; four children, youngest sixteen months. Health good until six months ago when a menorrhagia and metrorrhagia was noted which became more profuse each succeeding month. Carcinoma of the uterus was diagnosticated. Operation was refused by three hospitals. The hæmorrhages were rather alarming during the menstrual periods. On December 21, 1910, I was hurriedly called and found patient in a state of shock with marblelike pallor, gasping for breath, pulse so rapid and weak [illegible] from the vagina (attendant informed me that patient lost half a bucketful of blood). I immediately gave hypodermically one cubic centimetre of twenty per cent. infundibulin extract. By the time a saline outfit was extemporized with ordinary hypodermic needle and two quart douche bag and the saline solution prepared and sterilized with the means at hand in the average home, a marked improvement was notable, the pulse became stronger and more regular and slowed down to 120. The hæmorrhage was stopped and did not return for almost a month, excepting a very slight oozing. Two quarts of saline solution were given intravenously. Although this was the worst hæmorrhage the patient had, her recovery was better and more rapid, largely due to infundibulin satisfying the heart, overcoming shock and controlling the hæmorrhage.

January 12, 1911, 8 p. m. Passed several large clots followed by free bleeding and symptoms of shock. One cubic centimetre of infundibulin was again given with the same good results. The hæmorrhage was controlled for three days when a slight oozing was noted and controlled with another injection of infundibulin. The only other medication given was a routine tonic of iron, quinine, strychnine, and arsenic, with morphine to control the pain.

In view of my experiences with infundibulin in the laboratory and with this case I think it is deserving of a more extended clinical trial in uterine hæmorrhages from other causes.

614 West Allegheny Avenue.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CVIII.—How do you treat hiccough? (Closed March 15, 1911.)

CIX.—What are the best means of reducing infant mortality? (Answers due no later than April 15, 1911.)

CX.—How do you treat flatulence? (Answers due not later than May 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the Journal. Our readers are asked to suggest topics for discussion.

The prize of $25 for the best essay submitted in answer to question CVII was awarded to Dr. Arthur L. Fuller, of Garden City, Texas, whose article appeared on page 578.

PRIZE QUESTION CVII

THE TREATMENT OF ACUTE OTITIS MEDIA

(Concluded from page 578)

Dr. Lester Leeson, of Buffalo, N. Y., observes

The scientific and effective treatment of any pathological process can only be attained by ascertaining the causative factors productive of the disease. This knowledge having been learned the efforts of the physician should be directed primarily to the complete removal of the cause. In an acute inflammation of the middle ear the physician is consulted invariably to alleviate the pain which may be and usually is of a severity sufficiently intense to cause extreme restlessness. The plan of treatment may conveniently be classified under three headings: 1 Removal of the cause; 2, local treatment; 3, constitutional treatment or by hygiene.

Every patient with acute otitis media demands a thorough and careful examination of the upper respiratory tract in search of morbid conditions which are apt to produce the condition. The presence of adenoid growths or of hypertrophied tonsils calls for removal of these bodies. In fact, the com-

plete removal of any morbid condition present in the nose, fauces, and epipharynx is advised.

The local treatment must, however, receive first attention temporarily in order that the sufferer may be relieved from the pain. The number of remedies and methods utilized in overcoming the pain are legion. Lack of space prevents an exhaustive discussion of the various procedures in vogue, so I shall confine myself to a treatment which, to me, seems the most effective.

The remedy considered par excellence is carbolic acid and the time honored manner of forming a mixture containing equal parts of that acid, glycerin, and cocaine hydrochloride solution (four per cent.) is still to be respected. A few drops of such a mixture into the external meatus usually brings almost immediate relief. The artificial or true leech applied in front of the tragus, and the application of tincture of iodine posteriorly to the auricle are oftentimes of great benefit. Gently syringing the canal, every two hours, with a warm saturated solution of boric acid has a soothing effect. During the first stage of acute inflammation cold packs or compresses over the ear tend to stimulate the reaction of inflammation.

As the acute stage subsides means should be used to promote the absorption of the exudation, and this may be produced most advantageously by the electrical current. Faradaism in rhythmically interrupted currents or a galvanic current of from five to ten milliampères administered through the aural electrode are the desirable methods.

During the second stage of the disease the tympanic cavity should be freed from secretions, and this is attained through tympanic inflation which, at the same time, increases the air pressure in the middle ear, in this manner not allowing adhesions to form. It is scarcely necessary to remark that if the condition goes on to suppuration with bulging of the membrane paracentesis should at once be resorted to.

Treatment directed to the general health of the patient must be carried out in order to retard the progress of the disease. If there is fever the patient should not alone be confined to a well ventilated airy room, but should remain in bed. The ear may be protected from draughts by a pledget of cotton in the external meatus. The diet should be well regulated and mainly of a simple yet nourishing nature. Catharsis should be produced by the administration of salines.

Dr. J. C. Matthews, of Louisville, Ky., states:

My usual treatment for acute otitis media consists in the following: The patient is ordered to go to bed. Usually a laxative is needed. I make an early incision of the drum head in case the latter is bulging and the patient is having much pain. If there is not much pain and no bulging a hot saline or sterile douche is given, using perhaps a pint of the solution in the ear. This usually relieves the pain and the inflammation is lessened, without any necessity of opening the drum. Following the incision of the drum, I am in the habit of prescribing a saturated boric acid solution, syringing with an "ideal" syringe (small bulb) every two hours. Sometimes, I use a bichloride solution in the strength of 1 to 5000; sometimes simply boiled water. If the temperature rises, I look to my drainage; if it is accompanied by pain, I consider the propriety of a second incision. If the temperature remains high, then I think of mastoid disease or other complications. Some attention to the nose and nasopharynx is necessary. After syringing, the ear is dried and cotton put in. The syringing is usually required less frequently as the discharge becomes less profuse. Healing of the drum ordinarily takes place in from ten days to two weeks.

In the catarrhal cases, inflate gently, after a few days, using the catheter, and the hearing usually returns to normal.

As to medical measures, if the patient is seen early, the inflammation may be arrested and the pain lessened by local blood letting, the judicious use of heat, and free catharsis. My method of employing blood letting is to use either leeches or wet cups, applying them close to, and just in front of, the tragus. As to heat, if it is used at all, I much prefer dry heat to moist heat. A bag of hot water, salt, bran, or hops may be used, or a hot plate, brick, or soapstone. These may advantageously be used by placing them beneath a thin pillow upon which the affected side of the head rests. If, for any reason, the patient prefers not to lie upon the hot pillow, a small bag of hot salt or hot water may be placed over the affected ear, covered with cotton and held in place by a bandage. The practice of dropping oil or laudanum or a combination of the two into the affected ear is not to be commended. A few drops of a four per cent. solution of cocaine may, however, be used or a five per cent. solution of carbolic acid. In some instances, where the patient is not soon comfortable, I have seen the pain relieved and the inflammation apparently arrested by the timely administration of an opiate.

After all, however, I think the important thing in the treatment of acute otitis media, especially where there is suppuration, is an early and free incision of the drum head.

Dr. Ralph Boice, of Sisterville, W. Va., says:

In the treatment of acute otitis media we must consider not only the cure of the acute illness but the prevention of permanent damage to the auditory apparatus. With this end in view we should be very emphatic in enforcing our directions.

In all cases I demand rest in bed until the active symptoms have subsided. A saline purge is given, and, unless the symptoms call distinctly for some other remedy, belladonna at hourly intervals. To relieve the pain I use hot applications, preferably the hot water bottle or Japanese firebox well wrapped in flannel to prevent burning the cutaneous surface. Another local application in which I have great faith is carbolized glycerin of ten per cent. strength, well warmed and instilled every two hours. This relieves the pain and helps greatly in absorbing the exudate by osmosis through the membrana tympani. It also renders the canal antiseptic should paracentesis be necessary.

I do not use anodynes beyond a single dose of morphine, graduated to suit the age of the patient, to secure sleep the first night. Under no circum-

stances is this dose repeated, and if pain still persists I take it as an indication for operative interference and proceed accordingly.

If an exudate remains after treatment has relieved the pain and checked the inflammatory process, I have found that it can usually be removed by way of the Eustachian tube by gentle Politzer inflation with the head hanging forward and inclined to the opposite side. Potassium iodide internally will also hasten recovery. If these fail to clear the tympanic cavity in two weeks' time, I evacuate it by incising the membrana tympani.

If the pain and inflammation continue or increase in twenty-four hours instead of proceeding to resolution, the drum membrane is immediately incised. I want to make it plain here, that I do not *puncture* the membrane, but *incise* it.

My use of the carbolized glycerin has rendered the canal antiseptic, but as a further precaution I clean the parts thoroughly by rubbing the canal with a cotton covered probe saturated with hydrogen peroxide, and follow this with instillations of a saturated solution of boric acid in alcohol. In children I give a general anæsthetic; in adults a local anæsthetic, composed of cocaine, five per cent., and equal parts of phenol and menthol crystals, is used, and a pledget of cotton saturated with this is placed directly in contact with the drum membrane for fifteen minutes. Then with the knife I have found most effective, one made like a small pointed tenotome with a thin blade and keen point and edge, I make a quick, careful incision reaching from the upper posterior edge of the membrane down to the lower rim, and thence forward, forming a flap of the posterior segment. Following the evacuation of the exudate, an instillation of carbolized glycerin is made, and the meatus filled lightly with sterile gauze. The gauze is changed whenever dampened by the discharge.

I never syringe the ear unless the discharge becomes purulent, and then a hot boric acid solution is used several times daily, followed by the ten per cent. carbolized glycerin and sterile gauze dressing.

The discharge is assisted by gentle Politzer inflation, if I make the incision in the membrane large enough, but if the opening is small, there is danger of driving the infectious fluid into the mastoid cells.

After the healing of the opening in the drum membrane, the use of Politzer inflation every few days will aid in restoring hearing by reestablishing mobility of the parts.

Dr. D. N. Husik, of Philadelphia, remarks:

The treatment of acute otitis media depends chiefly upon the severity of pain and appearance of drum membrane.

If in examining a patient complaining of pain in his ear, which has not kept him awake all of last night, I find a congested bulging membrane, tenderness to pressure in the mastoid region and in front of the ear, elevation in temperature, I treat him as follows: Spray nose and nasopharynx with weak Dobell's solution. With cotton applicator dipped in a solution containing, cocaine 0.5 per cent., and antipyrine, one per cent., apply to congested turbinates and nasopharynx, followed by an oily application such as menthol, ten grains, camphor, ten grains, liquid petrolatum, one ounce. Syringe the ear gently with warm carbolic acid solution (1 in 100) dry, and apply five per cent. carbolized glycerin to congested membrane. Paint the mastoid region and front of ear with tincture of iodine, and give following instructions: Go to bed, take light diet, avoid smoking, take ¼ grain calomel every fifteen minutes until you have taken two grains, followed in two hours by a good size dose of epsom salt. Place hot water or hot salt bag to ear.

This treatment, if conscientiously carried out, is sufficient for any mild case of acute otitis media.

On the other hand, if on examining a patient complaining of severe pain in his ear which has kept him awake all last night, I find a congested bulging membrane, with obliteration of all land marks, extreme tenderness in mastoid region, I do a paracentesis as follows: Syringe the ear gently with warm carbolic acid solution (1 in 100), dry, apply ten per cent. carbolized glycerin to membrane and canal, both for its antiseptic and anæsthetic effect. With a sharp pointed, sterile paracentesis knife passed through an ear speculum, I make an incision from below upward in the posterior inferior quadrant (generally most bulging) of the membrane, remove the speculum, and introduce a small piece of sterile cotton. Paint the mastoid region and front of ear with tincture of iodine, and give same instructions as mentioned in the treatment of a mild case. In from twelve to twenty-four hours, the patient will be greatly relieved.

The discharging ear which follows should, under careful attention to cleanliness, clear up in from ten to fourteen days. Very rarely infection from an acute otitis media will travel to the mastoid cells and antrum, recognized by increased bulging in the posterior superior quadrant of the membrane, increased swelling in the mastoid region especially tip, sometimes high temperature, rarely pain and tenderness when swelling in the mastoid region is established. Under careful watching, even these cases can sometimes be cured by rest in bed, purgation, light diet, counterirritations, hot applications, and the establishment of free drainage by incision into the membrane. Whenever it is impossible to establish free drainage, these patients require mastoid operation, clearing out of the antrum and cells.

The treatment in children is the same as in adults. I advise removal of all adenoids and diseased tonsils in children subject to recurrent attacks of acute otitis media.

The after treatment in all these cases is careful attention to nose and throat, and gentle politzerization for the slight deafness and tinnitus.

Dr. Hubert Haywood, Jr., of Raleigh, N. C.:

Acute otitis media is a diseased condition which the general practitioner must often treat and assume the entire responsibility of the case. So my viewpoint will be that of the doctor in general practice and not the specialist.

Most of the cases seen by us are in children, whose parents call us in because the child is suffer-

ing from severe earache, roaring in the ear, restlessness, and nearly always considerable fever. After, by careful examination, having eliminated the nose, throat, and mouth as possible sources of trouble, the ear should have a critical examination through a speculum by the reflected light of a head mirror. We usually find the membrane red, congested, and very tender. In addition to the subjective symptoms points of tenderness are usually found both anterior and posterior to the external ear, but not acutely so as a rule.

Our first thought is to relieve the pain and allay the inflammation as much as possible. I find that syringing the ear with a saturated boric acid solution as hot as can be borne every two or three hours affords some relief. The following prescription, when the pain is very considerable, certainly eases the pain a great deal in many cases and in a simple case of myringitis allays the inflammation.

℞ [illegible] ..... gr. ..
Carbolic acid, ... mx;
Viburnum [illegible] 5i;
Glycerin, ... mxx;
Water, ... q. s. ad 5ss.
M. Sig. Drop ten drops warmed into the ear every three or four hours.

Applications of heat externally are always grateful. Most children bear salt bags heated at frequent intervals better than anything else, with others the hot water bag is soothing.

For the fever and restlessness which so often accompany this condition the following prescription is of value for a child:

℞ Potassium citrate, ... gr. v;
Spirit of nitrous ether, ... mx—xx;
Syrup [illegible] ..... mij;
Syrup of tolu, ... q. s. ad 5.
M. Sig. Teaspoonful diluted every two or three hours.

If there is any coincident inflammation of the nose or throat, I have them sprayed at intervals of every two or three hours with some spray of the type of Dobell's solution or a saturated solution of potassium chlorate, to which I add five drops of carbolic acid to the ounce and two drachms of glycerin.

For its systemic effect I give divided doses of calomel, from one to three grains, according to age.

I advise light diet and confinement to the house, preferably the bed. Temperature, pulse, and respiration are taken every three or four hours. If the symptoms are severe a leucocyte count is advisable.

The ear should be examined every day, and at the first evidence of any bulging of the drum membrane paracentesis in the posteroinferior quadrant should be performed. If there is any sudden increase of temperature, pulse, and respirations, coupled with an increase of tenderness and pain in the development of any mastoid tenderness, paracentesis should not be delayed if it has not already been done. The same rule applies to a sudden increase in leucocytes if a leucocyte count has been kept daily or at frequent intervals.

To perform paracentesis the external auditory canal should be cleansed thoroughly by irrigation with warm water, and this followed by a warm corrosive sublimate solution, 1 to 2000. A soft rubber ear syringe should be used. It is advisable to anæsthetize the drum membrane as far as possible with a four per cent. solution of cocaine applied on cotton for about twenty minutes. Paracentesis should be performed at the point where the membrane bulges most. A longitudinal cut should be made.

In some cases it is advisable to inflate the ear by the Politzer bag, so as to help expel the pus from the middle ear. Lying on the affected side favors drainage. The ear usually drains freely after this, and from now on it is mostly a matter of keeping the secretions washed away. Irrigation, four times a day, with a warm saturated boric acid solution will usually suffice. Collect the discharge on sterilized cotton placed in the exterior ear. It is a good plan to cleanse the external auditory canal thoroughly at least once a day by applying hydrogen peroxide on a cotton wisp in the canal.

If there is any tendency to the formation of granulations, it is well to wipe out the canal with absolute alcohol. If the full strength burns too much start with a fifty per cent. strength and work up to the absolute.

If there is a tendency to a continuance of the discharge, irrigation of the ear with a ten per cent. solution of silver nitrate preparation, or with argyrol, twice at intervals of two or three days, will often hasten a cure. As soon as there is a subsidence of the rise of temperature, it is a good practice to put the patient on small doses of the syrup of iron iodide. If there is any pathological condition in the nose or throat this should be attended to as soon as the child has made a good convalescence.

Dr. J. Dawson Whitall, of Philadelphia, observes:

The treatment of this condition is best divided into two parts, systemic and local. Calomel (given in one tenth grain doses, every half hour till one and a half grains are taken followed by a saline) should be given. Antipyretics of the coal tar derivatives should be avoided. A simple fever mixture may be given, while water should be freely allowed. Some form of opium (preferably codeine) is necessary for the relief of the intense pain which accompanies this condition.

During the first twelve or twenty-four hours I use an ice cap over the affected ear and mastoid region. If after this time the patient seems no better and is getting worse, a douche bag (to which is attached an ordinary medicine dropper) filled with saline solution as hot as can be borne, is used. The nozzle is very gently introduced and the solution allowed to flow slowly upon the membrana tympani. The irrigation is used every two or three hours and not less than a gallon of fluid used at each time. Sterile cotton very lightly packed in the ear is introduced after the douche. The drum head is inspected at each visit and, upon the first sign of bulging, is incised. This is rather a formidable procedure, much easier said than done. A head mirror, a good light, ear speculum, cotton probes, and a very small, sharp scalpel are necessary. A small amount of carbolic acid, pure, on a cotton carrier is held to the drum head. After thirty seconds, a crescentic incision is made in the posterior portion of the tympanum almost without pain. Sometimes pus, often nothing but cloudy serum exudes, but in either case, great relief is experi-

enced. Of course rigid asepsis must be observed, for at any time the mastoid may become involved and operation become imperative. The dropping of "sweet oil," laudanum, etc., into the ear cannot be too strongly condemned.

Under this plan of treatment, which has only been briefly outlined, the majority of cases of acute otitis media subside.

Correspondence.

LETTER FROM EDINBURGH.

The Morison Lectures on Melancholia.—Edinburgh Physicians' and Surgeons' Dispute as to Precedence.—The Late Dr. Andrew Smart.—A Doctor's Diamond Wedding Number

EDINBURGH, Mar. 7, 1916.

Dr. George M. Robertson, lecturer on mental diseases in the university and superintendent of Morningside Asylum, Edinburgh, recently delivered the course of three Morison Lectures. The subject of the first lecture was Melancholia; the Depressive Phase of Manic-Depressive Insanity. This, Dr. Robertson said, was the commonest form of mental disorder. The term melancholia was formerly applied too inclusively, and he proceeded to differentiate and describe the cardinal features of a definite group. In this the depressed emotional condition was the primary and fundamental mental symptom, all others being secondary. It had no tendency to produce enfeeblement of mind, and it ended in complete recovery. It tended to relapse during life or had an irregular periodicity. It was closely associated with the converse condition of mania, or morbid elation of spirits, and tended to alternate with it, these features of periodicity and alternation being most marked in the variety known as *folie circulaire*. These facts induced Kraepelin to regard mania and melancholia as different phases and manifestations of the same disease process, to which he gave the name of manic-depressive insanity. In his second lecture, on The Symptoms of Melancholia, Dr. Robertson pointed out that the symptoms of disease were the natural functions of the body, and that every symptom of insanity could be traced to mental phenomena occurring in health. The rational way, therefore, of studying melancholia was to study it in association with painful or depressed emotions in health. All melancholic patients were depressed, but the exact shade of painful feeling varied greatly. This was not a natural reaction to an appropriate cause, but the result of disease. Along with this there was apathy or inactivity of the other emotions. They were unable to enjoy anything or to take an interest in anything. Disorder of the intellect was secondary. There was poverty with sluggishness of ideation, mental work was a labor, and all the thoughts were gloomy. There was, however, no real mental enfeeblement or confusion, and they had a true insight into their condition. They were sometimes troubled with monotonous and continuous ideation revolving round some depressing subject. This culminated in delusions which were the explanations the patient adopted to account for his melancholy condition. Owing to the absence of interest or desire, the will power was defective, and there was failure to perform those acts and duties which were expected. The one great fault of commission was suicide. The third and concluding lecture dealt with Medicolegal and Practical Considerations relating to Melancholia. In conclusion the lecturer said a few words on the subject of prophylaxis.

The two Royal Colleges, the Physicians and the Surgeons, of Edinburgh are having a dispute as to precedence on occasions of ceremonial. Hitherto the Royal College of Physicians has taken precedence over the Royal College of Surgeons. Recently the College of Surgeons presented a petition to Sir James Balfour Paul, Lord Lyon King of Arms, claiming, on various grounds, and in particular by virtue of the Royal, Parliamentary and other grants in their favor, as well as by virtue of usage, that they were, on all public or ceremonial occasions, entitled to precedence over the Royal College of Physicians of Edinburgh, or otherwise that such precedence should be granted to them. The Secretary for Scotland having decided that the Lyon King of Arms has no jurisdiction in the matter, the case has been taken to the law courts, whose decision is awaited with interest.

Dr. Andrew Smart, an old and well known Edinburgh practitioner, has died at his son's residence in London in his eighty-seventh year. Dr. Smart studied at Edinburgh, London, Dublin, Prague, Vienna and Paris, and was LL.D. of St. Andrews. Among the appointments which he held was that of consulting physician at the Royal Infirmary, Edinburgh, and senior staff physician. He was the author of a report to the Lord Provost and Magistrates of Edinburgh on the Pathology, Treatment, the Prevention of Rinderpest, and Germs, Dust, and Disease, and many medical papers. Dr. Smart will always be known as having discovered the first germ in living tissue—namely, that of the rinderpest, in 1865. On this discovery has been built up the whole germ theory of disease.

An interesting diamond wedding took place recently in Orkney, when Dr. and Mrs. Logie celebrated on February 20th the sixtieth anniversary of their wedding. Dr. Logie is in his ninety-first year, and was for many years a medical practitioner in Kirkwall.

Dr. G. M. Robertson's annual report of the work at Edinburgh Asylum contains an amount of very interesting reading. After giving statistics of cases, he refers to increasing alcoholic excess among women, to the effects on the brain of influenza, of political excitement, and the "insanity of voters"; he deals with the effects of thyreoid medication and the question of insanity and divorce, and concludes with a most instructive account of the treatment of general paralysis of the insane by means of salvarsan. In connection with the last, Dr. Robertson says, its great success in the treatment of certain diseases at once suggested its employment in general paralysis of the insane, till now generally regarded as an incurable malady. The remedy was first of all tried for this disease in Germany, but the reports were disappointing to those who expected sudden and dramatic recoveries, as happened in some other conditions. Some observers reported an improvement after the injec-

tion of the remedy, but even these recommended patience and desired a prolonged period for observation before expressing a definite opinion. General paralysis is subject to remissions during its course, and the improvement observed, they thought, might have been only temporary and due to other causes. "Through the kindness of the director of the Western Research Institute," he said, "we were supplied with a small quantity of the drug before it was for sale, and since then we have purchased more. We have treated a good many cases without apparent benefit, but one patient, who was one of the first to be treated, made, almost at once after the injection, the best apparent recovery of any case of undoubted general paralysis I have yet seen. It is two months since this happened, and the patient still keeps well, but I will not yet commit myself to any definite opinion as to whether the progress of the disease has been checked or not. It has occurred to me, in considering the results obtained, that something was wanting in this new treatment of general paralysis to make it quite as successful as we expected at first. It is stated by Ehrlich that the manner in which the drug acts is by directly killing most of the microorganisms causing the disease. The dead bodies of these microorganisms then liberate toxines in the blood, and these in their turn stimulate the human body to produce what are called 'antibodies,' which actually cure the symptoms of the disease. I believe there is usually a defect somewhere in the links of this chain of reactions in the treatment of general paralysis by salvarsan. I am remedying this fault by injecting at the same time human serum, obtained from the blood of patients treated by salvarsan for another disease, which we know is full of the specific antibodies we want introduced. This combined method of treatment apparently offers us more hope of combating the disease than the injection of the drug alone, but its efficacy can only be proved after a prolonged trial. This new drug, owing to the large quantity of arsenic in its composition, is strongly germicidal, and a wonderful tonic in disorders of the blood, and it may therefore prove of value in other forms of mental disease."

The annual dinner of the Odontochirurgical Society of Scotland was held in Edinburgh on March 10th, when there was a company of about fifty gentlemen present, Mr. J. Douglas Logan, the president, being in the chair. In replying to the toast of the Edinburgh Dental Hospital and School, Councillor Malcolm Stuart said that the dental profession rendered an immense service largely unpaid. He wished some means could be devised to attract public attention to this matter, and the large firms who subscribed generously to charitable institutions could extend their support to the Dental Hospital. Speaking of the extension to the Dental Hospital, of which he is secretary, Mr. Stuart advised that a bold step should be taken. They had the site, and he thought it was mistaken policy to go on year after year without starting the building. They should begin with the funds they had in hand. Let them get into debt. The public would not stand their being sold up. Their services were too important to allow the institution to be harassed with debt.

It is somewhat unfortunate coincidence, a well known Edinburgh doctor has as his motor car number "606." The distinctive letter for Edinburgh being "S," the inscription on his car stands "S 606." It is fortunate that his car was not registered in the county of Edinburgh, for then the worthy medico would have been seen driving about displaying the legend "SY 606," which would have been worse!

Therapeutical Notes.

Foreign Bodies in the Eye.—According to Pron (*Formulaire synthétique de médecine*) the instillation of one drop of the following solution will reveal the presence of a foreign body in the eye by a yellow coloration at the point of contact:

℞ Fluorescein, ... gr. 1/2.
Sodium carbonate, ... gr. 1.
Sterile distilled water, ... mxxx.
Ft. solutio.

Tyramine.—By the action of certain bacteria normally present in the intestine an organic base of this name has recently been isolated, a short account of which is given in the *Biochemical Journal* for October, 1910 (*Edinburgh Medical Journal*). Even large doses up to one decigramme, by the mouth, produce only a slight rise of blood pressure, but when injected in doses of 0.02 to 0.05 gramme into the subcutaneous tissue over the clavicle it causes a well marked rise of blood pressure, lasting about thirty minutes. According to reports the drug seems well worth trying in conditions of shock.

The Use of Colchicum in the Treatment of Gout.—In a lecture delivered at the Hôpital Beaujon and published in the *Clinique* for March 17, 1911, Robin discusses the treatment of gout. Regarding the preparations of colchicum he expresses a preference for the French alcoolat of the flowers of colchicum [spirit of colchicum, made by macerating either the fresh or dried flowers with alcohol of 60 to 80 per cent. and distilling the spirit], and for the active principle, colchicine. While he regards the tincture of colchicum seed as an effective preparation, the quantity of colchicine contained in the seed varies from year to year. This is not so with the flowers, and a tincture made from them has the advantage of constant composition and stability. Robin prescribes the following combination:

℞ Tincture of colchicum flowers (made by the French process), ... 5x.
Tincture of manna, ... 5iv;
Tincture of digitalis, ... 5iii;
Tincture of cinchona, ... 5i;
Tincture of belladonna, ... 5ss;
Tincture of glycyrrhizin, ... 5v.
M

The dose of this is presumably one teaspoonful diluted with water. It is intended to be given in diminishing doses, four teaspoonfuls the first day, three teaspoonfuls the second day, and so on, lessening the dose by one teaspoonful every day, as the pain diminishes.

As an eliminative medicine he prescribes sodium salicylate in the following formula:

℞ Sodium salicylate, ... gr. xxx to 5i;
Syrup of orange flowers, ... 5i,
Distilled water, ... 5iv
M
Sig.: Give in tablespoonful doses during the day.

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MODERN VIEWS OF ANTISEPTICS AND GERMICIDES

In a humorous commentary upon the general tendency of the medical profession to adhere closely to traditions and to depart reluctantly from methods and technique which have been approved by the pioneers in their various departments, that despite the many experimental proofs of their inefficiency, the ordinary germicidal preparations are still universally employed. Most of the experimental work along these lines has been fragmentary and unconvincing, but a recently published article by Seelig and Gould, of St. Louis (*Surgery, Gynæcology, and Obstetrics*, March, 1911), seems destined to alter the generally accepted opinion with regard to the efficiency and mode of action of antiseptics and germicides. The experiments in question were based upon the fact that, inasmuch as bacteria are not always found free on the body or wound surfaces, but occur also in the deeper layers of the skin and tissues, or covered over by blood and exudate; furthermore, since the bacteria themselves have a more or less resistant exterior that serves as a protective armor for their vital protoplasm, it follows naturally that any germicidal solution, to be of value, must possess primarily the power of penetrating tissues. Accepting this postulate as true, it becomes necessary to determine the extent and rapidity with which various germicidal solutions carry on such penetration.

Obviously the principle of osmosis is the basic factor in all tissue penetration, and the investigation was therefore carried on from this standpoint. The most definite and convincing series of experiments was made by using living animal membranes, such as the skin, omentum, and mesentery of the rabbit, still living and attached to the animal. A small dish was filled with the germicide to be tested and then a flap of the animal tissue was laid upon the dish in such fashion as to pouch into the fluid. Into the pouch was placed a measured quantity of a broth culture of bacteria.

It was found that the antiseptics in ordinary use, carbolic acid, bichloride of mercury, etc., had practically no effect upon the bacteria, when plated out, even after long periods. Indeed, when celloidin capsules were used instead of the animal membranes, the organisms were unaffected after twenty-four hours' immersion. The one exception to this rule was iodine, which in solution of 12 per cent. strength was proved to sterilize the bacterial contents of a celloidin capsule within twenty-five minutes. By far the best results were obtained with alcohol, the action of which was exceedingly rapid. With 95 per cent. alcohol the bacteria in the capsules were destroyed in from three to ten minutes, while with the lower percentage strengths the results were much slower, the germicidal power varying directly as the percentage strength of the alcohol. When iodine was added the alcoholic solution reached its greatest penetrative power and was far more efficient than even very strong alcohol alone. Another point of importance was that the presence of the fatty elements of the tissues made penetration by the alcohol more rapid and uniform. Taken as a whole, these experiments seem to be revolutionary and to point the way to a radical change in the principles and technique of antisepsis.

THE MILITARY MANŒUVRES IN TEXAS.

Whatever may be the ultimate object of the mobilization of troops in Texas, there can be no question that the movement might be made of great value in the instruction of both regular and militia officers as to the methods to be pursued in the handling of large bodies of men. The invitation which has been offered to officers of the National Guard to undertake a tour of duty in connection with the manœuvres has been quite generally accepted, and such a tour will prove a valuable lesson.

The medical service in particular should profit by this opportunity. It is with regret that we note that only one medical officer was named among the first quota assigned to duty from the National Guard of the State of New York. We have no doubt that the medical officers of the National Guard have been quite as prompt as the line officers to tender their services. Certainly, so far as the medical officers of the National [illegible]

York, of Illinois, and of two or three other States are concerned, they are as eager to perfect themselves in military training as the line officers. Whatever may be the cause for so slender a representation of the medical department of the National Guard of New York among the first quota assigned to duty, we sincerely hope that this cause will be removed, and that every medical officer in the National Guard will seek and be given an opportunity to observe the practical operations of the army in the field in Texas. Even though the conditions of campaign service are not fully reproduced, the mobilization will furnish a hitherto unequalled opportunity for the medical officers of the National Guard to study the operations of large masses of men in the field, and to familiarize themselves with the duties which they will be called upon to perform in actual service.

FRAUDS IN DISPENSING.

An investigation by a local newspaper, with the aid of a pharmaceutical chemist who is eminent in his profession, has revealed an amount of jugglery in prescription compounding that is truly amazing. Prescriptions for definite quantities of medicinal chemicals appear to have been compounded either in a haphazard fashion or with a view to economizing on drugs at the expense of the patient. In one case it is reported that tap water was sold for a solution of the expensive rubidium iodide. All this is very disturbing to medical men, and further shakes a confidence in the apothecary that has been waning of late.

It is easy to understand the actuating motive of the newspaper which undertook the exposure of guilty pharmacists. We may be sure that the enterprise was not wholly of an altruistic character, and that the business office exerted some influence in carrying it out. But this has nothing to do with the main issue, and if conditions are as represented the need of a thoroughgoing investigation is pressing. There are laws enough on the statute books to provide for the inspection of pharmacies and the regulation of the quality of the drugs and medicines dispensed in them. What is needed is a vigorous enforcement of the law by the proper authorities.

That pharmacists should be allowed to trifle with prescriptions the strength and purity of which might be turning points as to the life or death of a patient is too horrible to contemplate. It is reassuring to find the State Board of Pharmacy giving evidences of a disposition to lend their aid to a movement for a thorough investigation. Under the new pharmacy law which became effective a few months ago violators of the law are prosecuted by the Attorney General of the State. It is earnestly to be hoped that the full strength of his office will be placed at the command of the State Board of Pharmacy for the prosecution of guilty pharmacists.

The operation of the national food and drugs act has been very beneficial in many ways. A rigid inspection is now made of drugs at all ports of entry in the United States, and those found to be below the standard of the *United States Pharmacopœia* are denied admission and turned back to the exporters. A rigid surveillance is also maintained over drugs and medicinal preparations sent from State to State, and in the case of preparations that bear false labels or are not of official strength and purity these are confiscated and, on the charges being proved, are destroyed and the manufacturers are fined. The Federal authorities are, however, restricted in their operations, the pure food and drugs act having no force as regards the dispensing of physicians' prescriptions within any one of the States. But the State authorities are invested with ample power to conduct an investigation and bring the guilty persons to justice.

We are confident that pharmacists themselves would welcome an investigation of this character. With the strict supervision of dispensing work by the State officials, who have the authority to conduct examinations of this kind, the public would have greater confidence in the drugs dispensed by pharmacists, and pharmacists would feel a greater sense of security against the attacks of sensational newspapers. That the necessity exists for some action looking to the improvement of the quality of drugs dispensed in many of the pharmacies throughout this State is well known to all who have given the subject the slightest study, and it is to be hoped that action will be taken speedily.

THE FACTORY FIRE IN NEW YORK.

In November of last year twenty-five girls were killed in a factory fire in Newark, N. J. Nowhere were the conditions leading to these deaths more severely condemned than in New York. In spite of this warning, we have within four months' time, in the heart of this city, a repetition of the disaster on a much larger scale, for on March 25th 142 persons, over one hundred of them young girls, were killed in a factory fire on Greene Street.

It seems almost incredible that with our elaborate system of laws, and inspections, our costly machinery of government, and our well paid and numerous city officials there was not some one person or bureau competent to safeguard the lives of these

poor factory girls, condemned to work in crowded quarters for paltry pay, and eventually to die a horrible death, all because the cupidity of employers and landlords was not restrained by the authorities.

The Building Department denies responsibility, as its sole duty is to inspect new buildings as erected. The State Labor Commissioner likewise evades acceptance of responsibility.

A bill has been introduced into the legislature conferring on the Fire Department authority to make and enforce regulations which will safeguard the lives of factory employees. No other department is so well equipped with a special knowledge of the conditions which must be met as the Fire Department. Each foreman is now required to acquaint himself with the conditions regarding fire risks in all the buildings in his own particular territory. It would therefore require but little more than the conferring of authority to enable this department not only to draft regulations which would effectually forestall the repetition of such a disaster as the Washington Place fire, but also to enforce those regulations in a way to make them effective. Therefore both from the administrative point of view and from that of economy some such measure should be enacted and put into force at once.

As it is, the city of New York stands convicted of the murder by gross negligence of 142 helpless victims. Whatever may be the individual responsibility of the officials, of the employer, and of the landlord, the ultimate responsibility lies with the great city of New York, which has signally failed in its first duty, that of safeguarding the lives of its citizens.

DEATH BY FIRE.

Unnecessary anguish of mind has probably been felt by relatives of the unfortunate workers who were killed in the recent fire on Washington Place by reflection on the supposedly agonizing pain caused by such a death. Where, however, a great bulk of highly inflammable substances is quickly consumed in a closed space, the result is the production of large quantities of carbon monoxide. This gas, it is well known, combines with the hæmoglobin of the blood to form a bright scarlet compound that refuses to combine with oxygen. The result is a speedy and probably painless asphyxiation, before the flames have had a chance to attack the bodies of the victims. It is extremely difficult to resuscitate those who are perishing in this manner. The mental suffering undergone by those who were attempting to escape had, however, no mitigating circumstances.

PLAYGROUNDS FOR CITY CHILDREN.

The residents of Flatbush, Brooklyn, have organized a Children's Playground Association, which will purchase suitable plots of ground, if sufficient funds are contributed, or rent them from the owners in case the receipts are not so great. Speculative owners of building lots will be expected to allow the use of their holdings free of charge until they are absolutely required for building. This plan of securing open spaces for the youngsters has much to recommend it, and, although it cannot be carried out in thickly settled Manhattan, furnishes an excellent example for Staten Islanders and inhabitants of the Bronx and Queens boroughs. As is usual in such cases, one wonders why the project was not thought of long ago, when empty spaces were larger and cheaper.

SALVARSAN IN LEPROSY.

Dr. Dennis E. Montesanto, of Athens, Greece, adds, in the *Münchener medizinische Wochenschrift* of March 7th, to his report made in the same journal (1910, No. 49), on his experience with salvarsan in lepra. He states that small doses of "606," given subcutaneously, have hardly any influence on the Hansen bacillus. Somewhat larger doses produce, as a first result, the reaction of Herxheimer; while large doses and such as are introduced intravenously show a positive destructive action upon the lepra bacilli, but do not destroy the invasion entirely. Salvarsan produces a formation of skin over the ulcerated surfaces. But this action of arsenic has been known through the works of Kubler, Hebra, and Kaposi; the external application of large doses of arsenic has shown such effects. Dioxydiamidoarsenobenzol does not influence the lepromata which are developing. Dr. Montesanto comes to the conclusion that salvarsan should be used in leprosy only in the beginning of the disease, when it can be taken for granted that the number of bacilli is still small, and in cases in which the lepromata break down and ulcerative lesions are formed.

OLD RECORDS OF CASES.

It is an excellent habit for a practitioner to keep written notes of his cases. For months or years it may be desirable for him to refer to these notes on occasions, but their indefinite preservation involves the risk of their eventually falling into the hands of somebody who may not be punctilious about the personal names contained in them. Hence it is better that after a few years they should be destroyed, and their destruction should not be put off till the

[illegible] damage. A good example [illegible] recently set in New York by a practitioner who provided in his will for their destruction.

News Items.

For Service on the Mexican Frontier. Captain M. A. Stevens of Middletown, N. Y., of the Medical Corps of the National Guard of the State of New York, has been assigned to a two weeks' tour of duty with the medical corps in the Texas manœuvres, being the only medical officer from the State of New York thus far assigned to duty with the regular army in Texas.

The Children's Orthopædic Hospital in Seattle.—The corner-stone of the Children's Orthopædic Hospital, in Seattle, Wash., was laid with suitable ceremonies on March 15th, before an audience of nearly three thousand persons. The estimated cost of the building is $100,000. It will have accommodations for 125 patients, and will be equipped with all modern appliances.

The Eastern Medical Society held its annual dinner and reception in the Hotel Astor on the evening of March 22d. Dr. Samuel J. Kopetzky was toastmaster, and among those who made addresses were Dr. Abraham Jacobi, Borough President McAneny, John Temple Graves, Gustavus A. Rogers, and Dr. Louis Ladinski. About four hundred members of the society were present.

The Medical Bulletin of the University of Pennsylvania has ceased publication after an existence of twenty-three years. It was a monthly publication and was circulated largely among medical alumni of the university. Its editorial staff included Dr. Charles H. Frazier, editor; Dr. Alfred R. Allen and Dr. William Pepper, associate editors, and Dr. George E. Nitzsche, managing editor.

The United States Naval Medical School held its graduating exercises on Thursday, March 23d. Thirteen young men were graduated as assistant surgeons in the Navy, the diplomas being presented by Surgeon General Charles F. Stokes. Dr. Robert T. Morris, of New York, delivered the principal address, and Medical Director H. G. Beyer, president of the school, addressed the class.

Vacancies in the Medical Corps of the United States Army.—It is announced that there are still fifty-eight vacancies in the Medical Corps of the United States Army, although forty-seven of the recent graduates of the Army Medical School and five others who have passed the examinations have been recommended for commissions. The graduates of the Medical School are already in the field doing service with the manœuvre division.

The Medical Society of the Missouri Valley.—The twenty-third semi-annual meeting of this society was held at St. Joseph, Mo., March 16th and 17th, under the presidency of Dr. Donald Macrae, of Council Bluffs, Iowa. There was an unusually large attendance and the papers presented were of exceptional value. Dr. Heinrich Stern, of New York, delivered the oration In Medicine. The annual meeting of the society will be held in Omaha next September.

Dr. Grenfell Honored by the Royal Geographical Society.—The Council of the Royal Geographical Society of England has awarded to Dr. Wilfred T. Grenfell, the Labrador missionary, the Murchison Bequest for the current year in recognition of his work. Dr. Grenfell, it is pointed out, has made material contributions to the accuracy of charts of the Labrador region, and valuable contributions to knowledge of the people and the resources of Labrador.

Hospital Benefits.—A performance for the benefit of the Hospital for Deformities and Joint Diseases was given at the New York Theatre on Sunday evening, March 19th. About $3,000 was raised. This hospital recently received a gift of $10,000 from Mr. Alfred M. Heinsheimer.

Over $7,000 was realized from the charity ball given by the Jewish Consumptive Institute of Philadelphia on the evening of March 23d.

A large sum was realized for the Sharon Sanatorium, at Sharon, Mass., at an amateur entertainment held at the Boston Opera House on March 23d.

An Easter Bazaar.—The Alumnæ Association of the Bellevue Hospital Training School for Nurses will hold a fair and bazaar on the afternoons and evenings of April 5th and 6th, from 2 to 10 p. m., to celebrate the opening of their new club house, Osborne Hall, at 426 East Twenty-sixth Street. It is the aim of the nurses to raise a fund for the maintenance of the club house, and they ask such cooperation in funds and gifts to make the bazaar the starting point of a permanent fund for this purpose. The Nurses' Registry will be transferred to Osborne Hall.

The Sage Institute of Pathology to Leave Blackwell's Island.—At a meeting of the board of directors of the Russell Sage Institute of Pathology, held on March 27th, it was decided to terminate the existing agreement with the Public Charities Department and withdraw as pathologists of the City Hospital and of the City Home. This decision on the part of the directors is the outcome of a controversy, extending over many months, between the secretary of the institute and the commissioner of charities. A special meeting will be held to decide with what institution the Russell Sage Institute of Pathology will become affiliated.

Individual Emergency Medical Kits.—The medical supply depot of the army in New York has forwarded to San Antonio and Galveston 40,000 special emergency medical kits for the individual use of the soldiers independently of the medical staff in the field. One of these kits will be issued to every man, and each bears explicit instructions as to its use. They are small and compact and contain medicines, absorbent cotton for the treatment of wounds, court plaster, surgical plasters, and bandages. It is realized that the medical staff, in the event of an army epidemic, would be wholly inadequate to cope with the situation, and the emergency kits are provided for such a contingency.

The Medical Association of the Greater City of New York.—A special meeting of the association, under the direction of the chairman for the Borough of Queens, will be held in the Elks Building, Nott Avenue, Long Island City, on Monday, April 3d, at 8:30 o'clock. Dr. Edward L. Keyes, Jr., of Manhattan, will read a paper entitled Some Observations on Salvarsan. Dr. Edward Wadsworth Peterson will present a paper on the Diagnosis and Treatment of Oesophageal Obstruction, and Tuberculosis of the Spine is the title of a paper to be read by Dr. Irving David Steinhardt. Each paper will be discussed, and at the close of the exercises a collation will be served, to which all guests and members are invited.

The New Hampshire Surgical Club.—About forty members attended the semi-annual meeting of the New Hampshire Surgical Club, which was held in Manchester on Thursday, March 16th. An exceptionally good programme was presented, the principal features being the following four papers: Possibilities of Surgery for Nephritis, by Dr. W. A. Thompson, of Manchester; The Report of a Case of Intestinal Resection, by Dr. G. A. Wilkins, of Manchester; Diabetes Mellitus from a Surgical Standpoint, by Dr. Alfred Kind, of Portland; Diabetes from a Medical Standpoint, by Dr. Elliott P. Joslin, of Boston. The officers of the club are: President, Dr. John W. Staples, of Franklin; vice-president, Dr. C. S. Abbott, of Laconia; secretary and treasurer, Dr. F. E. Kittredge, of Nashua; executive committee, Dr. C. R. Walker, of Concord, Dr. E. H. Carlton, of Hanover, and Dr. T. W. Luce, of Portsmouth.

The East Side Physicians' Association.—This society held a regular meeting on Thursday evening, March 23d, at the Café Boulevard, which was one of the most interesting and largely attended meetings of the year. The programme consisted of a "symposium" on abortion. Dr. Herman J. Boldt read a paper on Abortion and Premature Delivery. A paper on Abortion and the Law, by Almuth C. Van Diver, Esq., counsel for the Medical Society of the County of New York, was read by Mr. Dyer, his associate. A general discussion followed, which was participated in by Dr. C. A. Van Ramdohr, Dr. George Gray Ward, Dr. Samuel M. Brickner, Dr. Leon F. Garrigues, Dr. Samuel W. Bandler, Dr. Alexander Shulman, Dr. Herman Grad, Dr. S. S. Graber, Dr. Abraham J. Rongy, and others. The society will give its annual smoker and entertainment at Healy's restaurant, Sixty-sixth street and Columbus avenue, on the evening of April 1st.

The Buffalo Academy of Medicine.—Dr. Hunter Robb, of Cleveland, Ohio, read a paper before the Section in Obstetrics and Gynæcology of the Buffalo Academy of Medicine, at a meeting held on Tuesday evening, March 28th. The title of the paper was The Treatment of Post-operative Peritonitis with Report of Cases.

No Danger of an Epidemic of Cerebrospinal Meningitis in New York.—As some apprehension has been expressed as to the possibility of an invasion of New York by an epidemic of cerebrospinal meningitis, Commissioner Lederle, of the New York Health Department, has issued a statement to the effect that there is practically no danger of the spread of the disease in New York at the present time. With the present facilities for the detection, prompt isolation, and the serum treatment of every case of cerebrospinal meningitis, the health authorities feel that New York is well armed against a possible invasion. In its efforts to guard the city against an epidemic of meningitis, the department solicits the cooperation of every physician and every citizen.

Dr. Rose Praised for His Work in Onomatology.—At the meeting of the Medical Association of the Greater City of New York, held on March 20th, after Dr. A. Rose had read his paper on How May we Make Our Scientific Nomenclature More Accurate, Dr. A. Ernest Gallant offered the following resolution which was unanimously adopted:

Whereas, The Medical Association of the Greater City of New York, realizes the woeful lack of [illegible] many hybrid terms in medical nomenclature, and

Whereas, Realizing the importance of adopting and adhering to [illegible]

Resolved, That we hereby tender to Dr. Achilles Rose our heartiest congratulations for his work in the past.

That we highly appreciate his uplifting paper of this evening.

That we assure him of our cordial co-operation in the future.

And express the hope that Dr. Rose may live to see the dawn of a new "Renaissance" in American medical nomenclature when pure classic Greek may be the standard in scientific medicine.

War on Vaccination Renewed.—The war against vaccination was renewed on March 15th before the Legislative Committee of the Board of Health which gave a joint hearing on the McManus-Boylan bill which would exempt from the compulsory vaccination law the children of those who have conscientious scruples against vaccination. It is said that the bill was presented at the request of the antivaccination societies. Health Commissioner Lederle has expressed his disapproval of the bill, as he believes that the compulsory vaccination of all school children is the very basis of the system of protection against smallpox, which has proved successful in every country where it has been applied. If schools were to be designated where unvaccinated children would be allowed to attend, such schools would constitute centres where there would always be a possibility for the development of an epidemic of smallpox. As such schools would be attended by children from a widespread area, the occurrence of a single case of smallpox among the pupils would be the means of spreading the disease to an unforeseen extent.

In Memory of Two Pioneer Women Physicians.—At the recent annual meeting of the Women's Medical Association of the State of New York, held in New York, the following resolutions were adopted:

[illegible] annual meeting of the W[illegible] State of New York, Dr. Elizabeth Blackwell and Dr. Emily Blackwell, of New York [illegible] removed by death, and

Whereas, This society recognizes that the Doctors Blackwell were not only pioneers in the study and practice of medicine in the [illegible] medicine, and

Whereas, The members of this society realize not only that a great loss has been sustained in the death of the Doctors Blackwell, but that a responsibility has fallen upon all women physicians to maintain the high standard which they set in medical education, in hygiene, and in advancing the best interests of women in the home, be it

[illegible] and appreciation of the character and work of the Doctors Blackwell, [illegible]

Resolved, That this action be spread upon the minutes of the society, a copy be presented to the immediate family of Dr. Elizabeth Blackwell and Dr. Emily Blackwell, and sent to the leading

The American Medical Editors' Association.—The forty-second annual meeting of this association will be held at the Alexandria Hotel, Los Angeles, Cal., on June 26 and 27, under the presidency of Dr. Joseph MacDonald, Jr., of New York. Special efforts are being put forth to make this meeting one of the best in the history of the organization, and plans already matured enable the executive committee to assure those who will attend a most interesting session, both from a literary and a social point of view. The officers of the association are: President, Dr. Joseph MacDonald, Jr., of New York; first vice-president, Surgeon General Walter Wyman, of the Public Health and Marine Hospital Service; second vice-president, Dr. Thomas L. Stedman, of New York; secretary and treasurer, Dr. J. J. Taylor, of Philadelphia; executive committee, Dr. W. C. Abbott, of Chicago; Dr. C. L. Stevens, of Athens, Pa., and Dr. G. H. Kreidler, of Cincinnati. Dr. Walter Lindley, of Los Angeles, is chairman of the local committee.

The New Jersey Conference of Charities and Correction will be held in Princeton on April 2d, 3d, and 4th. One of the most interesting exhibits at this conference will be an illustration of the work which is being done in mental hygiene. The biological and psychological departments of Princeton University will assist this exhibit with a display of charts, diagrams, apparatus, specimens, etc., illustrating the nervous system in some of its normal and pathological phases, and showing some of the methods used in studying mental activities. Dr. Cotton, the head of the New Jersey State Hospital for the Insane, will supplement the university's exhibits by showing the old and new methods of treating mental disorders, some of the things which cause insanity, some of the means for preventing mental diseases and some of the results of modern systems of treatment. There are to be milk exhibits, a visiting nurse exhibit, various housing and child welfare exhibits. Dr. Woods Hutchinson, Laurence Veiller, Louis Brandeis, Professor L. H. Bailey, Dr. William H. Allen, and Mrs. Charles B. Alexander are to give addresses.

Society of the Alumni of the Presbyterian Hospital Minute of the Death of Dr. Edward G. Janeway.—It is with great sorrow and regret that the Society of the Alumni of the Presbyterian Hospital has learned of the death of Dr. Edward G. Janeway, for many years consulting physician to the hospital.

Doctor Janeway typified in his life and works those qualities of mind and character which make for all that is best in the life of a good physician. His skill as a physician was universally recognized as of the highest order and his advice and friendly services were always most helpful, not only to the sick, but to those of the profession and especially to its younger members and to his students, who sought his aid and counsel in professional matters.

In the death of Dr. Janeway, the medical profession and the community at large have suffered the loss of a warm friend, a wise counsellor, and an able humanitarian.

The society wishes to express its personal grief in the death of Dr. Janeway and to extend the sympathy of every one of its members to his family, and has instructed its committee to send a copy of this resolution to Mrs. Janeway and to enter it upon the minutes of the society.

Arthur M. Jacobus,
David Bovaird,
Herbert S. Carter, Committee.

The Common Drinking Cup to be Abolished in New York.—At a meeting of the New York Board of Health, held on Tuesday, March 21st, the following additional section to the Sanitary Code, to be known as Section 189, was adopted, to take effect on October 1st:

Section 189. The use of a common drinking cup or receptacle for drinking water in any public place or in any public institution, hotel, theatre, factory, public hall or public school or in any railroad station or ferry house in the City of New York, or the furnishing of such common drinking cup or receptacle for use in any such place is hereby prohibited.

In answer to inquiries regarding the exact character of the devices of which the Board of Health would approve as being in conformity with the ordinance just passed, Commissioner Lederle stated that the department is not recommending any one special device, but that, on broad general principles, the common drinking cup will have to be replaced, either by individual vessels, or by some type of drinking fountain in which the lips of the drinker do not come in contact with the fountain itself.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following weekly reports of cases and deaths reported for the two weeks ending March 18th and March 25th.

	March 18th.	March 25th.
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Pith of Current Literature.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

1. Autonomic Manifestation and Peripheral Control of Pain Originating in the Uterus and Annexa, By Charles A. L. Reed.
2. The Open Treatment of Fractures, By S. D. Van Meter.
3. [illegible] tine and the Alveolar Eminence of the Mandible, By [illegible]
4. Lipomatosis of the Lower Extremities with Report of a Case, By W. R. MacAusland and V. E. Wood.
5. Angeiosarcoma of the Liver in an Infant, By Julius Bondy.
6. A Simple Apparatus for Proctoclysis, By Percival Nicholson.
7. A New Method for Applying Plaster Jackets in Superextension, By Percy Willard Roberts.
8. Primary Suture of Subparietal Rupture of Kidney with Report of Case, By F. Gregory Connell.
9. Adenoid and Tonsil Operation, By John Edwin Rhodes.
10. The Preservation of Anatomical Dissections with Permanent Color of Muscles, Vessels, and Organs. A Supplementary Note. By Edmund Souchon.
11. Typhoid Meningitis, By V. C. David, and F. A. Speik.
12. A Case of Epithelioma of the Vulva and a Case of Recurrent Growth of the Meatus Urinarius Treated by Ionic Surgery and Plastic Operation, By Betton Massey.
13. Early Diagnosis of Gallstone Disease, By C. C. Coleman.
14. Vaccination and Smallpox in Japan, By S. Kitasato.
15. Standards and Authority. By George Edgar Vincent.
16. Pellagra Treated with Salvarsan, By Charles M. Nee, James S. Mc[illegible]er, and Gaston Torrance.
17. Sodium Cacodylate in Tertiary Syphilis. Report of a Case By L. W. [illegible]

1. Control of Pain in the Uterus and Annexa.—Reed thinks that in the majority of instances more or less definite autonomical manifestations of pain will be found in conditions as follows, viz.: In the uterus: Malformations; certain new growths, both hyperplastic and inflammatory; certain premenstrual congestions; mechanical occlusions; displacements; infections. In the Falloppian tubes: Infections; occlusions with distentions; ectopic pregnancy. In the ovaries: Displacements; pressure from superimposed viscera; infections; tunicæ adventitiæ; adhesions; follicular degenerations; dermoids. In the cervix: Cicatrices; erosions; infections; distortions; neoplasms. In pregnancy, complicated with neoplasms or neurasthenia or both. In parturition, in which, ordinarily, the autonomic manifestations of pain shift from the upper to the lower (superficial autonomic) zones coincidently with the progress of the labor. The treatment for postoperative, parturient, and other pain of visceral origin he gives as follows: Visceral pain, so far as the abdomen, pelvis, and thorax are concerned, is expressed chiefly but not exclusively in the autonomic algetic areas of the protective walls covering the respective viscera, such algetic areas corresponding in extent with the peripheral distribution of the autonomic nerves coincidently with the peripheral distribution of the respective spinal nerves in the muscles and subserous connective tissue. These distributions can generally be determined clinically by determining the area of partial hyperalgesia. The pain itself, consisting chiefly of superexcitation of muscle irritability, can be partially and, as a rule, entirely, inhibited by inhibiting the muscle sensibility in the hyperalgetic areas. The same principle applies to the peripheral control of pain originating in the parturient uterus, with the difference that the infiltration of succeeding muscle zones must be practised with the corresponding advance of the delivery.

2. Open Treatment of Fractures.—Van Meter observes that the open treatment of fractures insures practically anatomical reduction. We have overestimated the danger of making a compound out of a simple fracture. The Lane plate is the simplest and most efficient fixation device yet designed. It insures immediate immobilization, which in turn means rapid repair and reduction of pain to a minimum. Its application is easier and requires less mutilation and smaller incision than the use of wire. It is a great aid in the management of compound infected fractures. Direct mechanical fixation of fractures greatly simplifies after treatment. The x ray has shaken our confidence in manual reduction, and will force us to more accurate methods.

8. Rupture of the Kidney.—Connell observes that a most important element in the recognition of rupture of the kidney cases is attention to the history of the accident and the nature of the traumatism. Shock and collapse are often absent or but transitory, and the lack of recognition of this fact has been the cause of mistaken diagnoses and delay in proper treatment in a great many cases. Pain is usually very severe at the time of the injury. It may be diffused or localized in the kidney region. Its duration varies greatly, but it is usually present and is followed by tenderness and a dull ache in the region of the ruptured organ. Rigidity of the muscles over the kidney, with tenderness on palpation, is practically constant, and is of great importance. Hæmaturia is generally present; it may be delayed in onset, or may occur with the first urination. In cases in which the ureter is blocked with a blood clot, with a transverse tear of the pelvis or ureter, or with complete pulpification of the organ, hæmaturia may be absent. It must be remembered that hæmaturia following trauma in the region of the kidney is not pathognomonic of injury to that organ, as the bleeding may originate in the bladder or urethra, or there may be a hæmorrhagic nephritis, or idiopathic or other types of bleeding from the kidney. Tumor in the kidney region may be absent, may develop within a short time, when it is usually due to a perirenal hæmatoma, or it may be of late development. In such cases it is probably caused by infection, or more rarely, secondary hæmorrhage. The diagnosis of kidney lesion demanding an exploratory incision, may generally be based on a history of a particular abdominal contusion, with rigidity, tenderness, or tumor and hæmaturia. Connell concludes: Owing to the rapid recent increase in the number of reported cases, there is reason to believe that subparietal rupture of the kidney is more frequent than the literature would lead one to believe. Shock, injury to other

organs, and external evidence of trauma are frequently absent. A history of an abdominal contusion, followed by rigidity and hæmaturia, is sufficient data to lead to an exposure of the organ. Slight lesions, and complete rupture of the kidney, can not be differentiated by clinical signs or symptoms. Proof that there is an absence of serious rupture is called for before instituting the so called expectant treatment. Nephrectomy should be reserved for very extensive disintegration of the organ. Conservative treatment, preferably by suture, is indicated in the majority of cases.

11. **Typhoid Meningitis.**—David and Speik state that typhoid bacilli are not found in the cerebrospinal fluid in uncomplicated cases of typhoid fever. Typhoid patients suffering the ordinary nervous manifestations, such as delirium, involuntary discharges, carphologia, and severe headache, are not benefited by withdrawal of cerebrospinal fluid, although the fluid may be under increased tension. In typhoid patients showing classical symptoms of meningitis, the cerebrospinal fluid may be sterile, but lumbar puncture and withdrawal of fluid has improved the clinical condition in a striking way in some cases. When typhoid fever patients show meningeal symptoms, such as rigidity of the neck, Kernig's sign, convulsions, strabismus, or irregularity of the pupils, lumbar puncture should always be done, and the fluid obtained examined bacteriologically and microscopically.

14. **Smallpox in Japan.**—Kitasato states that Japan is surrounded by nonvaccinated countries, whence contagion may flow in at any time, while the ignorant people do not care to receive vaccination; those who neglect it are therefore predisposed to be infected at the slightest chance. The enormous number of vaccinated individuals which appears in their statistics does not include all the people who should be vaccinated, but it does include a large number of persons revaccinated at an earlier time than the law of immunity requires, because they are well aware of the efficacy of vaccination as well as very anxious to protect themselves from the dangerous contagion. From these various causes, there still prevail epidemics of smallpox in Japan. He regrets that these statistics presented by the Japanese government have seemed to afford data for upholding the theory of the antivaccinationists in America. Every civilized individual of Japan knows the benefit of the marvelous discovery of Jenner, because he sees from time to time how he himself and his neighbors are protected from horrible epidemics. It seems to Kitasato that the presence of such an antivaccinationist as Dr. Hodge, who denies the efficacy of vaccination so frankly in the United States of America, is a striking witness to the fact that the people of America are already well protected by not having had the sad experience of an attack of smallpox for a long time, and by the fact that their neighbors are being thoroughly vaccinated. The antivaccinationists are like those who would deny the benefit of sunshine. It gives them every kind of joy and happiness, and yet they are so familiar with it that they are not aware of its good. They would come to know the vast protective power of vaccination had they once experienced the terrible outbreaks of smallpox in their communities, in which thousands on thousands fall victims while the vaccinated ones go freely through the epidemic without the least danger of contagion.

MEDICAL RECORD.

March 25, 1911.

1. On the Injection of Drugs, Especially of Salvarsan (Ehrlich), into the Lumbar Muscles, By S. J. Meltzer.
2. An Investigation of Recent Outbreaks of Typhoid Fever in an Adirondack Camp, and the Discovery of a Typhoid Carrier, By Charles E. North.
3. Principles Underlying the Surgery of the Spinal Cord and Nerve Roots. Indications for Operative Interference in Injuries of the Spinal Cord; Surgery of the Spinal Nerve Roots, By Russell S. Fowler.
4. The Röntgen Rays as a Means of Diagnosis of Carcinoma of the Stomach and Bowel, By G. E. Pfahler.
5. The Nauheim Methods in the Management of Cardiac Diseases. By Louis Faugeres Bishop.
6. Bilateral Fibromyoma of the Broad Ligament, By Eugene H. Eising.
7. Diagnostic Value of Tuberculin as Shown by Nineteen Autopsies, By G. W. T. Mills.
8. Prophylaxis against Hookworm Infection by Means of Efficient Shoes, By W. F. Arnold.

1. **Injection of Salvarsan into Lumbar Muscles.**—Meltzer reports his experience with intralumbar injection of salvarsan in about a dozen cases. The curative or healing effect of the remedy then applied by this method was apparently not less prompt than that observed after other methods of administration. Secondary and tertiary manifestations disappeared in a surprisingly short time. Regarding the Wassermann reaction, he obtained information only in certain cases; of these, in six, the reaction became negative and in one it remained positive. In ten of the twelve cases no palpable reaction followed the intralumbar injection, of the remaining two cases, in one a moderate œdematous swelling in the lumbar region followed the injection which completely disappeared; regarding the local reaction of the twelfth case he received no information. Salvarsan was administered in most of his cases as a weak alkaline, fine suspension, and in a few instances alkaline solutions of the remedy were employed. Regarding pain, he says that when the intralumbar injection was made strictly intramuscular, the pains which occurred during or followed at any time after the injections were neither in extent nor in character important enough to be considered as a complicated factor. Meltzer gives the following résumé: "The sacrospinal muscle presents anatomically an exceptionally well isolated large compact mass, densely packed with fine muscle bundles. Any solution or suspension injected strictly into this mass will remain there and not affect locally the adjacent tissues. Experimentally it was shown that the absorption from this muscle is superior to that from the gluteal muscles and vastly superior to that from the subcutaneous tissue. Clinically it was established in a limited number of cases of syphilis that salvarsan injected into this muscle exerts a fairly rapid, unmistakably beneficial influence upon secondary and tertiary manifestations of syphilis and upon the Wassermann reaction without causing pain and other ill effects deserving any serious consideration. It

seems to me that the lumbar method of injection deserves a critical trial by careful observers for salvarsan as well as for other drugs."

4. Röntgen Rays as Diagnostic Help in Carcinoma of the Stomach and Bowel.—Pfahler believes that a positive diagnosis with the help of the Röntgen ray can be made in nearly every case in which an indurating carcinoma is present. In some cases in which good peristaltic waves are present a negative diagnosis can be made. A positive diagnosis depends upon some interference with the peristaltic waves, some encroachment upon the lumen of the stomach, some interference with its mobility, or some interference with the functions of the pylorus. These may occur singly or combined. He believes that nothing short of an exploratory operation will give nearly as much positive and definite information, though other physical and chemical examinations should not be neglected. Each interpretation should be made in the light of the history and other clinical and laboratory evidences. These examinations must be made most carefully, and by a trained observer, to be reliable. In the hands of an expert these examinations involve no danger to the patient, and to the operator they are dangerous only in so far as he must expose himself during the fluoroscopic examination. Therefore, the trained eye in making quick judgments and skill in manipulating the instruments will go far in reducing the exposure. Of the bismuth mixture he states that bismuth subnitrate, which was at first used in this line of work, has been practically abandoned on account of possible toxic effects. During the past four years he has been using bismuth subcarbonate with entirely satisfactory results. Bismuth oxychloride may be safely used as a substitute. He has never seen any toxic effects as a result of the large doses of bismuth. In a few instances there has been a slight gastrointestinal disturbance, consisting of nausea, and a feeling of discomfort, but these have occurred in neurotic patients in whom the nervous excitement might as easily be the cause. The bismuth is mixed with water, milk, broths, or with oatmeal, or mush, or is given in the form of a cake. During the past four years he has been using the preparations of fermented milk, such as kefir, firmilac, koumiss, etc. He finds that this holds the bismuth in perfect suspension and is easily digested. He uses an ounce of bismuth subcarbonate to a glass of kefir or firmilac.

7. Diagnostic Value of Tuberculin as Shown by Nineteen Autopsies.—Mills reports nineteen autopsies of tuberculous patients in whom the ophthalmic tuberculin test had been applied. Among his nineteen post mortem cases there were ten with advanced disease. Of these, four cases can be considered together. One of them gave absolutely no reaction, two only slight reactions, and the fourth negative reaction on first trial, positive on second, but this was in the same eye and is without value. They all died within a comparatively short time (three days to thirty-five days), and the results correspond with the results of others and with those of the injection method, that is, in advanced or very active cases, especially just before death, the reaction is absent or slight. The other six were positive, all but one lived a considerable time beyond the test, and the disease was not in as active or advanced a stage at the time of test as in the four above described. The next group includes the cases with scars and evidences of former tuberculosis, nothing of an active nature being present at death. In this group there were seven cases. Three of these were negative; one gave only a questionable reaction at the end of sixty hours, and three gave positive reactions. This proves conclusively that old healed lesions can give positive reactions and strongly positive ones, but at the same time shows that a negative reaction does not exclude an old lesion. The third group includes two with negative autopsy findings, and both gave negative reactions. Mills quotes his conclusion from a former paper: "The subject may be summed up in this way: About from twenty to twenty-five per cent. of insane patients will react to the ophthalmotuberculin test, in whom no demonstrable lesions can be found, but it is probable that in all of them an old focus will be found post mortem. Therefore, a positive reaction in the absence of clinical signs is of no significance, but a negative reaction, except in advanced or very active cases, to my mind, positively excludes tuberculosis." He believes the ophthalmic as trustworthy as any other tuberculin test, more reliable than most methods, and easy of application in any class among the insane. Bad results to the eye have been reported, but with strict aseptic precautions he believes the danger to be infinitesimal, and so far has seen no injurious effects.

BRITISH MEDICAL JOURNAL

March 11, 1911.

1. Some of the Common Injuries of the Knee Joint and their Consequences. By W. Arbuthnot Lane.
2. Injuries of the Lower End of the Humerus. By Charles H. Fagge.
3. Rheumatoid Arthritis. By J. Charlton Briscoe.
4. Note on Two Cases of Pernicious Anæmia Treated by Salvarsan. By Byrom Bramwell.
5. Review of the Operations for Stone in the Male Bladder. By William F. Haslam.

1. Injuries of the Knee Joint.—Lane remarks that the symptoms of damage to the internal fibrocartilage vary considerably. In the milder form of injury there may be merely pain and tenderness along the anterior two thirds of its length which exists only when the knee is bent, but the pain may be absent when the knee is retained in a position of extension. In the more severe forms the fibrocartilage is very swollen and tender on pressure, and may form a distinct protrusion along its length. There may be a varying amount of synovial effusion, and when the cartilage is still compressed between the articular surfaces or displaced from its marginal attachment it is not possible to extend the joint completely. If the cartilage is displaced an endeavor should be made to restore it to its normal position by forcibly separating the opposing surfaces of the internal condyle and of the corresponding surface of the tibia by flexing the knee, and at the same time abducting it, using the external condylar joint as a fulcrum. Should the surgeon be unsuccessful in freeing the displaced cartilage from its abnormal position, the sooner it is removed by an incision into the joint the better, as there is always a difficulty in extending the knee completely

after it has been kept flexed for any length of time. Apart from this condition, he believes that the best treatment for a damaged fibrocartilage is efficient massage and exercises, commenced as soon as possible after the injury has been sustained. As long as the fibrocartilage is painful and swollen the patient should retain the limb in a position of extension when he gets about, which must at first be very little. It is very important that any synovial effusion should be removed and the muscles about the joint restored to their normal bulk and function as soon as possible, since impaired function means liability to recurrence of the trouble. The patient should be instructed to avoid the attitude of flexion of the knee and abduction of the foot in which the cartilage was injured. The inner margins of the feet should be kept parallel during locomotion and the universally accepted attitude of turning the feet out discarded. If the patient must kneel, he should do so on an adducted foot, and not on an abducted one. There are certain games—as tennis, golf, cricket, and football—in which the posture producing damage to the cartilage is constantly recurring. These games should be avoided in bad cases or the function of the knee joint limited to a hinge movement by a suitable apparatus. If the damage to the cartilage is repeated, the sooner it is removed the better. Surgeons differ as to the position and form of the incision necessary for its removal, some preferring a vertical, others a transverse, and others, again, a curved incision. Providing the fibrocartilage is neatly removed, he does not think it matters much which incision is employed, but the accurate and efficient suturing of divided capsular structures and the early restoration of the function of the joint are important factors in the treatment. Synovial effusion can be readily controlled by elastic pressure.

3. **Rheumatoid Arthritis.** — Briscoe remarks that care must be taken not to allow any loss of mobility, owing to the repairing process proceeding too far, and for this purpose massage and passive movements are very useful. When the original source of infection has been removed, such treatment as hot sand baths, local hot air baths, and counterirritants are almost unnecessary. It must, however, be remembered that these patients are frequently wasted and thin and have lost muscular power and subcutaneous fats. Extra diet is therefore advisable and tonics to promote appetite and digestion are also of use. Pains may be relieved by counterirritation of varying degree, temporary fixation and anodyne ointments. It is also important to rectify the condition of the urine in two points—first, the acidity, and, secondly, the quantity of phosphates which are excreted. This is based on the fact that the acidity of the urine is normally due to acid sodium phosphate. Both of these quantities are estimated relatively to the specific gravity of the urine.

4. **Salvarsan in Pernicious Anæmia.**—Bramwell states that since he began to treat pernicious anæmia by arsenic in 1875 he has had a large experience. The results of his observations show that in a large proportion of cases marked improvement, and, in many cases, temporary cure, result from the arsenical treatment; that the improvement is greatest in first attacks and in cases in which the patient can take large doses of arsenic; but that in the great majority of cases, notwithstanding the arsenical treatment, relapses occur, and death ultimately takes place. He now has tried salvarsan. The two patients had received Fowler's solution, which was discontinued. Both received four doses (0.2, 0.3, 0.3, 0.3 gramme, and 0.3 gramme four times) of "606" intramuscularly. In both cases very marked and continued improvement has resulted, both as regards the condition of the blood and the general symptoms.

LANCET

March 11, 1911

1. The Association of Disease of the Mouth with Rheumatoid Arthritis and Certain Other Forms of Rheumatism. By Kenneth W. Goadby.
2. Operations for Stone in the Male Bladder, By William F. Haslam.
3. The Principles on which the Treatment of Resting Conditions of the Skeleton Is Based, By W. Arbuthnot Lane.
4. The Education of the Deaf; Its Present State in England, with Suggestions as to Its Future Modifications and Development, By Macleod Yearsley.
5. Notes on the Duration of Infectivity of Enteric Fever as Illustrated by Repeated Bacteriological Examination of twenty-seven Cases. By Alfred Harris.
6. Sporotrichosis, By E. von Ofenheim.
7. Treatment of Rodent Ulcer by Calciophosphate of Uranium, By Albert Churchward.
8. An Unusual Case of Intestinal Obstruction, By E. A. Wright
9. Infantile Scurvy in a Child Fed on Sterilized Milk, By Francis Bracht and Walter Carr.
10. A Forgotten Prophecy of the Microbic Theory of Infectious Disease, By Charles Singer.
11. The Question of Compulsory State Insurance of Employers' Liability under the Workmen's Compensation Act, 1906. By Albert Benthall.

1. Association of Disease of the Mouth and Arthritis.—Goadby finds that in diseases of the jaws, especially rarefying alveolar osteitis, a streptobacillus is present, pure cultivations of which inoculated into or around the knee joints of rabbits have produced symptoms similar to and indistinguishable from arthritis deformans; he remarks that in such disease of the mouth and jaws the treatment of the disease locally and by means of autogenous vaccine prepared from the streptobacillus has been associated with amelioration and disappearance of the arthritic symptoms in a greater number of instances than can be ascribed to fortuitous coincidence

2. Operations for Stone in the Male Bladder.—Haslam, in order to ascertain what operations surgeons were performing for vesical calculus in Great Britain, sent out certain questions to surgeons attached to the larger hospitals. To the first question, What operation do you usually perform on the removal of a stone before the age of puberty? there were 221 replies. From an analysis of these figures it is clear that the suprapubic operation is the one usually performed. Seven only refer to lithotrity as the method adopted, without any reference to the size of the stone or other circumstances. The others who perform litrotrity do so only after making choice of such cases as seem suitable, in their opinion, for the operation. The lateral operation as well as the median are still mentioned, though apparently are very seldom per-

formed. To the second question, What operation do you usually perform for the removal of a stone from the male bladder after puberty when there is no evidence of prostatic enlargement? there were 240 replies. These returns show that surgeons are prepared to consider the advisability of performing lithotrity in the adult more frequently than in boys, but the number of those who practise the suprapubic operation is in excess of those who use lithotrity, and it should be noted that of these a large number reserve it for small stones, doing the suprapubic operation for large ones. The third question, as to the treatment of stone when there is evidence of prostatic enlargement, elicited 224 replies as follows: For the treatment of stone in the presence of an enlarged prostate the suprapubic operation is, from these returns, the method adopted by almost all surgeons, only sixteen out of 224 being prepared to discuss the desirability of attempting lithotrity under these conditions. The fourth question dealt with the treatment of the wound in cases of suprapubic lithotomy. There were 230 replies. The chief point of interest in this question is as to suture of the bladder and of the abdominal wall, and whether a drain is used or not. It is evident that there are few surgeons who venture to sew up the bladder and close the abdominal wound without some form of drainage, though there are many who will close the bladder and use a drain to it; while rather more than half the number prefer to use either partial suture or none at all.

7. Uranium in the Treatment of Rodent Ulcer.—Churchward reports four cases of rodent ulcer treated with calcium phosphate of uranium. The mode of treatment is simple. After proving that the calcium phosphate of uranium is sufficiently radioactive, place a piece of lint over the ulcer and let the mineral rest on this for three hours each day, which, after a week, can be increased to four or five hours. If any dermatitis is produced in the surrounding tissues leave the treatment off for two days, and then apply for an hour, or two hours only, for the first week, after which increase the time gradually. Dermatitis in the surrounding tissues was set up once only in his cases after an exposure of five hours. It is wise to wrap a piece of lint or bandage round the mineral and to keep this on permanently because the yellowish green crystals of the calcium prosphate of uranium are easily broken and detached from the matrix on which they are deposited, and would therefore depreciate the radioactive power of the mineral. The value of this treatment is this: 1. It is not expensive, as is the case with radium bromide, and therefore within the means of any general practitioner. 2. The mode of treatment is so simple that patients can be treated in their own homes, the case being left in charge of a nurse after the general practitioner has seen that the mineral is properly applied and in the position required.

BERLINER KLINISCHE WOCHENSCHRIFT

[illegible] 27, 1911

The Acute Active Poison Anaphylatoxine from Tubercle Bacilli.
By [illegible]
The Mutual Relations of Growth and Chlorine Supply.
By [illegible]
3. The Diagnostic Value of the Glycyl Tryptophan Test in Carcinoma of the Stomach.
By Heirich Pechstein.
4. Differential Diagnosis and Therapeutics of Diabetes Insipidus, By Rosendorf and Unna.
5. The Influence of Triple Intravenous Injections of Salvarsan upon the Wassermann Reaction.
By [illegible]
6. Serological Observations with Regard to Gout,
By Falkenstein.
7. Iodine, Treatment of Basedow's Disease,
By Ohlemann.
8. Concerning the Albuminose Free Tuberculin Endotin and the Focal Reaction of Tuberculin.
By [illegible]
9. Brief Communication Concerning Kteino Capsules, a New Remedy for Gonorrhœa to be Used Internally.
By Carl Cronquist.
10. New Problems of Communal Hygiene.
By [illegible]
11. Pathology and Therapeutics of Hydrocele,
By [illegible]

1. Anaphylatoxine from Tubercle Bacilli.—Friedberger and Schuetze say that with suitable proportionate quantities of the factors necessary for the chemical decomposition of tubercle bacilli the acutely lethal poison anaphylatoxine may be easily obtained.

3. The Glycyl Tryptophan Test in Carcinoma of the Stomach.—Pechstein gives two tables to show the value of this test. The first table gives the reaction in cases demonstrated to have carcinoma by operation to be positive in eight, negative in three; in clinically positive cases as positive in four, negative in one; in suspicious cases as positive in four, negative in seven; in benign diseases as positive in none, negative in five. A year later most of the suspicious cases had been determined to be either carcinomatous or not, and the other table was constructed regarding the same patients. The reaction in patients demonstrated by operation to have carcinoma was positive in eight, negative in four; in clinically positive cases positive in six, negative in one; in suspicious cases positive in one, negative in two; in benign diseases positive in one, negative in nine. This seems to him to speak well for the diagnostic value of the test.

MEDIZINISCHE KLINIK

March 5, 1911

1. Can the Death of Lepra Bacilli be Demonstrated in the Human Body? By P. G. Unna.
2. The Carbohydrate Treatment of Diabetes,
By Kolisch.
3. Strabismus, By Curt Cohen
4. Serumtherapeutics in the Toxicoses of Pregnancy,
By R. Freund.
5. A Case of Fatal Arsenic Poisoning from the Treatment of Brain Syphilis (*dementia paretica*) with Ehrlich-Hata's "606." By Axel Jorgensen.
6. Clinical Pathology of the Vestibular Apparatus,
By Conrad Stein.
7. A New Medicomechanical Apparatus for the Pronation and Supination of the Forearm,
By [illegible]
8. Injections of Iodipin in Scarlet Fever, By A. Daiber.
9. Experiments with Xerasis in Fluor Albus and Proctitis Gonorrhœica, By R. Tobias.
10. The Question of the Elimination of Lepra Bacilli in Disease of the Respiratory Tract.
By Louis Merian and Cenon Solano.

4. Serumtherapeutics in the Toxicoses of Pregnancy.—Freund reports four cases which he successfully treated by injections of serum from other healthy pregnant women. The first was a case of hyperemesis, icterus, and kidney trouble in the third

month of pregnancy. An injection in the left median vein of 24 c.c. of serum taken from a twenty-one year old primipara in the last month of pregnancy produced a decided improvement in the condition. A week later 25 c.c. of serum from another healthy pregnant woman was injected and soon after all symptoms disappeared. The other three were cases of puerperal eclampsia. One received 58 c.c., another 40 c.c., and the third 36 c.c. of serum taken from other healthy patients. In all the symptoms disappeared in from one to three days. In one the child had been delivered immediately when the patient came under observation, the other two had normal labor. All recovered.

5. **Fatality after the Use of "606."**—Jorgensen reports the case of a man, forty years old, who had had two attacks of syphilis eleven years before, each treated with forty inunctions. In 1907 certain syphilitic symptoms retrograded after twenty-five inunctions and thirty grammes of potassium iodide, and then the patient paid no heed to warnings and urgings to continue the treatment. In the summer of 1908 he began to suffer from dementia paretica. On August 25, 1910, 0.5 gramme of "606" was injected into the muscles beside the left scapula. For forty-eight hours he seemed to do well, then his temperature rose, his pupils became moderately contracted, then his feet and hands began to tremble, he could not stand, and began to perspire freely. These symptoms increased steadily. He lost his strength completely, though there was no paresis or œdema and the tendon reflexes were lively. The heart and lungs showed no organic trouble, but he sank until death occurred on September 2nd. Autopsy revealed very slight changes, only a slight, acute, parenchymatous degeneration of some organs, particularly the kidney, and fatty degeneration of some fibres of the vagus and of the nerves in the right brachial plexus that could be ascribed to the poisoning with arsenic. The changes typical of dementia paretica were present in the brain. The tissue about the place of injection was necrotic, but had not broken down into pus.

Proceedings of Societies.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Special Meeting of the Borough of the Bronx, Held January 9, 1911

DR. N. B. VAN ETTEN in the Chair.

Electrocardiograms and Their Significance.—In this paper DR. THOMAS E. SATTERTHWAITE stated that in the past summer he had spent some six weeks at Franzensbad in observing the operation of the Einthoven electrocardiographic machine by Dr. Edmund Hoke and Dr. Theodor Wohrizek. Having referred to the fact that muscle tissue, in the performance of its functions, evokes, 1, animal action or motion; 2, animal warmth; and, 3, animal electricity, he proceeded to give a history of the development of the apparatus now in use for producing electrocardiograms and a description of the apparatus and the method of employing it. For heart work there were needed, to make the apparatus complete, the following: A string galvanometer; a lamp; electrodes; an accumulator battery; an appliance for testing the susceptibility of the galvanometer; an appliance for compensating the "null element"; a photoregistering apparatus; an achromatic microscope. He then went on to say that an effort had been made to construct from a large number of electrograms the tracings of certain well known forms of valvular diseases. The difficulty was not so great with mitral stenosis, which, in its developed form, had characteristic features and would naturally, at least when there was the "check" associated with the presystolic murmur, give a characteristic tracing. But these lesions were so generally intermixed (the valvular lesions were so apt to be multiple), that in the vast majority of instances it would be impossible to dissociate them; for until autopsies had been made in sufficiently large numbers to furnish tracings for individual single lesions, we would not be able to say that this or that curve belonged to this or that valve lesion. Now, as this presence of a single lesion was so very infrequent, the call for a special curve tracing to diagnosticate a special valve lesion became of less importance from a diagnostic point of view.

Dr. Satterthwaite's conclusion was that this method was not at present, taking it all in all, so valuable for diagnosis as the polygraphic or blood pressure or x ray work; being rather an accessory to other means of diagnosis. Its precise utility, however, had not yet been definitely established. Though his personal experience with it had been limited, he had seen enough of its operation to convince him that it had not as yet reached the stage where it was worth while for the practitioner to use it. Moreover, it was very complicated, consisting of a number of apparatus, requiring much skill to operate. It was also extremely costly, and was very easily put out of condition. At present it was not possible by means of the electrocardiogram to uniformly distinguish functional from organic heart diseases: neither could the use of the instrument dispense with the personal examination of the patient. Hence, a complete diagnosis could not be made by this means when the patient and the physician were far apart. Neither the electrographic nor any other so called instrument of precision told an invariably truthful story; mechanical difficulties would at times occur, making the picture untruthful. Moreover, the standard normal curve had not as yet been agreed upon. The instrument, however, was capable of showing the time and force of action by the ventricles and auricles, and it noted lack of transmission and demonstrated extra systoles more clearly than any other method. It was certainly useful in various forms of arrhythmias, particularly when there was more or less complete auriculoventricular dissociation. Assuredly, he said in concluding, electrocardiographic machines would form a useful addition to the equipment of the physiological laboratories of very large hospitals. They undoubtedly showed auricular movements better than any other method.

Numerous diagrams were shown in connection with the paper.

DR. ALFRED E. COHN said that this machine was now being employed in New York and elsewhere in

this country. Personally, he considered electrocardiograms of more value than Dr. Satterthwaite appeared to do. In fact, they seemed to him to offer a great many advantages. Thus, the well known difficulty in getting tracings of the venous pulse and in writing them was by this method absolutely done away with. Practically, he had found that it made no difference whether the individual examined was thin or fleshy. Moreover, we had the advantage that the patient might be at almost any reasonable distance from the instrument. At the Mount Sinai Hospital, for instance, the patients in whose cases the method was employed were in all parts of the medical pavilion. Not infrequently the examinations were carried on for as much as two hours at a time, yet without the slightest discomfort to the patient. As to just what conditions could be diagnosticated by means of electrocardiograms, this would require more extended demonstrations than were possible at the present moment.

Dr. H. B. Williams said that while this was an instrument of precision, it did not follow that by it we could diagnosticate valvular lesions. This could be done in so far only as such lesions caused changes in the cardiac muscle. The method enabled us to get a positive expression of the muscular activity of the heart; something which it had not been possible to obtain before. Moreover, heart block could be more easily diagnosticated by this means than by polygrams. This instrument would never come into general clinical use, but its installment in the large hospitals and laboratories, it was to be hoped, would enable physicians to avail themselves of its advantages in difficult cases. Its principal use, however, would no doubt be as an instrument of research.

Dr. Louis F. Bishop said that during the past summer he had had the opportunity of studying the system of electrocardiograms, and he was convinced that in the class of cases to which it was adapted the instrument constituted a valuable addition to our resources. The apparatus, however, was very complicated, and there would always be found some patients on whose cases it would not throw any light. Electrocardiograms were chiefly valuable in tracing and exploring various irregularities of the heart muscle. In New York he had not yet had the opportunity of employing this method of investigation, but within the last ten days he had met with two patients in whom he believed it would have been of service. In one of these there was apparently an hypertrophy of the right ventricle, and in the other, dilatation of the right heart following emphysema of the lungs. In both instances, he believed, hypertrophy of the right ventricle could have been positively demonstrated by means of electrocardiograms. In Germany the instrument was successfully employed to show the extra systole, and in extra systole, heart block, and hypertrophy of the right ventricle it usually afforded satisfactory evidence. It was his impression, however, that the work in cardiac research now being done in New York and America in general was at least as good as that in Europe. Dr. Bishop thought that one point brought out by the last speaker was a most valuable one, namely, that in clinical work it would be of great assistance to have these instruments in medical centres, where physicians could avail themselves of the aid in diagnosis which electrocardiograms afforded. He had always wondered why medical men did not combine together more. If several hundred of them would purchase a set of these instruments, and engage an electrical engineer to manage the mechanical part of the work, he believed it would be of great advantage to all concerned.

Dr. Reynold Webb Wilcox said that as this was an assemblage of various instruments, and it was difficult to get such a collection satisfactorily adjusted and working together, it could readily be seen that it would require unusual skill and care to secure records with it. Personally, he believed that the Grödel method, which was the older method, was preferable. But how any instrument, however ingeniously constructed, could make a complete diagnosis without the physician's mentality, it was difficult to understand. The apparatus under consideration, however, was of service in that it explained certain facts of the existence of which we were already aware, and, although the mechanical difficulties attending its employment were great, he did not doubt that it would become a valuable feature of laboratory work.

The Diagnosis of Empyema, with Special Reference to the Physical Signs.—Dr. Howard H. Mason said that there were two main groups of empyemata to be considered. Those in which the pus was free in the pleural cavity, and those in which it was restricted to one or more portions of the pleura. The former were of more frequent occurrence and easier to recognize, and the physical signs were identical with those of large serous effusions. Usually there was bulging of the affected side of the chest as a whole, and occasionally the individual intercostal spaces bulged. The dulness caused by the fluid extended directly up to the spine posteriorly. The chest felt very hard to the finger, and this quality was appreciated better by direct than by indirect percussion. Above the fluid there was usually slight dulness posteriorly, while anteriorly there was often a clear, or even tympanitic, note; the quality of this note appearing to vary with the amount of relaxation of the lung. Vocal fremitus was markedly diminished or absent over the area of fluid, and usually there were numerous râles at the upper level of the fluid. With an effusion of any size, the neighboring viscera were commonly displaced away from the affected side. The crucial test in these cases was puncture, and it should be practised in every instance of suspected empyema. This might, however, fail to show pus when the walls of the cavity were covered with a very thick layer of fibrin or when the pus itself was very viscid. On the other hand, if pus was obtained, it might come from a cavity in the lung or from a subphrenic abscess. A slightly different group were the so called pulsating empyemata, which were left side empyemata which had usually perforated the chest wall and formed a swelling of variable [illegible] beneath the skin.

The second main group, the localized empyemata,

were much more difficult to diagnosticate, because of their irregularity and the frequent obscurity of their physical signs. The latter were extremely variable, depending largely upon whether the pocket of pus was in contact with the thoracic walls or not. There was usually some irregularity in the outlines of the chest on the affected side. The whole side might be contracted, it might be contracted superiorly and bulge inferiorly, or there might be a localized bulging. The neighboring viscera might or might not be displaced, and there was almost invariably some limitation of respiratory motion on the affected side. The respiratory murmur and voice were apt to be weak all over the latter, and if the pocket of pus lay in contact with the chest wall there was, in addition, a certain amount of dulness, often with some localized diminution of vocal fremitus and the presence of crackling râles. An x ray examination would determine the position and extent of such encapsulated empyemata much more accurately than the ordinary physical signs, and an exploratory puncture would definitely settle the nature of the fluid, barring the exceptions previously mentioned.

If the pocket of pus was not in contact with the chest wall the physical signs were even less definite. If it lay between the base of the lung and the diaphragm it usually bulged upward and backward, and the neighboring portions of the lung became more or less collapsed, giving slight localized dulness, with diminished voice and breath sounds. Respiration was apt to be painful and difficult, and the pain was in the line of attachment of the diaphragm. Empyemata in this location on the right side were frequently associated with subphrenic abscesses. When the pocket of pus was intralobar there might be no localizing signs, but usually it approached the chest wall sufficiently close to give rise to slight dulness over a small area. Fremitus and voice and breath sounds were but little, if at all, affected, though there was often some tympanitic quality to the percussion note above and below the dull area. Puncture should be relied upon to settle the diagnosis, and in doubtful cases repeated punctures were called for. When the empyema was located between the mediastinum and the lung there were usually no local signs. In all these deep lying empyemata the x ray should be employed, though, unfortunately, it was not always possible to obtain a satisfactory x ray photogram. The x ray findings should be confirmed by repeated punctures, if necessary, to locate the pus. If such empyemata were not discovered and emptied they were likely eventually to rupture into a bronchus.

It was necessary to distinguish an empyema, first, from lobar pneumonia, and, second, from subphrenic abscess. It was often difficult to differentiate the latter from empyema on the right side, and, in fact, many subphrenic abscesses were associated with pleurisy, commonly purulent. In subphrenic abscess the liver was more apt to be displaced and tender to pressure, but it might also be displaced with an empyema on the right side. The dulness due to an empyema of the first group extended directly up to the spine, while the dulness due to subphrenic abscess was apt to be situated more laterally and separated from the spine by an area of resonance. With empyema the heart was usually displaced, and this was seldom the case in uncomplicated subphrenic abscess. Puncture commonly gave pus in either instance, but the character of the pus, whether sweet or fœtid, was suggestive of its origin, and when the subphrenic abscess contained gas, the problem was easier. Often the previous history and the course of the disease were of more assistance than all the physical signs. Other conditions to be distinguished from empyema were serous effusions and new growths in the lung.

In summing up, the speaker emphasized the importance of bearing in mind the possibility of empyema in those cases of pneumonia which did not clear up as they should; also the fact that an empyema might be situated deeply and give rise to few, if any, local signs; and, lastly, that in every doubtful case the x ray should be resorted to, and repeated punctures made, if necessary, to find the pus.

Subphrenic Abscess.—Dr. HENRY ROTH read this paper, which has been published in the *Journal* of February 18th.

Dr. WILCOX said that the distinctive diagnosis between subphrenic abscess and empyema was not always easy. In many instances subphrenic abscess ruptured into the bronchi, and in rural districts it was not uncommon to find persons in whom this had occurred. Such patients often dragged out a miserable existence for years. Aspiration, above and below the diaphragm, was of great service in making the diagnosis. It had been pointed out by Fürbinger that a needle introduced into an abscess cavity remained motionless on aspiration if the abscess was above the diaphragm, while if it was below this, it moved with inspiration and expiration. Again, Pfuhl noted that in subphrenic abscesses into which a cannula had been introduced the outflow of pus was greater during inspiration and less during expiration; the reverse of what obtained in empyema. Subphrenic abscess was an unfortunate name, as the condition was always simply the local manifestation of an end result. To appreciate it adequately it was necessary to take in the whole clinical picture, and this had been admirably brought out in the paper of Dr. Roth.

Dr. RANSFORD E. VAN GIESON said that occasionally patients in whom a subphrenic abscess ruptured into the bronchi recovered spontaneously. Thus, in the case of a boy with such an abscess upon whom he expected to operate, operation was refused at the last moment, and not long afterward the abscess ruptured into the bronchi. In this instance the patient made a perfect recovery.

Dr. A. ERNEST GALLANT said that he had met with cases of subphrenic abscess resulting from pelvic inflammation, appendicitis, and a variety of other causes. The diagnosis was often attended with great difficulty. In one instance which he had seen, where it was charged that the condition had resulted from the cutting of one of the ureters by a surgeon in performing an operation, it was found at the autopsy that the ureter had not been divided, but that the liver was so thickly studded with abscesses that the patient had no chance for his life.

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of February 1, 1911.

The President, Dr. GEORGE E. DESCHWEINITZ, in the Chair.

Exhibition of Three Cases of Severe Types of Infantile Paralysis Cured by Operation (arthrodesis in two cases and tendon transplantation in one case).—Dr. A. P. C. ASHHURST said that such patients as the ones exhibited were referred to the surgeon either before the extent of the paralysis was well defined, for braces to aid the weakened muscles, or at a later period for some form of operation, when no further improvement could be expected from the use of braces. The main operations applicable were tendon transplantation and arthrodesis; nerve anastomosis was not encouraging in its results. Before any such operations were taken, the deformity must be entirely corrected, and the surgeon must be sure that no further improvement without operation was to be anticipated. If only a few muscles were paralyzed it usually was possible to utilize the remaining healthy tendons by transplantation in such a way as to restore balance. In cases in which the foot was nearly or quite powerless (flail joint), there would be no tendons available for transplantation; and the only resource open to the surgeon was to convert the foot from a dangling and useless appendage into a firm and unyielding support affixed to the limb in proper position. If no such operation was done the patient must wear a brace all his life, or be content to hobble around on a deformed foot. Such an operation (arthrodesis) should not be undertaken until the age of at least nine years, as the bones in earlier life were too soft to make a firm ankylosis possible. Four cases were reported, showing the effect of tendon transplantation for paralytic cavus, a slight deformity; for paralytic calcaneus, the most disabling of all these paralytic deformities; and two cases of arthrodesis of the ankle and subastragalar joints for flail foot. The results in the first and last cases were excellent; in the second case very marked improvement occurred, the patient being able to raise his heels from the ground at every step, instead of walking on his heels with his toes sticking up in the air as was the case before operation; while in the third case, though considerable limp still remained, this was largely due to shortening of the entire lower extremity, and to the paralytic lordosis.

Dr. G. G. DAVIS remarked that the possibility of permanent deformity must be considered in these cases. The disease also was assuming a more or less unorthodox form which was responsible for the cases not being recognized by the general practitioner, who was the one who saw them first. It was not generally appreciated that a certain amount of the paralysis was permanent. The muscular balance of the extremities was lost, and it was only a question of time when definite deformity set in. As a consequence these patients were not brought to the surgeon until the deformity was actually present. There was, however, a conservative treatment to be instituted before operative procedure came into play. It was during the process of improvement in the muscles that the conservative treatment was indicated. When improvement had ceased the deformity should be corrected; not necessarily by cutting, but by stretching, plaster of Paris splints, etc. If this was not sufficient there should be the substitution of muscles, one for the other to replace apparatus which had been worn. The operations which Dr. Ashhurst had done had obviated the necessity for the future wearing of apparatus.

A Metabolic Study of Myotonia Atrophica, with the Report of Two Cases.—Dr. RALPH PEMBERTON read this paper and showed a case. He stated that this condition, which was essentially one of muscular dystrophy complicated by symptoms of Thomsen's disease, was reported only once before in American literature, though European literature contained reports of a number of cases. The patient exhibited presented well marked dystrophy throughout the muscles, particularly around the shoulders and legs, together with symptoms of Thomsen's disease in her hands. After forcible closure she was able to open her hands after a definite interval only when they relaxed with a slow athetoid motion. Myotonic symptoms were also seen in the tongue. A disturbance of the calcium metabolism noted in myasthenia gravis and other conditions made an investigation of this and the general metabolism interesting. As far as the study of one case could be relied upon, it might be said that there was apparently no significant disturbance of the calcium output in muscular dystrophy; at least, in the presence of those phenomena which suggested Thomsen's disease. This could probably be also inferred, though not surely, in regard to Thomsen's disease *per se*. The creatinin output, however, under these circumstances might be considerably reduced and the creatinin coefficient conspicuously low. A consideration of the calcium, creatinin, and general nitrogenous metabolism as recorded here and in myasthenia gravis, might lead to information of value in classifying diseases of this nature and localizing the perversion of function. It seemed that such investigation should be more frequently undertaken in careful clinical studies.

Dr. ALONZO E. TAYLOR believed that Dr. Pemberton had struck the only line that could be attacked with a prospect of solution in suggesting that the muscular system was concerned in the production of myotonia atrophica. While the muscular system was a system of locomotion it was also an immense organism of metabolism.

Dr. DAVID L. EDSALL thought that by a study of the creatinin output we would obtain evidence which would help in the differentiation of some of the vague types of nervous disorders grossly put under the heading of neurasthenia.

Dr. J. D. MCCARTHY did not think that the condition of myotonia atrophica was such an infrequent affection as had been suggested. Physiological chemists had taken the attitude that the muscular system had other functions than the purely motor, as if it were something new. If they would make a careful study of the treatment of nervous diseases they would find that in our country neurologists consider that the muscles had a

very definite chemical function in the body. This function was somewhat poorly defined, but it was one that had to be taken into account in treatment. Attention must be paid to the muscles in the application of massage, electricity, and hydrotherapy. The good influence of hydrotherapy in the functional nervous disorders was due as much to the influence upon the muscular system of the force of the water, a massage effect, as to its effect on the circulation, which indirectly affected the muscle metabolism.

Dr. WILLIAM G. SPILLER remarked that Dr. Pemberton's case was not entirely typical, in that the muscles of the hands were not wasted. Yet there was no good reason why it should not be regarded as a case of myotonia atrophica. Muscular dystrophy rarely began in the hands. Yet Gowers had reported a case of this character, and he had done so himself, which case had been with necropsy.

Pellagra with a Report of Two Cases with Necropsy.—Dr. PAUL V. ANDERSON, of North Carolina, and Dr. WILLIAM G. SPILLER, of Philadelphia, read this paper.

Dr. SPILLER reported the first case: A woman, twenty-two years of age, showed the following symptoms: Gastric disturbance, diarrhœa, salivation, discoloration of the dorsal aspect of the hands and wrists, of the back of the neck, of the nose and corners of the mouth, loss of weight, symptoms suggesting neurasthenia with mental depression, weakness in walking, tremor of tongue, reddening of edges of the tongue, exaggeration of the patellar and Achilles tendon reflexes, ataxic movements of the upper and lower limbs, spastic ataxic gait, finally loss of gait, episthotonos at times, and twitching movements of the whole body. In the second case, a man, the symptoms were: Dementia at the time of admission to the hospital for the insane in 1888 at the age of forty. Discoloration of the back of the hands of late development, loss of weight, diarrhœa, emaciation, ataxic gait, exaggeration of tendon reflexes, and clonic movements of the whole body. The lesions found were intense degeneration of nerve cells of the spinal cord and brain in the woman, and of those of the cord in the man, in whom only the cord was examined, and diffuse degeneration shown by the osmic acid stain in the anterolateral and posterior columns. There was no evidence of root degeneration. Much difference of opinion had existed as to whether pellagra was a systemic or nonsystemic disease of the cord. In the two cases studied it was clearly nonsystemic. From a study of these two cases the conclusion must be drawn that pellagra did not always produce, if indeed it ever did produce, a truly systemic disease of the nervous system; but that the degeneration was caused by some toxic or infectious substance affecting all parts of the cerebrospinal axis producing cellular degeneration and diffuse degeneration of nerve fibres in the posterior and anterolateral columns. It was not difficult to explain the mental symptoms when cortical degeneration was so intense as might occur in pellagra, and as seen in the brain studied in the woman. The insanity observed in this disease seemed to be of a toxic or infectious character.

Dr. M. B. HARTZELL observed that it was a matter of some interest to know that the pigmentation so often a symptom of pellagra was not confined to the skin, but was seen in the meninges of the cord and of the brain.

Letters to the Editor.

AMERICAN SOCIETY OF SANITARY AND MORAL PROPHYLAXIS; CORRECTION.

94 WEST FORTIETH STREET, NEW YORK, *March 26, 1901.*

To the Editor:

My attention has just been called to an article by Dr. Bierhoff in your issue of March 25th, in which he criticises the Society of Sanitary and Moral Prophylaxis for not following the example of the German Society for the Prevention of Venereal Diseases in distributing educational literature "free of charge or at a nominal price." The paragraph concludes in these words: "The writer does not hesitate to express the belief that it would serve an end of far greater practical good than it now does by its windy harangues and the distribution of pamphlets to its members only." I have no comment to make upon the animus of the writer, nor his questionable taste in endeavoring to disparage the educational work of the society, of which, I believe, he is a member, but the concluding words quoted involve a gross misstatement of fact which in the interest of truth it is desirable to correct.

This society has fewer than one thousand members. Of its six educational pamphlets there have been issued and for the most part distributed, practically at cost of publication or free of charge:—23,000 copies of No. 1, *The Young Man's Problem;* 10,000 copies of No. 2, *Instruction in the Physiology and Hygiene of Sex;* 10,000 copies of No. 3, *Relations of Social Diseases with Marriage;* 17,000 copies of No. 4, *The Boy Problem;* 10,000 copies of No. 5, *How My Uncle the Doctor Instructed Me in Matters of Sex;* 30,000 copies of No. 6, *Health and the Hygiene of Sex.* Over 17,000 copies of this last pamphlet have been gratuitously placed in the hands of the freshman class of the various colleges and universities within the past year. In addition the society has gratuitously distributed over 50,000 copies of a four page circular setting forth the extent and dangers of venereal diseases and methods of prevention, 10,000 copies of a leaflet on *The Need of Instruction in Sex Hygiene,* and several thousand copies of a pamphlet entitled *Results Accomplished,* etc.

The "harangues" to which the writer applies a term intended to be contemptuous, were given by leading physicians, distinguished educators, prominent members of the bar and the clergy, and sociologists of national reputation, men and women. These "windy harangues" have appealed to educated people in the country. So great has been the demand for the Transactions in which they appear that Volumes I and II have long since been exhausted and the society has received and is still receiving urgent requests from leading libraries in this country for these volumes which it is unable to fill.

PRINCE A. MORROW, M. D.

Book Notices.

[Books and pamphlets received, but not acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which our readers are likely to be interested.]

Foods and Their Adulteration. Origin, Manufacture and Composition of Food Products; Infants' and Invalids' Foods; Detection of Common Adulterations and Food Standards. By HARVEY W. WILEY, M. D., Ph. D. With Eleven Colored Plates and Eighty-seven Other Illustrations. Second Edition, Revised and Enlarged. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xii-641. (Price, $4.)

In the new edition of this important work a general revision of the contents of the first edition is to be noticed, and 100 pages of new material have been added. A special article has been added dealing with the preparation and care of infants' and invalids' food. The popularity of this work among medical men is sufficiently indicated by the fact that a new edition has been called for so soon after the publication of the first. The book is designed, not alone for men of science, but for the general public and the manufacturer and dealer in foodstuffs. Not the least among the author's sterling contributions to domestic science and the conservation of the public health by the inspection of food and drugs is this work, which covers a field of great present public importance.

The publishers are to be congratulated on the form of the book. From a mechanical point of view it is all that could be desired, the illustrative plates being of unusual excellence. We regard this book as an essential addition to the physician's library, though we find it difficult in some instances to agree with the author's views on some subjects, particularly where he deals with the pasteurization of milk. Standards of purity for food products are included as an appendix.

[illegible] By WILLIAM HUGH[illegible], A. M., M. D., Associate in Obstetrics in the Jefferson Medical College Hospital, Philadelphia, etc. Fourth Edition, Revised and Enlarged, with 153 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xix-290. (Price, $1.)

We have had previous occasion to speak of the value of this little volume. The present edition contains a number of added illustrations and a description of some of the more recently advocated surgical procedures. There is no mention made of the radical operation for carcinoma of the uterus, and this is the only serious omission we have noted.

Puerperal Infection. By ARNOLD W. W. LEA, M. D., B. S. (Lond.), B. Sc. (Manch.), F. R. C. S. (Eng.), Lecturer in Obstetrics and Gynæcology, Manchester University, Surgeon to the Northern Hospital for Women, Manchester, etc. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1910. Pp. [illegible] 384. (Price, $9.)

This is a timely and acceptable work. The author has collated his own experience and that of the principal British, continental, and American writers and has condensed these into a volume of moderate size. Beginning with an historical review of puerperal infection, in which ample credit is done to the memory of Holmes, Lea next considers the classification of the forms of puerperal infection. This classification is based upon anatomical rather than upon pathological considerations, but the author is careful to emphasize the fact that all possible combinations may exist and that localized processes are always attended by toxæmia or septichæmia of varying degree. He emphasizes, in this connection, the rôle played by the gonococcus. Lea thoroughly discusses the possibility of autoinfection, which undoubtedly does occasionally take place, but he admits that it is very rare. It is not impossible that some cases of so called autoinfection are due to coitus practised just before labor begins, but our author has not mentioned this factor.

It is questionable whether his assertion (p. 81) that induction of labor is always attended with a relatively high puerperal morbidity is actually true. It cannot be denied that the necessarily frequent examinations and manipulations incident to the induction of labor may break down some of the safeguards usually thrown about obstetric cases, but our experience has not been that of Lea, although Sommer's statistics show a morbidity of thirty-four per cent. in such cases.

A thorough bacteriological study of puerperal infection follows in course and constitutes a very complete review of the present knowledge of the profession. Not enough stress is laid, perhaps, upon the anaerobic organisms as causative factors of infection. It is only recently, it is true, that these organisms have been found responsible; and their presence is not always recognized (except by special culture methods) by the ordinary mode of making blood cultures. It is for this reason that blood cultures are reported negative when subsequent and different examination discloses anaerobic organisms as the cause of the septic condition.

Thirty pages are devoted to a consideration of pathological anatomy, followed by chapters on the symptoms, localized infections, and diagnosis. In the chapter on prophylaxis the author seems to be somewhat lukewarm on the wearing of rubber gloves, which, in this country, at least, is now regarded as a *sine qua non* of obstetric practice.

The chapters on treatment are very full and of great interest. Lea warns against curetting and the indiscriminate use of the intrauterine douche, although speaking as well of their occasional value. He is not yet certain of the value of vaccines—which are coming more and more into use—and states that sera are of use only in general, but not in local, infections. He would limit the performance of hysterectomy in septic puerperal conditions to severe injuries or perforations of the uterus, to the rare cases of retention of the fœtus or placenta, to the infections of myomata, and in some cases to localized gangrene or abscess of the uterus. He admits that the value of the ligation of thrombosed veins is not yet definitely settled, but gives the indications for the performance of the operation.

We have indicated, we think, in a cursory manner, the chief contents of this book, which represents a most laudable attempt to arrange and clarify the existing knowledge of the subject. It is a monograph which every man who practises obstetrics can read with profit. Its literary references alone are worth possessing and the print and the illustrations are of a high order. Lea has done a veritable

service in collecting and sifting the vast amount of material which has accumulated within the past two decades.

[illegible] Its Diagnostic Importance and Therapeutic Value. By EMIL G. BECK, M. D., Surgeon to the North Chicago Hospital, Chicago, Ill. With an Introduction by CARL BECK, M. D., and a Chapter on the Application of Bismuth Paste in the Treatment of Chronic Suppuration of the Nasal Accessory Sinuses and the Ear, by JOSEPH C. BECK, M. D. With Eighty-one Engravings, Nine Diagrammatic Illustrations, and a Colored Plate. St. Louis: C. V. Mosby Company, 1910. Pp. 237. (Price, $2.50.)

Dr. Emil G. Beck, in collaboration with his brothers, Dr. Carl Beck and Dr. Joseph C. Beck, has brought out an interesting book on bismuth paste in chronic suppurations, a subject in the discussion of which the author has taken a leading part. The book goes much into detail, as is necessary in such a book. It speaks about the therapeutic effects of bismuth paste, of its limitations and causes of failure, of bismuth poisoning, the technique of injections with some interesting case reports, and the literature on the subject. As is well known, Dr. Emil G. Beck discovered this method accidentally while doing some skiagraphical work and has developed it to well nigh perfection. The résumé given is therefore very instructive.

Enzyklopädie der mikroskopischen Technik. In Verbindung mit Prof. Dr. E. BALLOWITZ, Münster i. W., Prof. Dr. C. BENDA, Berlin, Prof. A. BETHE, Strassburg, Prof. Dr. A. BLUM, Frankfurt a. M., et al. Herausgegeben von Prof. Dr. PAUL EHRLICH, Frankfurt a. M., Dr. RUDOLF KRAUSE, Berlin, Prof. Dr. MAX MOSSE, Berlin, Prof. Dr. HEINRICH ROSIN, Berlin, und weil. Prof. Dr. KARL WEIGERT, Frankfurt a. M. Zweite vermehrte und verbesserte Auflage. I. Band; A-K. Mit 56 Abbildungen; II. Band und Autoren Register mit 111 Abbildungen. Berlin und Wien: Urban & Schwarzenberg, 1910. Pp. iv-800 und 680.

In the two large octavo volumes which comprise this encyclopædia of microscopical technique every condition of pathological importance is named and described minutely. The chemistry of the reagents used in histological work is very completely worked out, and the illustrations of special apparatus, while not overnumerous, are very clearly executed in line drawings. In a work of this kind it was expected to find a full account of recent developments in photomicrography, and this forms an important chapter in Vol. II, from pages 125 to 170 inclusive, where the microscope and its accessories, lamps, etc., are described and copiously illustrated. The numerous microorganisms of disease are named and fully accounted for, and references to the literature are abundant. Of practical value are the formulæ for the solutions and chemical reagents employed by the pathologist. The two volumes are unusually rich in these and in descriptions of methods of using them. Nearly every chemical substance used in microscopical technique is thus named and described, so that the work is an indispensable one for bacteriologists and especially for clinical instructors in pathological work and for those who are occasionally called upon to testify in the law courts, as methods of analyses in forensic cases are not overlooked. The publishers deserve special commendation for the mechanical features of the work, the typography being unusually clear and readable and the illustrations all that could be desired.

The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology Chicago Postgraduate Medical School, and CHARLES L. MIX, A. M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume IX. Skin and Venereal Diseases. Miscellaneous Topics. Edited by W. L. BAUM, M. D., and HAROLD N. MOYER, M. D. Series 1909. Chicago: The Year Book Publishers, 1910. Pp. 245. (Price, $1.25.) Volume X. Nervous and Mental Diseases. Edited by HUGH T. PATRICK, M. D., Professor of Neurology in the Chicago Policlinic, etc., and PETER BASSOE, M. D., Assistant Professor of Nervous and Mental Diseases, Rush Medical College. Series 1910. Chicago: Year Book Publishers, 1910. Pp. 248. (Price, $1.25.)

Volume IX is divided into two parts; the first part, skin and venereal disease, is edited by Dr. L. Baum, while Dr. Harold M. Moyer is the editor of miscellaneous topics. Under this last head we find such topics as medical education in the history of medicine, diagnosis and medicine, biography, life insurance, medicolegal topics, State control of practical medicine, and the vivisection question. The authors have faithfully represented the progress of their branches of medicine. As it is the series for 1909, it could not comprise dioxydiamidoarsenobenzol.——Volume X is a small but useful summary of the literature of nervous and mental diseases which has appeared during the year 1910. It will prove of inestimable service to those who do not have access to the files of other English publications on these specialties.

The abstracts are faithful and full, and the object of providing a ready reference volume has been well accomplished.

MEDICOLITERARY NOTES

We hope antis of every description will attend the Blind Workers' Exhibit, which is to be held at the Metropolitan Opera House from April 26th to 30th, at which sixteen foreign countries in Europe and Asia will be represented. The prevention of infantile blindness is only one of the activities of the medical profession which are unpaid, misrepresented, and fought with bitter ignorance and suspicion. The method of procedure, so simple that a child might carry it out, is a shining and irrefutable example of what can be accomplished by powerful drug therapeutics *and in no other way.* The exhibit will show, of course, only what may be accomplished by human beings under the most cruel of handicaps, but the most callous observer will note the economic loss to the community represented by a multitude of innocent people maimed irretrievably by prejudice, envy, and hitherto invincible ignorance.

* * *

Dr. Woods Hutchinson has an article in the *Saturday Evening Post* for March 25th on The Sin of Homeliness, in which he enforces the truth that feminine pulchritude is dependent upon health; he returns to his favorite dogma of three hours in the open air daily for everybody. Dr. Hutchinson avers that corsets do less harm than dish washing and

that the air of the ballroom is cleaner than that of the combined laundry and kitchen which metropolitan lack of space forces upon most of us. The essay will send new chills of despair through masculine humanity.

China's Grapple with the Opium Evil, by Edward Alsworth Ross, is an article in the April *Everybody's* that should interest physicians. The utter blankness and desolation of the life of the average coolie is the cause of the habit, just as the dreariness of life in the slums of our cities is the main cause of alcoholism, and not *vice versa*, as is too commonly believed. We note, however, that the efforts of the government and of philanthropic societies to stamp out the opium evil do not apparently include any measures tending to make life brighter for the sufferers. One point is worthy of notice. We are often told that opium smoking has little effect on the mind or physique of the Chinese coolie; we see in this article cartoons by Chinese artists which represent the Oriental smoker as a hideous object of skin and bone, every whit as degenerate a specimen as his white fellow victim.

* * *

Among the best cures for alcoholism among the poor is the moving picture show, which is now beginning to be interspersed with vaudeville. The big theatres, unmindful of other and more potent causes of their decline in patronage, are using their best endeavors to close up these little attractions. All that they really need in the way of reform is a supply of fire exits. The shows, if somewhat broad, not to say vulgar, are not indecent, and the plays are better than the melodramas they have supplanted. It is one of the highest forms of art to write a pantomime and it demands excellent artists to interpret it. It is a question if our East Side does not contain the most artistically minded portion of our population; if so, only art and beauty will woo it from narcotism.

* * *

The screaming, shouting, and general uproar at the trial of the Camorrists at Viterbo shows what an emotional creature the criminal really is; the men curse and sob, while the women faint. The calm, cool, sarcastic, and well mannered villain is a creation of fiction. The real criminal is a victim of his untrained passions, a rough and ill mannered specimen usually, easily moved by cheap sentiment to tears, fond of the centre of the stage, a heavy drinker and gambler, an overgrown child. The most marked stigma of the criminal is his inability to resist his latest impulse.

* * *

The best portraits of criminals we have noted recently are to be found in the photographic sketches of Alfred Henry Lewis in The Apaches of New York, which are continued in the April *Pearson's*. These will make healthy and informing reading for sentimental people who know the criminal only in their libraries. The thugs and gun packers are presented by Mr. Lewis absolutely in their true colors, a foul and revolting crowd, who never draw a normal breath from morning till night and whose sleep is usually replaced by a narcotic coma. They are the cocci and bacteria of the land and the solution of the problem they present seems to lie only in extirpation with proper measures undertaken to prevent future pathological growths by care and supervision, surgical when required, of the children of the dark alleys. Moral questions do not seem to stir us much till they are recognized as economic; as every criminal is a parasite, absolutely nonproductive, he is an immense tax upon the community, which will make an earnest effort to get rid of him when it is fully awakened.

* * *

The polished scoundrel of romance is presented in the same issue of *Pearson's* in The First Shot, by E. Phillips Oppenheim, whose Peter Ruff is nearly everything the real criminal is not. Dr. J. J. McCarthy discusses The Cure for Baldness, choosing his title apparently on the *lucus a non lucendo* principle, there being no "cure" for this negative condition. Among the vast army of quacks, Dr. McCarthy points out, are the hair and scalp specialists, who, knowing nothing of either hair or scalp, do serious injury to their trusting patrons. Part of the education of the public which the profession is to undertake some day will be devoted to instruction concerning the rôle of the dermatologist. The first lecture in this part of the course will dissipate the belief that the hair is a vegetable growth, a very curious and widespread delusion. If it was true, it might be necessary only to harrow up the mind and sow a little hair seed; or blocks of fertile scalp might be transplanted like turf from the canopies of fiddlers or vociferous antis.

* * *

"What beautiful names we find in the exquisite language of the Greeks," sighed Dr. Ben Trovato, who was feeling cynical; "can one imagine more musical and attractive prænomina for wives than Aphasia and Aphonia?"

NEW PUBLICATIONS

Throat, and Ear. Third Edition, Revised and Enlarged. Illustrated with 506 Engravings and 22 Plates. Philadelphia and New York: Lea & Febiger, 1911. Pp. xi-983. (Price, $5.50.)

Practical Treatment. By Many Writers. Volume II. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 86. (Price, $6.)

Hurry, Jamieson B.—Vicious Circles in Disease. With Illustrations. Philadelphia: P. Blakiston's Sons & Co., 1911. Pp. xiv-186. (Price, $2.)

Rogers, Leonard.—Cholera and its Treatment. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1911. Pp. xiv-236. (Price, $4.)

Carruthers, Thomas.—Urine Examination Made Easy. A Plan of Examination with the Common Tests Fully Described. Second Edition. London: J. & A. Churchill, 1911. (Through P. Blakiston's Sons & Co., Philadelphia.) Pp. 47. (Price, 60 cents.)

Finger, E., Jadassohn, J., Ehrmann, S., und Gross, S.—Handbuch der Geschlechtskrankheiten. Unter Mitarbeit von Prof. Dr. G. Alexander, Wien; Prof. Dr. K. Benda, Berlin; Prof. Dr. A. Blaschko, Berlin; Dozent Dr. L. Braun, Wien, et al. IV. Lieferung. Pp. 481-640. V. Lieferung. Pp. 641-800. Wien und Leipzig: Alfred Hölder, 1911.

Harden, Arthur.—Alcoholic Fermentation. London, Co., 1911. Pp. ix-128. (Price, $1.25.)

and Enzyme Chemistry. New York: Longmans, Green &

Co.; London: Edward Arnold, 1911. Pp. vi-328. (Price, $2.10.)

Leftwich, Ralph Winnington.—A Pocketbook of Treatment. New York: Longmans, Green & Co.; London: Edward Arnold, 1911. Pp. viii-348. (Price, $1.70.)

Fullerton, Anna M.—A Handbook of Obstetric Nursing for Nurses, Students, and Mothers. Comprising the Course of Instruction in Obstetric Nursing Given to the Pupils of the Training School for Nurses Connected with the Woman's Hospital of Philadelphia. Seventh Revised Edition. Illustrated. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xv-272. (Price, $1.)

Lemon, Ferguson.—X Rays. Their Use in Fractures, Dislocations, and Injuries to Bones and Joints. Their Aid to Diagnosis, Their Value in Treatment. Melbourne: Varley Brothers, 1911. Pp. 52.

Bulletin of the Sleeping Sickness Bureau. Issued March 14, 1911, under the Direction of the Honorary Managing Committee. Editor: The Director of the Bureau. London: Sleeping Sickness Bureau, 1911. Pp. 101-154.

Annual Report of the Bureau of Health for the Philippine Islands. From July 1, 1909, to June 30, 1910. Victor G. Heiser, M. D., Director of Health, Passed Assistant Surgeon, United States Public Health and Marine Hospital Service. Pp. 193.

Miscellany.

The Children of Asclepius and the Goose.—In a recent number of the *Archæological Journal of Athens* (through the *Lancet*, March 11, 1911) M. Svoronos publishes a reproduction of a charming ancient Greek statuette representing a boy and a goose, which has recently been added to the city's museum. There are numerous examples from Greek antiquity of these groups; frequently the child is strangling the bird, and hitherto they have been considered merely as a curious artistic conceit. But M. Svoronos argues that really they have a religious and mythological significance. The goose was a sacred bird of Asclepius, and all these goose and child groups, whose original location can be ascertained, come from sanctuaries of Asclepius. The newly found poems of Herondas describe a similar group in the deity's temple at Cos. M. Svoronos maintains that in these works the boy represents Ianiscos, youngest son of Asclepius, when he is strangling the goose, the bird being a symbol of the pestilence producing pools and marshes, and so the statues typify the healing of fevers by Asclepius and his family. Other of the groups depict Asclepius himself as an infant, or one of his daughters, with a goose. The Spinario in the Capitol at Rome is, however, he thinks, Podalirius, another son of Asclepius. Pliny mentions a famous piece of sculpture by Boethius of a boy strangling a goose, a work which must be later than the one Herondas describes. Probably many of the statuettes are copies of one or other of these works. M. Svoronos has also succeeded in definitely ascribing the figures in the famous Asclepius relief found in 1885 and now in the Athens Museum. The seven personages are: Asclepius, Machaon, Podalirius, Epione, Panacea, Iaso, and two suppliants, the three dogs representing those kept at the shrine of the god.

The "℞" of Prescriptions.—How many medical men when, in accordance with immemorial custom, they head their prescriptions with the symbol "℞," know that they are unconsciously perpetuating the practice of invoking the aid of Jupiter to the efficacy of their drugs? This, which has long been the accepted view, is supported by Dr. R. M. Lawrence in a chapter of his recent work on *Primitive Psychotherapy* devoted to the subject of ancient medical prescriptions. Dr. Lawrence believes that the medical ℞ is a synthesis of the initial R of recipe and of the symbol ♃, which is one of the astrological denotations of the planet Jupiter. "From very early time," he says, "it was a universal custom to place at the beginning of a medical prescription certain religious verses or superstitious characters, which formed the invocation or prayer to a favorite deity." A counter claim has recently been made on behalf of the Egyptian sun god Ra, but does not seem to be well founded. It appears that the astrological signs were thus introduced in the reign of Nero, and Dr. Lawrence infers that Christian physicians may have been constrained to conform to the pagan practice of prefixing to their prescriptions invocations to Jupiter. The language teemed with words—for example, "jovial," "mercurial," "saturnine," "disastrous"—testifying to the former universality of the belief in planetary influences. Among the various interpretations of the symbol ℞ that of Johan Michael Moscherosch (1600-69), also cited in the work previously mentioned, is more humorous than complimentary to the faculty. He maintained that it is equivalent to *Pdc.*, an abbreviation standing for *per decem*. The appropriateness of the denotation was attributed by him to the fact that one prescription in ten might be expected to prove beneficial to the patient. The symbol "℞" was not always universally employed, however, even during the Middle Ages. Dr. Otto Wall, in his work entitled *The Prescription*, states that during the sixteenth century physicians, either through piety or in fear of the Inquisition, frequently used the sign of the cross as a superscription. Others replaced the symbol of Jupiter by the Greek letters ΔΙΩ; J. D., for *juvante deo;* C. D., for *cum deo;* or N. D., for *nomine dei*. Whatever conclusion may be formed as to the origin of the symbol now in vogue, there can be no doubt that the physicians of antiquity commonly headed their prescriptions with an invocation to some deity, nor, therefore, of the correctness of Dr. Lawrence's contention that "modern medical prescriptions may be classed as the lineal descendants of the healing spells of former ages." (*British Medical Journal*, March 11, 1911.)

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases and deaths from tropical yellow fever, typhus and smallpox were reported to the surgeon-general of the United States Public Health and Marine Hospital Service [illegible] ending March [illegible], 1911

Places.	Date.	Deaths.
Arabia—Bayt Yemen	Jan. 29-Feb. 12	3
Arabia—Hodeida, Yemen	Jan. 29-Feb. 12	14
Arabia—Menakha, Yemen	Jan. 21-Feb. 12	[illegible]

Places.	Date.	Cases.	Deaths.
Arabia—Hodeida, Yemen	Jan. [illegible]	[illegible]	[illegible]
Arabia—Zaida, Yemen	Jan. [illegible]	[illegible]	[illegible]
Hawaii—Honolulu	Nov. 5-14	[illegible]	[illegible]
India—Bombay	Jan. 21-Feb. [illegible]	[illegible]	[illegible]
India—Calcutta	Jan. 15-21	[illegible]	[illegible]
India—Madras	Jan. [illegible]	[illegible]	[illegible]
India—Pondicherry	Jan. 22-28	[illegible]	[illegible]
India—Samarang	Dec. [illegible]	[illegible]	[illegible]
Madras—Presidency district	Jan. [illegible]	[illegible]	[illegible]
Russia—Manchuria	Jan. [illegible]	[illegible]	[illegible]
Russia—Kief Government	Jan. 22-28	[illegible]	[illegible]
Russia—Poland	Jan. 22-28	[illegible]	[illegible]
Turkey in Asia—Syria	Jan. 21-Feb. [illegible]	[illegible]	[illegible]
Plague—Foreign.			
Egypt—Mahsama	Feb. 5-11	[illegible]	[illegible]
Egypt—Port Said	Feb. 2-8	[illegible]	[illegible]
Venezuela—Caracas	Feb. 1-15	7	4
Cholera—Foreign.			
Arabia—Hodeida	Dec. [illegible]	[illegible]	[illegible]
Brazil—Santos, Para	Jan. 8-14	[illegible]	[illegible]
Formosa	Jan. 22-Feb. [illegible]	[illegible]	[illegible]
India—Bombay	Jan. 21-Feb. [illegible]	[illegible]	[illegible]
India—Calcutta	Jan. 15-21	[illegible]	[illegible]
India—Kurrachee	Jan. 21-Feb. [illegible]	[illegible]	[illegible]
Japan—Kobe	Dec. 29-Jan. [illegible]	[illegible]	[illegible]
Mesopotamia	Mar. 15	[illegible]	[illegible]
Smallpox—United States.			
Alabama—Montgomery	Feb. 26-Mar. 4	[illegible]	[illegible]
Florida	Feb. 26-Mar. 4	67	[illegible]
Iowa	Feb. 1-28	66	[illegible]
Kentucky	Feb. 26-Mar. 4	4	[illegible]
Louisiana—New Orleans	Feb. 26-Mar. 4	11	[illegible]
Maryland	Feb. 1-28	4	[illegible]
Michigan	Feb. 1-25	[illegible]	[illegible]
Missouri—St. Louis	Feb. 28-Mar. 4	3	[illegible]
New York—Niagara County	Dec. 1-31	[illegible]	[illegible]
North Dakota	Feb. 1-28	[illegible]	[illegible]
Ohio	Feb. 1-28	[illegible]	1
Oklahoma	Jan. 1-31	284	[illegible]
Tennessee	Feb. 26-Mar. 4	123	[illegible]
Utah	Jan. 1-31	[illegible]	[illegible]
Wisconsin	Feb. 1-28	53	[illegible]
Smallpox—Foreign.			
Argentina—Buenos Aires	Dec. [illegible]	[illegible]	7
Australia—Sydney	Dec. [illegible]	[illegible]	4
Brazil—Rio Janeiro	Dec. 17-23	3	[illegible]
Brazil—Santos	Jan. 8-14	1	1
Brazil—San Paul	Jan. 8-14	[illegible]	[illegible]
Canada—Fernie	Feb. 26-Mar. [illegible]	1	[illegible]
Canada—Sydney	Feb. 26-Mar. 4	1	[illegible]
Canada—Victoria	Feb. 22-28	1	[illegible]
China—Hongkong	Jan. 22-28	[illegible]	1
China—Mandarin, Palace	Feb. 5-11	[illegible]	[illegible]
China—Shanghai	Jan. 28-Feb. 5	2	12
France—Paris	Feb. 12-18	3	[illegible]
Great Britain—Liverpool	Feb. 5-18	[illegible]	[illegible]
Great Britain—London	Feb. 19-25	35	[illegible]
India—Bombay	Jan. [illegible]	[illegible]	1
India—Calcutta	Jan. [illegible]	[illegible]	[illegible]
India—Madras	Jan. [illegible]	[illegible]	[illegible]
Japan—Kobe	Jan. 8-21	[illegible]	[illegible]
Italy—Palermo	Feb. 12-18	8	3
Japan—Nagasaki	Feb. [illegible]	[illegible]	[illegible]
Japan—San Luis Potosi	Jan. [illegible]	[illegible]	1
Japan—Tokio	Jan. [illegible]	[illegible]	[illegible]
Mexico—Laredo	Feb. [illegible]	[illegible]	17
Mexico—Mexico	Feb. [illegible]	[illegible]	[illegible]
Mexico—Oaxaca	Feb. [illegible]	1	[illegible]
Panama—Bay	Feb. [illegible]	[illegible]	[illegible]
Russia—St. Petersburg	Jan. [illegible]	[illegible]	[illegible]
Straits Settlements—Singapore	Jan. 15-28	6	4
Switzerland—Aargau, Canton	Jan. 29-Feb. 18	25	[illegible]
Switzerland—Berne, Canton	Jan. 29-Feb. 11	4	[illegible]
Turkey in Asia—Beirut	Feb. 5-18	7	[illegible]
Venezuela—Maracaibo	Dec. [illegible]	[illegible]	1

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general during the week ending April 7, 1911

Cholera—Foreign.			
Philippine Islands—Albay, province	Jan. 29-Feb. 4	8	5
Philippine Islands—Bulacan, prov.	Jan. 29-Feb. [illegible]	[illegible]	[illegible]
Philippine Islands—Mindoro, prov.	Jan. 29-Feb. 4	36	[illegible]
Yellow Fever—Foreign.			
Brazil—Rio Janeiro	Dec. [illegible]	[illegible]	[illegible]
Brazil—Santos	Jan. [illegible]	[illegible]	[illegible]
Plague—Foreign.			
China—Fuchatien	Jan. [illegible]	[illegible]	[illegible]
China—Harbin	Jan. 29-Feb. [illegible]	[illegible]	[illegible]
China—Manchuria, Changchun	Jan. [illegible]	[illegible]	[illegible]
China—Mukden	Jan. [illegible]	[illegible]	[illegible]
Japan—Kobe	Jan. [illegible]	[illegible]	[illegible]
India—Calcutta	Jan. 22-28	[illegible]	[illegible]
India—Bombay	Jan. [illegible]	[illegible]	[illegible]
India—Karachi	Jan. [illegible]	[illegible]	[illegible]

Place.	Date.	Cases.	Deaths.
Peru—Mollendo	Jan. [illegible]	[illegible]	[illegible]
Peru—Salaverry	Feb. 8-14	[illegible]	[illegible]
Peru—Trujillo	Jan. [illegible]	[illegible]	[illegible]
Russia—Kirghiz Steppe	Jan. 30-Feb. [illegible]	[illegible]	[illegible]
Smallpox—United States.			
Alabama—Montgomery	Mar. 5-11	[illegible]	[illegible]
District of Columbia	Mar. 5-11	[illegible]	[illegible]
Florida	Mar. 5-11	[illegible]	[illegible]
Illinois	Feb. 22-28	[illegible]	[illegible]
Indiana	Feb. 1-28	[illegible]	[illegible]
Kentucky—Henderson	Feb. 22-28	[illegible]	[illegible]
Kentucky—Paducah	Mar. 5-11	[illegible]	[illegible]
Louisiana—New Orleans	Mar. [illegible]	[illegible]	[illegible]
Mississippi—Biloxi	Mar. [illegible]	[illegible]	[illegible]
Missouri—St. Louis	Mar. 5-11	[illegible]	[illegible]
South Carolina—Charleston	Feb. [illegible]	[illegible]	[illegible]
Tennessee	Mar. 5-11	[illegible]	[illegible]
Texas	Feb. [illegible]	[illegible]	[illegible]
Virginia	Jan. 1-31	[illegible]	[illegible]
Smallpox—Foreign.			
Austria-Hungary—Cholera	Feb. 12-18	[illegible]	[illegible]
Brazil—Pernambuco	Dec. [illegible]	[illegible]	[illegible]
Canada—Fernie	Mar. 5-11	[illegible]	[illegible]
Canada—Sydney	Mar. 5-11	[illegible]	[illegible]
China—Tsingtau	Feb. 5-11	[illegible]	[illegible]
Egypt—Cairo	Feb. 5-11	[illegible]	[illegible]
Egypt—Port Said	Feb. 5-11	[illegible]	[illegible]
Great Britain—Liverpool	Feb. [illegible]	[illegible]	[illegible]
India—Bombay	Feb. 5-11	[illegible]	[illegible]
India—Calcutta	Jan. 22-28	[illegible]	[illegible]
India—Rangoon	Jan. 22-28	[illegible]	[illegible]
Indo-China—Saigon	Jan. 22-Feb. 5	[illegible]	[illegible]
Italy—Genoa	Feb. 1-15	[illegible]	[illegible]
Italy—Naples	Feb. 12-25	[illegible]	[illegible]
Java—Batavia	Jan. 29-Feb. 4	[illegible]	[illegible]
Mexico—Aguascalientes	Feb. 27-Mar. 4	[illegible]	[illegible]
Mexico—Mexico	Jan. 22-Feb. [illegible]	[illegible]	[illegible]
Portugal—Lisbon	Feb. 19-25	[illegible]	[illegible]
Spain—Madrid	Feb. 5-11	[illegible]	[illegible]
Spain—Valencia	Feb. 19-25	[illegible]	[illegible]
Switzerland—Aargau, Canton	Feb. 19-25	[illegible]	[illegible]
Switzerland—Baselstadt, Canton	Feb. 19-25	[illegible]	[illegible]
Zanzibar	Dec. 23-Feb. [illegible]	[illegible]	[illegible]

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending March 22, 1911:

BERKOWITZ, M. E., Pharmacist. Granted two days' leave of absence from March 13, 1911, under paragraph 210, Service Regulations.

CHAPIN, C. W., Assistant Surgeon. Granted twenty-one days' leave of absence from March 1, 1911, on account of sickness.

COFER, L. E., Assistant Surgeon General. Detailed to deliver a lecture at Cornell University on National Quarantine Measures, March 21, 1911.

DUFFY, FRANCIS, Acting Assistant Surgeon. Granted three days' leave of absence from March 19, 1911.

HASELTINE, H. W., Assistant Surgeon. Directed to proceed to San Francisco, Cal., and report to the medical officer in command for duty and assignment to quarters.

KING, W. W., Passed Assistant Surgeon. Granted three weeks' leave of absence from April 7, 1911.

LEAKE, J. P., Assistant Surgeon. Directed to proceed to Arundel Cove, South Baltimore, Md., and report to the commanding officer of the Revenue Cutter *Algonquin* for duty.

RICHARDSON, S. W., Pharmacist. Granted seven days' leave of absence from March 18, 1911, under paragraph 210, Service Regulations.

SCOTT, E. B., Pharmacist. Granted thirteen days' leave of absence from March 9, 1911.

STEVENSON, J. W., Acting Assistant Surgeon. Granted nine days' leave of absence from March 23, 1911.

WERTENBAKER, C. P., Surgeon. Directed to proceed to Cape Charles Quarantine on special temporary duty.

WOODWARD, R. M., Surgeon. Directed to proceed to Cleveland, Ohio; Buffalo, N. Y., and Pittsburgh, Pa., on special temporary duty; granted three days' leave of absence from March 19, 1911.

Promotions.

Passed Assistant Surgeon Hugh S. Cumming commissioned a surgeon (recess), to rank as such from March 15, 1911.

Passed Assistant Surgeon L. E. Cofer commissioned a surgeon (recess), to rank as such from March 15, 1911.

Boards convened

Boards of medical officers were convened to meet on March 28, 1911, for the physical examination of candidates for appointment as cadet engineer in the Revenue Cutter Service, as follows:

Baltimore, Md. Surgeon W. P. McIntosh, chairman; Passed Assistant Surgeon Dunlop Moore, recorder.

Detroit, Mich. Surgeon R. M. Woodward, chairman; Passed Assistant Surgeon M. J. White, recorder.

Boston, Mass. Surgeon L. L. Williams, chairman; Passed Assistant Surgeon G. L. Collins, recorder.

New York, N. Y. Surgeon H. W. Austin, chairman; Passed Assistant Surgeon W. A. Korn, recorder.

Philadelphia, Pa. Surgeon W. G. Stimpson, chairman; Surgeon J. H. Oakley, recorder.

Seattle, Wash. Passed Assistant Surgeon B. J. Lloyd, chairman; Acting Assistant Surgeon F. R. Underwood, recorder.

Milwaukee, Wis. Surgeon J. O. Cobb, chairman.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending March 25, 1911

BROWN, IRA C., Lieutenant, Medical Reserve Corps. Ordered from Fort Lawton, Wash., to Fort Douglas, Utah, for temporary duty.

CRAFT, EDGAR D., Lieutenant, Medical Reserve Corps. Relieved from duty at the Army Medical School in this city, and ordered to Walter Reed General Hospital, Takoma Park, D. C., for duty.

GRIFFIS, FRANK C., Lieutenant, Medical Reserve Corps. Ordered to proceed from Fort D. A. Russell, Wyoming, to Fort Robinson, Nebraska, for temporary duty.

HEMANS, H. W., Lieutenant Medical Reserve Corps. Ordered to proceed from Fort Wayne to Fort Brady, Michigan, for temporary duty.

LOVE, JOSEPH W., Lieutenant, Medical Reserve Corps. Ordered to proceed from Fort Preble, Maine, to Fort Banks, Mass., for duty at that post.

LYNCH, CHARLES, Major Medical Corps. Detailed to take charge of first aid Department of American National Red Cross.

NEWTON, RALPH W., Lieutenant, Medical Reserve Corps. Ordered to proceed about April 15, 1911, from Fort Revere, Mass., to Fort Andrews, Mass., for duty at that post.

The following named officers of the Medical Reserve Corps will proceed to San Diego, Cal., and report in person to the commanding general of the manœuvre camp at that place for duty: First Lieutenants Alleyne V. Schrader, William T. Cade, Jr., Herbert H. Sharpe James F. Johnston, Bert R. Huntington, Harry G. Ford, Paul W. Gibson, Francis X. Strong, and Robert C. McDonald.

The following named officers of the Medical Reserve Corps will proceed to San Antonio, Texas, and report to the commanding general, the Manœuvre Division, for duty: First Lieutenants George E. Pariseau, Lauren S. Eckels, Lloyd A. Kefauver, John S. Coulter, Thomas J. Flynn, Frederick H. Foucar, Joseph L. Siner, John R. McKnight, Eugene G. Northington, Samuel S. Creighton, Robert H. Gantt, Edward C. Register, William Denton, George G. Divins, Howard Clarke, Clemens W. McMillan, Sanford W. French, Joseph O. Walkup, Horace M. Roberson, Leonard S. Hughes, Charles E. McBrayer, George B. Lake, Fred R. Burnside, Albert P. Clark, Daniel F. Maguire, Raymond W. Mills, Henry C. Maddux, Jay D. Whitham, Leo C. Mudd, Josiah H. Holland, John M. Willis, John J. Reddy, James L. Robinson, Henry C. Michie, Jr., Frank N. Chilton, Henry P. Carter, Harley J. Hallett

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending March 25, 1911

BRYHAN, R. A., Surgeon. Commissioned a surgeon from February 27, 1911.

EATON, W. E., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *North Dakota*.

FARENHOLT, A., Surgeon. Detached from the naval hospital, Puget Sound, Wash., and ordered to the marine recruiting station, San Francisco, Cal.

FISKE, C. N., Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *Georgia*.

LEDBETTER, R. E., Surgeon. Detached from the naval station, Cavite, P. I., and ordered home to await orders.

MCCORMICK, A. M. D., Medical Inspector. Commissioned a medical inspector from February 8, 1911.

OMAN, C. M., Surgeon. Commissioned a surgeon from February 8, 1911.

PECK, A. E., Surgeon. Detached from the naval hospital, Canacao, P. I., and ordered to the naval station, Cavite, P. I.

SHEEHAN, R. F., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *Minnesota*.

SMITH, W. B., Passed Assistant Surgeon. Detached from the marine recruiting station, San Francisco, Cal., and ordered to the Naval Medical School, Washington, D. C., for instruction.

SUTTON, D. G., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from November 29, 1910.

WEBB, U. R., Surgeon. Commissioned a surgeon from January 7, 1911.

Births, Marriages, and Deaths.

Married.

BRADLEY—STEVENSON.—In Covington, Kentucky, on Thursday, March 16th, Dr. E. B. Bradley, of Lexington, and Miss Norma Stevenson.

Died.

ASHLEY.—In New York, on Tuesday, March 21st, Dr. Edward F. Ashley, aged thirty-five years.

BIGG.—In Detroit, Michigan, on Friday, March 17th, Dr. Arthur Henry Bigg, aged seventy-one years.

BROWN.—In New York, on Thursday, March 23d, Dr. Raymond W. Brown, aged twenty-five years.

CRAMER.—In Flemington, New Jersey, on Sunday, March 26, Dr. Isaac F. Cramer, aged seventy-seven years.

GORDON.—In Brooklyn, on Saturday, March 25th, Dr. Elbert Gordon, aged forty years.

HANCOCK.—In Jamaica, New York, on Wednesday, March 22d, Dr. James W. Dodd Hancock, aged thirty-nine years.

HOOVER.—In Osborn, Ohio, on Sunday, March 19th, Dr. Reuben C. Hoover, aged eighty-nine years.

HOWE.—In Brooklyn, on Saturday, March 18th, Dr. Arthur John Perry Howe, aged twenty-seven years.

KLENKE.—In New Haven, Connecticut, on Wednesday, March 22d, Dr. Henry F. Klenke, aged forty-three years.

LUCK.—In Roanoke, Virginia, on Sunday, March 19th, Dr. George S. Luck, aged fifty-nine years.

MORRIS.—In Norwich, New York, on Monday, March 20th, Dr. Claude D. Morris, aged fifty-three years.

O'MALLEY.—In Chicago, on Sunday, March 19th, Dr. Thomas F. O'Malley, aged fifty years.

PERCIVAL.—In Florence, Colorado, on Saturday, March 18th, Dr. L. L. Percival, aged seventy-two years.

ROCKWELL.—In Kenosha, Illinois, on Thursday, March 16th, Dr. C. B. Rockwell, aged sixty-nine years.

RODEBAUGH.—In Columbus, Ohio, on Friday, March 17th, Dr. Henry A. Rodebaugh, aged fifty-eight years.

SLOCUM.—In Camillus, New York, on Thursday, March 16th, Dr. Fred W. Slocum, aged fifty-three years.

STEWART.—In Clarksburg, Missouri, on Friday, March 17th, Dr. J. B. Stewart, aged seventy-three years.

STRUBLE.—In Cleves, Ohio, on Saturday, March 18th, Dr. Royal Struble, aged seventy-three years.

TROWBRIDGE.—In Hayward, Wisconsin, on Wednesday, March 15th, Dr. J. B. Trowbridge, aged sixty years.

VAN ORSDELL.—In Brooklyn, on Saturday, March 25th, Dr. Elbert G. Van Orsdell, aged forty years.

WETMORE.—In Albany, New York, on Wednesday, March 22d, Dr. Edward W. Wetmore, aged sixty-two years.

WINGER.—In Ephrata, Pennsylvania, on Wednesday, March 15th, Dr. Franklin Winger, aged forty-seven years

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Original Communications.

ADDRESS TO THE TRAINING SCHOOL FOR NURSES OF THE NEW YORK HOSPITAL.*

By George L. Peabody, M. D.,
New York.

It is twenty-six years since I last had the pleasure of addressing the Training School upon an auspicious occasion which was a predecessor of the event which we celebrate to-night. On that evening, April 27, 1885, the class that graduated numbered sixteen. I will not give you their names, but I will tell you that the well kept records of the school show that of them all only two are still exercising their calling, thirteen are known to be living, six are married, two have disappeared without leaving any trace, one has become a hospital superintendent, one a sanitary inspector.

If the pleasure of appearing before the school should be again accorded to me at the rate of frequency with which you seem willing to tolerate, that is to say, once in every quarter of a century, I shall be talking to your daughters in 1937, and I promise to give them a good account of you and your day!

Many changes have come to the hospital since that evening. Of the governors of that time only four are living; of the medical board the same number; and the good superintendent, who endeared himself to many generations of you and to two generations of me, is enjoying a rest from his labors. This building had not then even been planned, and the very land upon which your school building rests belonged to other owners. Your school, then in its infancy, gave great promise as a sturdy infant, which, under the hospital's fostering care, has been more than fulfilled. Since then it has graduated more than six hundred nurses, a large majority of whom are still engaged in nursing.

Who could have predicted then the growth of the training school movement, or the extent of its development?

Dr. W. Gilman Thompson tells us, in a recently published article, that in 1908 there were in this country 935 training schools for women nurses, with 22,100 pupils, and an annual graduation roll of over 5,600. There were in that year 1,484 hospitals of all sizes, and about two thirds of them were supplied with training schools. In this State alone 116 such schools are registered by the Board of Regents.

The average rate of increase for the first decade after 1872 was two new schools per annum; whereas the average for the two succeeding decades was forty-two, or almost a new school in each week for twenty years.

In several of the large cities of this country there are as many as nine schools, and in Chicago there are thirteen.

The present rate of increase in attendance at all schools exceeds five hundred a year.

The 22,100 pupils care for about 98,000 hospital beds, which would furnish an average of one nurse to every four and a half beds. Making allowance for probationers who are not fully admitted to hospital duty, and for those on sick leave, vacation, and night duty, the average throughout the country is probably one nurse to every eight or ten beds.

In our own school there are ninety pupil nurses, nine graduate nurses in charge of wards; and one nurse cares for an average of five beds. Besides these there are three graduate nurses in the operating room, one in charge of the dispensary, two visiting nurses in the dispensary, and one for social service work.

Do you know the origin of the training school idea? It is so often erroneously attributed to Florence Nightingale that I think I will repeat to you the few words that I said about it when I addressed you so long ago that everybody has forgotten them. The movement took its origin in Germany and was started not by a woman at all, but by a mere man!

Theodor Fliedner was born in 1800 in the duchy of Nassau, which was annexed by Prussia in 1866. He was a protestant clergyman and philanthropist. When this good Pastor Fliedner, the John Howard of Germany, began his ministrations among the released female convicts of Düsseldorf in 1833, he hardly thought that there, at Kaiserwerth, the little village of his adoption in the low country of the Rhine, a seed was sown which was to flourish and bear fruit all over the civilized world. Those interested with him had banded themselves together and founded the first Prison Society of Germany in 1826. The good man's circle of practical philanthropy soon widened. The state of the sick poor had for some time excited his interest; and it seemed to him that hospitals might best be served by an organized body of women specially trained and devoted to the work. Accordingly, in 1836, he began the first deaconess house and the hospital at Kaiserwerth. By their ordination vows they devoted themselves to the care of the poor, the sick,

and the young. This was the beginning of the movement which has led to the establishment of schools for the training of nurses. To this beginning and to good Pastor Fliedner you owe your existence as nurses. It was here that Florence Nightingale, to whom you all look up as to your patron saint, obtained her training. I need not allude to the further progress of the movement after she transplanted the idea to British soil; you are all familiar with the rest, and especially with the impetus which was given to the new idea in the Crimean War, twenty years after its origin in Germany.

You cannot imagine what a benign influence you brought into hospital life, for you have never seen the working of hospitals in which trained nurses are not. When I was an interne in the Roosevelt Hospital the only training school for nurses in America was just beginning its career at Bellevue. At the Roosevelt, as at all the others, there was not a trained nurse. There were a few "professional" nurses, one in each female ward; and the male wards were under the care of men who were, for the most part, untrained, or had had only such training as they had got in army hospitals. The night nursing of all the hospital wards, male and female, medical, surgical, and gynæcological, was performed by one middle aged woman who was without training and without human sympathy; and not a ward attendant of any grade, by day or by night, was capable of using the clinical thermometer. All the taking of temperatures was done by the members of the house staff. There was a night watchman who was just capable of waking us at prearranged hours in order that we might take such temperatures as were necessary.

I need not tell you that, thanks to the zeal and ability of a graduate of this school, there is now at Roosevelt Hospital one of the best training schools of the country.

When we think of all the complicated procedures which are now entrusted to you, of the complete dependence of hospital life upon you, it seems very strange that you should not have entered into the medical household years before you came. But you must remember that hospitals had not then learnt that to be properly conducted they must be liberally endowed; and a training school is a very costly accessory. For the most part hospitals were very poor; and they did the best they could with their slender means. Antiseptic surgery, the precursor of present day aseptic surgery, the great object lesson in modern hospital economics, was just struggling into existence in Scotland and had not yet been heard of here. Laparotomy, which is hardly considered a major operation to-day, was usually fatal in those days. It was well said by a famous gynæcologist of the time that no man was justified in performing laparotomy who had not done it at least a dozen times! I remember the first successful case of it at the Roosevelt Hospital. It was performed for an abdominal tumor by one of the hospital *physicians!* When it seemed likely that the woman would recover, a woman friend who had remained with her and had done much of the nursing, came to me and said that the patient wanted to know if she might smoke a pipe, to which she was accustomed. She thought she would feel much better and sleep better if I would allow it. As she was in a little room which was not connected with the ward and thus where others would not be demoralized by the unwonted indulgence, I authorized the pipe, and she got well. She was a native and a resident of this State.

When you came into hospital life to do your share, of course you were an immediate and very welcome source of comfort to the patient. You all know the many ways in which your tact and judgment and good feeling enable you to smooth the wrinkles out of his life—all the world knows of that, so I will not dilate upon it.

There is another view of your usefulness to which I have not seen allusion anywhere. I am thinking of the *results* of your help to the doctor *in the study and solution of his problems.* It seems to me that her share in the *advancement of medical knowledge* has never been fully accorded to the trained nurse. For all of our information as to the symptoms presented by the patient in the intervals of our visits we must rely upon your powers of observing and your skill in recording your observations. You must fill many a gap in our experience of the patient's condition; much of our knowledge of daily, hourly changes in his disease could not be acquired without your assistance; our study of his malady would be but fragmentary and disconnected if you were not here to help us.

When I look back upon the years of my medical life in which I worked without you, and the other years when you were present in very small numbers, I wonder how I got along at all in certain very serious situations. Conditions of those days rendered the doctor's duties much more arduous, of course, and the patient's sufferings much less endurable; and they certainly rendered the present day careful study of disease and present day results quite impossible of attainment. It would not be possible to say how much or exactly what has been contributed by nurses to the advance in clinical knowledge which has of late years been so rapid; but for my part I wish to accord you your full share.

In spite of all the allurements of your calling it is a shadow on the picture that the period of your activity as nurses is so brief. Your work is very hard, many of you never learn how to take care of yourselves and thus prolong your usefulness, and many of you, with very proper regard for your highest potential functions in life, abandon your chosen career for marriage. Of the total number of alumnæ published in the hospital report for last year 187 are married, or nearly one third of you all. The only adverse criticism that I have to make upon your matrimonial proclivities is that too many of you marry doctors. This shows undue haste, failure to appreciate true perspective, lack of imagination. What kind of a wife would a trained nurse make who did not abandon her calling? Doctors, when you marry them, continue to practise their profession; and practising doctors do not make good husbands. If I were a woman, I would no more marry a doctor than an actor, and for much the same reason.

You learn by experience, for I observe that in

your second marriages you show better judgment!

For ten years I was physician to your school; and in that capacity I had some interesting experiences. I remember years ago one of your number who prolonged her evening of leisure until the next morning, and was seen entering the hospital shortly after sunrise by the night watchman. She made the unfortunate mistake of recording her return in a book which was in those days kept at the door, as of a reasonable hour the previous evening. When these facts reached the despot who then presided over the destinies of the school, she reported the matter to the training school committee, who, in due course, summoned the delinquent before them. By the way, why should the welfare of such a large number of wholly devoted human beings of your tender age and gentle sex always be entrusted to the care of an unsympathetic despot, a veritable dragon? And yet, with one very distinguished exception, such has always been the case!

To return to history: We had brought your delinquent sister into the awe inspiring presence of the committee on the training school, and it would be an unconstitutional punishment to leave her there too long, for it would be both cruel and unusual. You must remember that, although they were a much less terrifying body of men than the committee of present day power, much less austere and heartless, nevertheless a quarter of a century ago it was not entirely pleasant to be ushered by the dragon in charge before the representatives of omnipotence with a recommendation of speedy annihilation! So let us go back to the sufferer. She was, as so many of her sisters are, a very demure creature; and she told those gentlemen in her soft voice and with her winning manner a very harrowing tale. The hospital elevator, weeks before, in its unexpected descent—the door of the shaft having been improperly left open by the attendant—(note the responsibility of the hospital for the accident) had struck her head very violently, and, since that injury, she had occasionally found herself inappreciative of the lapse of time. There had been occasional headache, but the only really disturbing symptom had been this peculiar inability to measure time in the instinctive way that is common to all normal people. On the evening in question, which had been spent with a lady friend, time had passed so unconsciously that before she was really aware of it, it had become quite too late for her to return alone to the hospital, and she had felt obliged to remain with her friend until the morning.

This presented an embarrassing situation. The training school committee of those days, as I have intimated to you, was composed of a kindly, genial body of men who could not deal harshly with a young girl who was trying, under their guidance, to qualify herself for a noble calling, for what is so often described to your willing ears, as a life of self sacrifice. So what do you suppose these sympathetic gentlemen did? They made a medical case of her, and shifted the responsibility to me! They told her that as I was the school's physician they would leave it to me to say whether the results of the elevator accident, which they greatly deplored, were so serious as to impair her future usefulness as a pupil or a nurse. Accordingly she was directed to report to me; and I have never forgotten the demure look, the hesitating manner, the uncertain air with which she entered my office, and the soft, sad voice with which she retold the queer story, with all its wealth of detail. I had been officially informed that the matter had been referred to me with power, and I had no wish to prolong her distress, so, I told her at once that if she would promise me never to do it again I felt quite sure that her health would at once be sufficiently restored for her to go on with her work. She thanked me very quietly and promised; and she kept her promise and justified my diagnosis, prognosis, and treatment by the nonrecurrence of symptoms. Although the result of this treatment was very satisfactory I have never felt quite confident of the lesion. The nature and location of the brain injury by which she was led to mistake and misstate even the *day* of her return to duty after an all night absence, has always remained a mystery to me, but the decision seemed entirely satisfactory to her, and comment upon it never reached my ears.

Hospital life is full of tragedies. Is the tragedy of the little bootblack still extant, or has it been forgotten like so many others? This little bootblack lived and died before the present day surrender of his craft to the Italians, who have coined a word to describe their monopoly of a worthy calling. Now they are all *chinatori*. The bootblack of my story was an Irish-American: he was tall and pale and emaciated; and he was brought to the hospital by a little friend and fellow craftsman who was sturdy and pony built and had red hair and a freckled face. As a rule I like a boy with red hair and freckles. He is usually an honest, earnest sort of fellow, but this one showed himself to be an exception. These boys were about twelve years old and were partners in business. They entered the hospital office one day and stood, cap in hand, abashed before Mr. Ludlam. Presently the sturdy little chap, he of the red hair and freckles, tugging at his forelock, told Mr. Ludlam that his friend was sick and as he was afraid to come alone to the hospital *he* had "kinder come along to introduce him." His friend wanted to enter the hospital to be cured of a cough which was very persistent and was accompanied by afternoon fever and emaciation. He was sent to one of the wards and there it soon became obvious that he was incurably ill with a rapidly advancing pulmonary consumption. His parents were dead; he knew of no relatives, and he had only the one little friend who had come with him. This boy came to see him at first on every visiting day; then, later, his visits became infrequent and soon they ceased altogether and he was never seen again. Meanwhile, the dying patient, who felt very lonely and missed his only friend, interested some charitable volunteer visitors in his case, two ladies who made regular visits to his ward, and they promised to hunt up his little friend.

One day Mr. Ludlam found the patient in an agony of tears; and, taking a seat by his bedside, he listened to his story. Shortly before his mother died, she had given him a twenty dollar gold piece (which was the entire fortune that she had to leave him), with the traditional injunction never to part with it except in case of most urgent necessity.

Throughout the trials of his childhood's weary efforts at earning his living he had often been tempted to spend this money for food and shelter, but the sacredness of his dead mother's injunction had always restrained him, and he had kept his treasure carefully wrapped up in a piece of newspaper to conceal it, and had stowed it in his bootblack's box. When he came into the hospital, because he could no longer work, he had entrusted the care of his worldly possessions, including his professional kit, to the keeping of the only friend of his lonely little life. Now, when it became obvious to the keen and watchful eye of this friend that he was marked for death he had stolen the kit and its contents and had disappeared. I suppose that to his mind what he had received as a trust really became his own property when it ceased to be of use to the owner. His friend could not live long; and, in his hospital life and in his death, neither gold nor kit would be of value. Did not the hospital do all? Was not his food better and his bed cleaner than anything he had ever known? And *he* was the heir, so why not make sure of it all by inheriting at once, before the testator's death and without the formality of surrogate or tax gatherer?

The sufferer's few remaining days were days of very bitter distress. His disease racked him, day and night, and his mind was never at rest. Like so many tuberculous invalids he was confident of recovery and dreaded having to face the world, which had not been a kind world to him, without kit, without clothing, and without the sustaining thought of his mother's gift and his partner's friendship.

These amateur philanthropists wanted to relieve his anxiety, and they destroyed his peace for the short remainder of his life. His faith in his only friend shattered, and his little treasure and his professional outfit stolen, there remained to him no hope. With the best intentions they had made a grave mistake. Even the simple details of instinctive philanthropy require *some* knowledge of life and its problems, *some* experience of the world, *some* judgment and *some* skill; pity alone will not replace them.

Do you think we fully appreciate the sufferings —I mean the mental sufferings—of childhood? I fear not, and I fear that by our very inability to understand their troubles we often add to them. *They are very real.* If we should always make a serious effort to understand and appreciate them I think we could lift or lighten many a burden that weighs very heavily upon shoulders unfitted to bear it.

Highly trained minds are utilizing every possibility to understand the languages of monkeys and birds; I fear the minds that are devoted to penetration into the hidden recesses of the mental processes of childhood are less highly trained.

Crises as grave as this in life, at any age, ought not to be left to chance. Is suffering like this less worthy of skilled treatment than the physical ills that enchain your interest and arouse your best endeavor? Do you think it likely that any hospital ward in this city to-night is without some sufferer who stands in urgent need of our *moral* help?

And how many hospital wards are there here in New York, where we boast of our charity, in the spirit of our commercialism which threatens to overwhelm all lofty purpose? Every such sufferer is crying loudly to us for the very bread of life; and I fear that we sometimes enjoy a very unholy satisfaction when we offer him a stone!

I hear you say that you cannot leave your duties in the ward to go to a remote tenement and see that the children are not starving or stolen and thus set the suffering mother's mind at rest. Certainly you cannot. Equally, you may not prescribe opium to relieve her physical pain, but you *may* let the doctor know that she is in pain and needs relief; and you do so. Can you not also let the superintendent know that the patient is in great mental distress because she knows not what has become of all that is dearest to her since illness drove her forth from home? I feel quite safe in committing the hospital to the obligation of doing all that is possible to relieve her mind while you minister to her body, if you will but discover and disclose her need.

By neglecting this part of our duty as healers are we not driving many to seek aid at other and less competent hands than ours? We are inclined to speak lightly of the people who wander into all sorts of devious paths in search of assistance which they ought to receive from us. But are they really as fairly open to criticism as *we* are—I take for my profession its full share of the responsibility—who ought to look beyond the mere surface injuries and diseases from which they suffer to the deeper, hidden sources of distress which might furnish many a useful clue, many a serious complication, or even a predisposing cause?

If I were bold enough to venture a suggestion for the improvement of our work—*yours and mine* —I would say that we should not regard the hospital as a big healing machine, and content ourselves, as I fear, in the unavoidable hurry of life that we sometimes do, with the thought that as integral parts of the machinery we are doing our whole duty if we act merely as wheels in its composition, and keep on revolving in connection with other wheels to contribute our share of work to turn out the normal amount of product in the shape of satisfactory results as the years go by. All this it is; but you and I have learnt to make it much more. Many of us know that the *clinical material*, as it is cynically called, that fills our beds, cannot be all classed as *material* on which we are to do machine work.

It is much more even than flesh and blood. We are becoming ever more mindful of the personal equation, of the individuality of the sufferers that compose it, and even more of the mental and moral individuality than of the physical differences in its composition.

If one touch of nature makes the whole world kin, how much more ought the suffering which illness or accident brings with it to impress us with the feeling that these fellow mortals whom misfortune has placed at our mercy really become our kin in the truest sense?

Our responsibility is greater in proportion to their helplessness. Those whom you are going to

serve in your work after the receipt of your diplomas this evening are so differently placed that they can usually fully protect themselves. If *they* do not like you and me they have no hesitation in letting that fact be known to their entire environment, with the result that you and I disappear from the scene and are easily replaced by others.

It is the sufferer in the hospital ward that has always been to me the chief interest in my medical life, and he is very defenceless in our hands; and his defencelessness entitles him to our very highest consideration.

Pray do not mistake me. I am not now scolding; the time when I had the right to scold you has gone by.

I wish to accept for myself the full share of responsibility in this regard, if there is really any shortcoming; and I do not feel that you are any more to blame than all of the rest of us in authority, medical and lay authorities alike, in our hospitals. But your relations with the patients are so much closer and more intimate than mine that your possibilities of good work with them are greater, and therefore your responsibilities are proportionately graver.

Believe me, the rewards of good work of this kind are very great; it will never cause you any regrets.

Do you know that most worthy settlement in Henry Street, on the lower East Side, surrounded by poverty and the results of generations of oppression in other lands, whose founder and supporter and main worker is one of your older sisters? I know no one of you all, past or present, whose life has been fuller or more useful than hers; and I know not one among you whose face portrays the evidence of a happy life more than does hers whenever I am so fortunate as to meet her.

Work akin to this is now open to your profession after graduation, and some of the best of your predecessors are engaged in it. To succeed in work such as that in which the amateur philanthropists failed is among the purposes which the noblest branch of your calling is going to accomplish, that branch which, for want of a better designation, bears the very undescriptive title of *Social Service*. I like to describe things by their names, but this name seems to me to describe nothing. It might equally well include the sending of invitations or writing of notes or checks for any grand social personage.

However, call it what you will, it is a noble calling; and do you know where it originated? I am not sure that I do; but my acquaintance with it was made in the New York Dispensary, whose existence is unknown to you, but which is 122 years old and has lived its very useful and very obscure life in the shadow of the City Prison which until recently was called the Tombs.

It is just thirty years since the Society for Ethical Culture offered to its trustees to defray the salary of a trained nurse to work with our doctors in the dispensary and in the homes of patients for one year, in the hope that they would thus demonstrate to us the usefulness of such an arrangement. One of our alumnæ was selected, Mrs. M. E. Dilts, who graduated from the school in one of the earliest of the classes.

Dr. Felix Adler and his society taught us this lesson, and Mrs. Dilts is still in our service; but she is not alone in it. We have two other nurses now regularly employed, and we should have more if the obscurity of our venerable little charity had not kept us hidden from the eyes of the benevolent. Just as this hospital was opened when the city first needed a hospital and has been followed by dozens of others, so the old Centre Street Dispensary, as it has been called for many years, was the first dispensary to be opened when the city grew large enough to have an ambulant class of patients; and, in its turn, it has been followed and overshadowed by many others.

There is no higher calling for you than this work which takes you into the inmost lives of the poor in their homes. There is no better exercise for your brains and hearts, there is no better field for the cultivation of self sacrifice, there is no nobler opportunity for the exercise of that one of your many graces which has seemed to me to mark many of you as a race apart from other women, your charm of intense earnestness.

After all my levity I want, in bidding you goodnight, to leave you with this very serious thought in our minds. Of course such work is not to be undertaken lightly, nor merely as a livelihood, nor as a matter of sentiment. There must be something of the feeling that inspires the missionary, something of the zeal of the crusader, a real desire to *serve* in the highest sense, the feeling that animated many a knight of old in his weary quest and his noble service!

"As Sir Launfal mused with a downcast face,
"A light shone round about the place;
"The leper no longer crouched at his side,
"But stood before him glorified,
"Shining and tall and fair and straight
"As the pillar that stood by the Beautiful Gate,
"Himself the Gate whereby men can
"Enter the temple of God in Man.

"His words were shed softer than leaves from the pine,
"And they fell on Sir Launfal as snows on the brine,
"That mingled their softness and quiet in one
"With the shaggy unrest they float down upon;
"And the Voice that was softer than silence said,
" 'Lo, it is I, be not afraid!
"In many climes, without avail,
"Thou hast spent thy life for the Holy Grail;
"Behold, it is here, this cup which thou
"Didst fill at the streamlet for me but now:

* * * * * *

"The Holy Supper is kept, indeed,
"In whatso we share with another's need;
"Not what we give, but what we share,
"For the gift without the giver is bare;
"Who gives himself with his alms feeds three,
"Himself, his hungering neighbor, and me.' "

A CONTRIBUTION TO THE STUDY OF FATS AND LIPOIDS IN ANIMAL TISSUE.

a. *Lecithin in the Tonsils.*
b. *Globules and Ring Bodies.*

III.

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Lecithin. When we come to a discussion of the morphological and tinctorial evidence of the presence of lecithin in tonsillar tissue, I must confess to a great deal more uncertainty of mind even than has been exhibited in dealing with the other material under consideration. If the testimony in regard to the presence of cholesterin and soap rests upon insecure foundations, the tissue components of the tonsils exhibiting to the microscopist the presence of lecithin are shrouded in mist, so far at least as the Ciaccio method is concerned. It is all very well for the technician to saturate cigarette paper with what he regards as pure cholesterin or pure lecithin and then by stains to distinguish it from other material he supposes to be present in the living tissue, but of all things thus studied nothing gives rise to a feeling of greater distrust than these unstable bodies when one contemplates the various forms they assume in the all but unknown wildernesses of organic chemical bodies in the living cell. This will be discussed later. Suffice it here to say that Ciaccio, whose elaborate formula I have used, has himself later expressed the greatest doubt as to whether it is really warranted to call his method a lecithin stain or a lipoid stain, while I am not entirely free from a suspicion that it reveals also the neutral fat remaining even after the repeated use of fat dissolving agents. However, at the worst, it reveals the lipoid material in a little different relation to the tissues and in a little different form from the other methods employed. With these reserves well kept in mind, the study of the material by tinctorial reaction may be a profitable one.

Ciaccio's method is based on the fact, according to him, that the alkaline bichromates render the lecithin or protagon lipoids insoluble in the usual fat dissolving reagents, a reaction which he declares is not participated in by neutral fat, fatty acids, or cholesterin. So they are washed out of the sections by alcohol, xylol, etc., while the lecithin remains and fixes the Sudan III stain.

Lecithin Stain.

Ciaccio's formulæ in the *Archiv für Zellforschung*, v, 2, [illegible]

Very thin pieces directly or after formalin treatment are [illegible]

1. *Method.* Potassium bichromate, five per cent. solution, 100 c.c. Formol, forty per cent. solution, 20 c.c. Formic acid, from 10 to 15 drops, or acetic acid, 5 c.c.; from forty-eight to seventy-two hours. Or,

2. *Method.* If the specimen has already been through the fixative of Method 1, and osmic acid stain is desired, put it for seventy-two hours in bichromate of potash solution five per cent., 15 c.c. Osmic acid, one per cent., 10 c.c. Wash in running water twenty-four hours and further treatment as in Method 1. Or,

3. *Method.* Potassium bichromate, five per cent., 15 c.c. Osmic acid, one per cent., 10 c.c. Formic acid, one or two drops, three or four days.

From either of these preliminary steps transfer to

1. Three per cent. solution potassium bichromate at room temperature for a week, or in thermostat at 37° for six or seven days.
2. Wash in running water for twenty-four hours.
3. Seventy per cent. alcohol for twelve hours.
4. Ninety-five per cent. alcohol for six hours.[1]
5. Absolute alcohol and xylol paraffin, of melting point 60° C., for from one to two hours at from 37° to 40° C.
6. Paraffin of melting point at 50° to 52° C. for one hour (pure).
7. Paraffin of melting point at 58° C. for one half hour (pure).
8. Section.

Loose sections, or those fixed to slides by method of Henneguy (a little gelatin in tepid distilled water with a few drops of a solution of potassium bichromate used as adhesive) are freed from paraffin and passed through a series of alcohols:—Then:

Alcohol, seventy per cent.; from this into a saturated solution of Sudan III in alcohol of eighty per cent. or eighty-five per cent. for from thirty to forty-five minutes at a temperature of from 25° to 30° C. (Less preferably scharlach roth, indophenol, Nile blue, may be used). In any case it is better that the solution should be kept in the thermostat and then cooled and filtered before using. Keep the sections in well closed vessels while staining. Decolorize in fifty per cent. alcohol, shaking them in this until the slide holding the section is free of color and is transparent. Wash carefully in distilled water. Counter stain:

1. Hæmatine, followed or not, by weak stain with light green. Or,
2. Water blue or crystal violet. Or,
3. Ferric hæmatoxylon of Heidenhain. Enclose in syrup of Apathy

Whether or not the neutral fat and the other lipoids are removed, after the fixatives used, by the fat dissolving agents subsequently employed, I am unable to say, but certain it is there are some morphological differences and differences in the distribution of the material which takes the Sudan III or scharlach roth stain, which have greatly encouraged Ciaccio to believe that his fixatives have made the lecithin insoluble in the prolonged alcohol and xylol soakings the sections subsequently undergo, yet it is not by any means clear that cholesterin or some of the neutral fat has not remained to complicate matters. The red blood cells, however, which we know contain normally a mixture of all, are in this process disintegrated and shrunken in a significant manner.

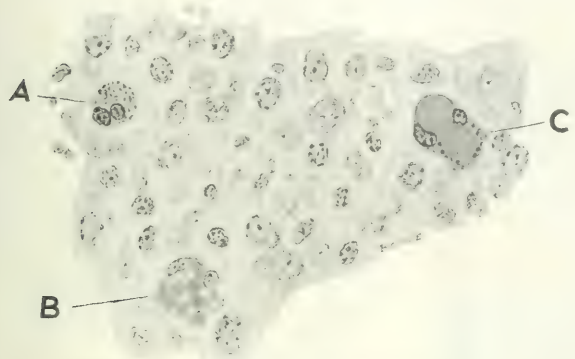
Thus far I have used only the first method of fixation without the osmic acid, as it seems best not to confuse one's mind any more than possible with all the eventualities one must think of in considering tissue which has passed through the usual ordeal, formidable enough, without the added vexation of osmic acid. One gains some courage on noting first the admirable fixation which has been secured for all cells but the erythrocytes. These are shrunken and disintegrated and look indeed as though they had been plundered of something. One also notes that many karyokinetic figures[2] are shown by the counterstains which other methods of fixation and hardening had not revealed, to me at least. Further it is seen that the Sudan III or

[1] I regret that I worked out the formula in translation both from Ciaccio's texts and from Italian. I have been much embarrassed by the careless and confusing use of the signs for temperature and [illegible] I cannot doubt myself to assume that when he speaks of "alcohol 95°" he means "alcohol 95%" since the boiling point is much lower. As the results were eminently satisfactory I find therein my justification, but notice of the point must not be omitted here.

[2] I should say that an attempt to use this Ciaccio fixation fluid in embryonic material has not resulted favorably.

scharlach roth stains have been made to penetrate some of the nuclei, and to stain sharply the nucleoli of many endothelial cells.

Using the illustration on Fig. 2 as a text, I can thus best describe the other features seen and arrive at a fuller consideration of the globules, which we are justified in believing owe their morphology

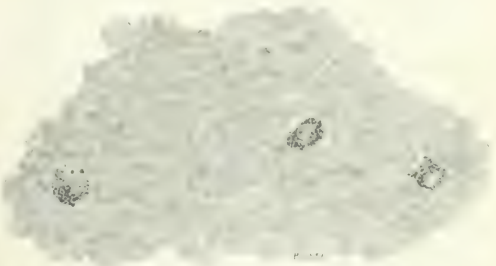


ither with the proce-
staining neutral fat or lecithin with scharlach roth

and physical properties chiefly to the presence of the lipoids. The structure *A* is that of a binuclear lymphocyte which I have been at pains to describe in dealing with the neutral fat. The artist has drawn it as it appeared, that is, with an almost round contour, differing thus slightly from the average granulocyte seen with the neutral fat stain which is a little cuboidal. This may be due, as I think most probable, to the method of fixation. We must bear in mind the property lecithin has of swelling up in watery fluids (though, it is said, not with the chrome salts), which would convert a cubical cell into a spherical cell.

Next as to the color of the granules. That is seen to be the same as the bright red color exhibited by the frozen sections of the formalin fixed tissue with the Sudan III before it had been drenched with bichromates and treated with the series of alcohols to wash out the neutral fat and leave behind the lecithin. Looking closely it will be seen that in this cell some portions of the nucleus have been differentiated, a thing much more marked in certain other nuclei. If we are to suppose that it is in reality a lecithin molecule which has attracted the red stain to these dividing cells, then we have evidence that the latter compound is present with the scarcely less formidable molecular architecture of neutral fat in the same granules of a binuclear lymphocyte, for we have seen the same binuclear cell taking the stain for neutral fat. Now in *B* we have a figure we never see with the process for neutral fat alone, yet the two nuclei are present, though pushed over to the periphery; the granules have either grown *intra vitam* or have swollen with imbibed water into spheres paler, it is true, but evidently owing their origin to the granule of the stipple cell; when carefully focused other granules can be seen which have not grown or swelled. In *C* we simply recognize an extension of the process, whether artefact or *intra vitam* growth. There is one objection to make to the *intra vitam* growth of the granules to globules in this lecithin process. The intensity of color has waned. In the stipple cell it is bright red, in the smallest of the spheres even it is a pale pink and gives a character to the appearance difficult to represent in black and white, and which probably has moved Ciaccio to call this cell a "lecithin cell." The objection to this interpretation is that in swelling and imbibing material from the environment, simply a dilution of color may have occurred. I leave this as a not entirely settled point. *A* is distinguished in appearance in no essential way from the neutral fat stipple cell. *B* and *C* are apparently derivatives, but some step seems to have intervened, which it would be idle for me to guess at. The intracellular origin of lipoid globules, however, is plainly seen. I should add that in ascribing the name "lecithin cell" to the structures referred to, Ciaccio described pseudopodia which in my illustrations appear as marginal irregularities. We see the globules ready to burst the cell membrane and lie free in the stroma. Both with this method of Ciaccio and with the hæmatoxylon stain for soap and for cholesterin as given above, this same process of derivation from the granules can be traced, but with the soap and the cholesterin, so far as I can judge, it is always from mononuclear lymphocytes. I think a careful weighing of the evidence as I have presented it in these papers, but much better a careful review of objective appearances by others, will lead to the conviction that this comparative study justifies us in believing we are looking at material which reveals itself at least in different phases under differing conditions; that, if it is neutral fat in the stipple cell *A*, it has failed to dissolve in strong alcohol and the other usual reagents; that, if it is the same mixture of lipoids and soap as represented in Fig. 3, it is in some different morphological phase or chemical combination than that seen in *B* and *C* of Fig. 2.

The remark that the erythrocytes looked as though they had been plundered was made ad-



–Showing the mononuclear stipple cells or granulocytes

visedly; for, as we shall subsequently see, they are made up in such large part of neutral fat and of other lipoids besides lecithin that it is a support of Ciaccio's declaration that his process reveals the lecithin by making it receptive to the Sudan III after the other lipoids have been washed out. It also apparently renders the nuclei of some of the cells, especially the endothelial, the epitheloid, and some of the epithelial cells, receptive of a stain

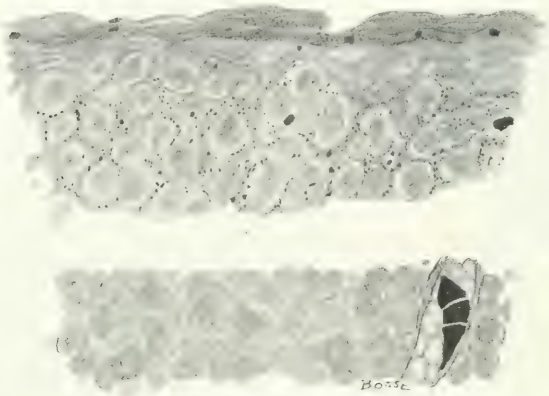


Fig. 5.—Showing the distribution of cholesterin in the epithelial layers, and its absence from the stroma just beneath the epithelial area, except for the deep stain of some of the compressed erythrocytes in a capillary.

they failed to take by other preparation. Besides staining the nucleoli of these cells a red color, there are some areas of the new lymphoid cell nuclei which have taken it deeply, showing as a contrast, what is rarely revealed in these lymphoid cells, the narrow fringe of cytoplasm around them. An interesting picture is sometimes presented of this nuclear avidity for the stain in some of the large lymphocytes, the megarocytes of some authors. A string of minute granules can be traced from beyond the periphery of the cytoplasm (where other granules have not taken the stain), from the external environment of the cell, through the cytoplasm and into the centre of the large nucleus. A few instances have been seen of a nucleus which has almost entirely finished its division and the two resultant nuclei drawing apart are densely colored with a red stain, very little being discernible in the cytoplasm. Then there are still more rarely seen instances where one of the separated nuclei has taken the red stain and the other has failed to do so and has taken the counterstain, thus forming the complement to the picture represented in *A*, where, after complete division, the ripe nuclei show none of the red stain, while the common cytoplasm is full of the red granules. How much all this is characteristic of an inflammatory process in the tonsil I do not pretend to say.

Sometimes in the epithelium, in the crypts especially, lecithin granules are seen in considerable abundance, usually a little oblong in shape, but in distribution and location reminding us of the cholesterin distribution as shown in Fig. 5, and of the chemical researches which have shown that cholesterin and lecithin are closely associated in many structures. In this situation, it is suggestive to me of the rôles the two play, antagonistic as they seem to be in the processes of immunity and infection, at the surface line of the body. As was noted for the soap, cholesterin and neutral fat stains, lecithin stipple cells have been seen inside the bloodvessels among almost colorless erythrocytes, these white cells having alone taken the bright red color.

The striated muscle cells have taken a deep pink tinge, but the striations are not distinguished from one another in the striking manner narrated of the cholesterin stain.

I am uncertain about the effect of inhaled ether on the lecithin in the cells. It is said to have no effect upon it in the circulating blood. Indeed, there are many observations I might repeat from my notes of the interesting pictures presented by this elaborate process of Ciaccio as used in tonsillar tissue, but as most of them are of uncertain import I have alluded only to the most salient points in my work. It yet remains to speak of the globules and ring bodies more in detail.

Globules and ring bodies. As one focuses up and down on the globules in the simple frozen section, one perceives at once there is a strong double refraction, and Adami and others have shown that with the crossed Nicoll's prisms in polarized light a Greek cross divides the drop into four. When they are stained, be it with osmic acid, with Sudan III, or with hæmatoxylon, in the various ways I have detailed, they lose this double refractile index, at least in its striking intensity. Yet light still shines through the colored material in such a way that one is reminded that matter here is arranged differently from the surrounding matter. Around many of the globules a little aureole is seen. Many are seen to exhibit zones of material, geometrically symmetrical, which show darker and lighter shades of the stain when contrasted with one another. These are the "ring bodies." In Fig. 6 I have had one reproduced which was noted in a section, stained for soap after cold use of the mordant, of a tonsil which had been removed from the patient during etherization. On first glance, at both the drawing and at its original, the sharp line seems to be a phenomenon of double refraction, but a little examination shows that not to be the case. On focusing, there is no shifting. There is seen to be then an outside hull of dark material sepa-



Fig. 6.—Showing with the soap stain a ring body free in the tissue of a tonsil which had been removed from the throat under ether.

rated by a densely black calcic soap wall, scarcely more than a quarter of a micron thick, from a much lighter body within. The section lay on my desk for several weeks before it was demonstrated to the artist and it was then seen that in addition to the yellow darkening of the whole structure the thin line of the wall had wavered a little in shrinking and at one place had ruptured with minute fraying at the divided ends. I describe this thus minutely, as I look upon it as visible evidence of the different phases of surface tension of the lipoids contained in it, whether cholesterin or lecithin or a fat, some of it saponified, or of them all together. Manifestly when the environment changes that outer hull so that it bears a different surface tension, perhaps changes it from one lipoid to another, or showers upon it some electrolyte, we have it assuming a different potential bearing toward the different structures in which it lies. So manifest is this that I cannot forbear to end with this deduction that part of my arranged notes which I had meant to be as much as possible an objective description of observations made on the fat and lipoid contents of tonsils.

44 West Forty-ninth Street.

A SERIES OF STUDIES OF NERVOUS AFFECTIONS IN RELATION TO THE ADJUSTMENTS OF THE EYES.

First study. Mimeses or Neurasthenia.

By George T. Stevens, M. D., Ph.D.,
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That it is difficult to clearly define or to establish a satisfactory delimitation to the group of morbid conditions usually included in the term now most in vogue, neurasthenia, a group which has been known as mimeses, spinal irritation, and nervous prostration, is indicated by the fact, that each authority, describing the group in some measure from his own experience, is likely to include different symptoms or affections as essential constituents of the group and to give to one or another of these constituent disorders a leading rôle in the group which does not occupy such a position in the view of other authorities.

As a matter of fact the group includes at least two, possibly three essentially different classes of affections.

First of all and conspicuous among them is the group arising from a chronic realization of fatigue of certain pretty well defined groups of muscles. The fatigue most frequently manifests itself in localized pains. We may begin a list of these painful locations at the forehead, at or just above the brows, much less frequently at the vertex of the cranium, then at the back and lower part of the cranium, and next at the spine of the seventh cervical vertebra, then at the point between the angles of the scapulæ or at these angles, again in the lumbar region, and finally at the very lowest point of the spinal column. This last, though less frequent than the others, is perhaps the most unpleasant when it does occur. Beside these more frequent and more conspicuous points there are other *points douloureux*, for example, at the turn of the shoulder, most frequently the right, along the outer side of the arm and at the calf of the leg. The locality and the reasons for these pains should interest us and we shall presently return to them.

The second group of phenomena in neurasthenia includes disorders arising from hindrance to the nervous supply. It includes dyspepsia, a pretty general term it must be confessed but by no means as inclusive as the terms at the head of this study, constipation, and functional disturbance of the action of the heart.

A third group of affections includes vertigo, tremor, insomnia, a general nervous irritability, and inability to concentrate the mind upon any definite undertaking. In respect to this last condition, however, there occur, on the contrary, cases in which there exists a somewhat abnormal resolution and even energy of character.

A group of symptoms which may or may not be entitled to a special classification is one which may possibly have for its origin a cause incorrectly ascribed by some authorities to the whole series of phenomena, a supposed toxine. Admitting such a group as the result of such a cause, it might include the general sense of weariness with such morbid states of various organs as induce loss of flesh, decay of teeth, chronic softening of gums, and some other nutritive disturbances. It is quite likely, however, that all these conditions may be reckoned as belonging to the other groups already mentioned.

If we carefully consider the nature of these groups excluding the last, we shall see that all alike depend upon a too strenuous and too continuous action of certain groups of muscles, and further, that this over strenuous muscular tension is in the interest of the visual function. Little as such a proposition appears reasonable it is, nevertheless, true, and a careful consideration of the principles governing the exercise of the visual function is quite sufficient to show this. It does not require the vivid imagination of the extremist nor the narrow view of the victim of a single idea to discover this principle when once intelligent observation is directed towards it.

While, in this present study, space will not permit us to enter into a discussion of the philosophy of the relation between the performance of the visual function and the muscular tensions of facial and head muscles and muscles controlling the pose of the body, the question will be examined in its proper place and for the present I shall assume that these muscular tensions are, as I have attempted to show elsewhere,[1] causative of various facial expressions and bodily poses, and we may take up the groups of symptoms of neurasthenia as they occur in order.

First we have the pains about the head. Let us fix our attention upon those in the frontal region. They are, those within the orbit which we may well assign to the efforts or perplexities arising from unfavorable refraction or adjustments. Next we have, more commonly in neurasthenia, those about and just above the brows, at the temples, etc., then those at the vertex, and, finally, those at the base

of the cranium and at the point of the spine of the seventh cervical vertebra. The pains about the brow arise from stress upon the frontal muscles, either in depressing or in elevating the brows, one or other or both as a habitual expression. As it will not be practicable to enter upon a discussion of all these expressions we will select the conditions



Showing muscular tension caused [illegible] the brow.

of adjustments of the eyes which induce a drawing upward of the brows. These adjustments also induce a carriage of the head somewhat backward, the forehead tipping back and the chin elevated. This is a common, but not the exclusive, pose in neurasthenia.

For the present, as just remarked, it will be necessary to take for granted the facial and bodily tension to which references are made, since, in this immediate connection, space will not permit of an inquiry into the reasons for them. In a later study the subject of these tensions will be taken up in detail, when it will be seen that the assumption of the relations between these tensions and the peculiarities of visual adjustments is not based upon insufficient investigation or inadequate reasons.

Let us, then, suppose the habitual facial expression to be such as is suggested by the diagram, Fig. 1. In the figure the eyebrows are strongly drawn upward, the right more than the left, and there are deep transverse lines at the upper half of the forehead and the head is thrown somewhat backward. Leaving out of consideration here other details, these few elements of expression may well suggest to us the reasons for habitual pain over the brows and higher. The muscular tension demanded by this habitual raising of the brows is, in a large proportion of cases, accompanied by pain in these localities. Passing to the back of the head we have pains at each side of the occipital protuberance and somewhat below, very often accompanied by pain at the extremity of the spine of the seventh cervical vertebra. This latter location, though a common one, is less frequent than those at the base of the cranium. A glance at the diagram, Fig. 2, will show that at the points of the cranium to which the sense of pain is so often ascribed are the points of insertion of some of the strong muscles of the neck which are brought into vigorous action when the head is thrown back, or the chin is elevated. At the spine of the seventh cervical vertebra, with the strong ligament extending from it to the protuberance of the occipital bone, is the origin of these muscles. It is only what should be expected when people with a somewhat backward carriage of the head are subjected to such pains. It is also only what is to be expected when these pains disappear over night when the relief to the adjustments of the eyes is once effected.

Without extending the analysis I may add that the pains in the back are of muscular origin and result from too continuous and too tense exertion of the muscles of that region engaged in maintaining a position of the body which is not restful, a position assumed in the interest of clear vision. Mention is made here only of conditions arising from a single general bodily pose, not because it is the only habitual bodily carriage inducing these conditions of muscular fatigue, but because, in this connection, it is impracticable to cover the whole subject. Nor does space permit an analysis of the reasons for the muscular tensions involved as results of ocular adjustments. That subject will be discussed in its proper connection when we shall see that the facial and bodily tensions of which mention is made are clearly associated with the performance of the visual function.

Granting, then, that the habitual pose of the head is largely controlled by the ocular adjustments, and recognizing the fact that in a certain large proportion of neurasthenic cases the head is thrown backward or to one side, we arrive at a logical explanation of the gastric, intestinal, and cardiac affections of the second of our groups.

In my earlier studies of this class of affections I

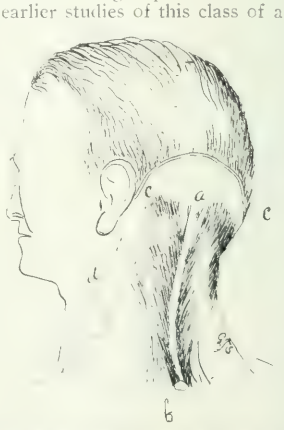


Fig. [illegible] Points on the cranium where the sense of pain is often ascribed [illegible] *b*, Ligamentum [illegible] *c*, [illegible] *splenius capitis*; *d*, [illegible] *complexus*.

recognized the frequent and intimate relations between these gastric phenomena known under the generic designation of dyspepsia, the irregular actions of the heart, and the physical habit of constipation and faulty adjustments of the eyes.[2] These relations appeared to me at that time to be of some

[2] Prize Essay for the Royal Academy of Belgium, 1883; Functional Nervous Diseases, 1887.

reflex nature. A larger experience and a broader field of observation have modified my views in this respect, as in many others, and I have more recently suggested[3] that the habitual pose of the head in relation to the general pose of the body furnishes a tentative explanation of the intimate relations between the anomalies of adjustments of the eyes and the functional affections to which reference has been made and that the explanation may best be made on mechanical principles. Since that explanation was advanced I have become more and more convinced, as observations have multiplied, that the limiting term "tentative" need no longer be employed, since the explanation is more correct and on better foundation than I then dared to assume. The explanation was, in effect, that by reason of the relation of the pneumogastric nerve to the common carotid artery and the jugular vein as the nerve descends through the neck "lying between these two vessels, one being in front, the other behind, a habitual position of the head in which it is thrown somewhat backward might induce a pressure by these two great vessels which might interfere with the conductivity of the nerve, important branches of which are distributed to the heart and stomach." The nervous interference resulting in chronic constipation may be less easily traced, yet we shall see that this also is related to the habitual pose of the body. From the same cause we may also look for interference with the functions of the sympathetic nerve. That other poses of the head may as effectively interfere with the functioning of the ninth pair of cranial nerves is evident if we assume that any habitual although unfavorable carriage of the head may be regarded as a condition which may interfere with or disturb the function of such a nerve.

As to the supposed toxic influence, it is quite possible that, by reason of the imperfect functioning of the digestive organs, resulting in incomplete metabolism, there may be added to the more direct influences to which I have referred, this indirect effect which may become a cause also of trouble.

If the suggestions thus far advanced are in the line of a scientific solution to the otherwise unsolved problem of the causes of the phenomena of neurasthenia, we may pass to the special study of our case, which I may premise differs in no essential respect in its general character and in the results of treatment from many scores of others. Some such cases were reported by me in my essay for the Royal Academy of Medicine of Belgium in 1883, but since the treatment of the causative conditions at that time was not based upon as clear an understanding of their nature as is now possessed, even the satisfactory results of that time are far less striking than can be expected under present conditions.

The report of a cure of a case of neurasthenia is not, in itself, a specially noticeable matter. Patients of this class are getting better continually under various forms of treatment and under no especial treatment. Yet it is to be remembered that in nearly every instance of a so called cure *some of the elements of the trouble remain.* This is so common that it may be said to be the rule. Rest, especially from work demanding the use of the eyes, is the main feature of all the "cures." In the case about to be reported it is noticeable *that all the nervous phenomena,* including the digestive and circulation functions, were relieved at once, not by the usual slow process of recovery, but suddenly, as by the removal of the cause not of some but of all the elements of the group of affections.

A Case of Chronic Neurasthenia

Mrs. R. [illegible], August [illegible], 1899. She had been an invalid for eight years and was at the time of her first visit in a deplorable physical and nervous state. Her husband, an able and successful physician, had supplemented his own efforts for her relief by those of a number of distinguished colleagues, notwithstanding which there had been during all this time only a steady progress from bad to worse, although at this time she could get about better than at some of the time during her illness. Indeed, for a year she had kept her bed as the result of her nervous prostration. Even after she was able to go about she had been unable to occupy herself with any employment and had to be carried about when she went. From the



[illegible]

beginning of her illness, indeed long before the final "break," she had suffered from habitual and intense headache from early girlhood. After the onset of her serious illness the headaches seemed worse and more continuous and she became subject to spells of spasms accompanied by loss of consciousness. To the headache was added pain in the back, at the seventh cervical vertebra, between the points of the shoulder blades, in the lumbar region and at the end of the spine. All these pains had been present before the beginning of the positive nervous breakdown. Indeed, so serious had the coccygodynia been that, before her collapse, the end of the spine had been resected. The patient had been a bad dyspeptic for years and from childhood had been habitually and obstinately constipated, accustomed regularly to [illegible]. She complained of palpitation of the heart, vertigo, mental confusion, insomnia, and profound mental depression were also chronic conditions. During the months that she had been confined to her bed she had been kept in a dark room on account of the intolerance to light.

In the course of her illness she had been subjected to two important abdominal surgical operations, one of which was for appendicitis. With all this there was extreme weakness. The mental state had been a source of anxiety to her friends. In regard to the insomnia, her husband, the doctor, assured me that for months before coming to me she had slept less than an hour, on an average, for each night. Patients and even friends often exaggerate the hours of the night watches in such cases, but beyond question this was an extreme case of insomnia. Examination did not reveal or suggest any organic disease, but although a woman above the medium height she was thin, her weight being 133 pounds. In walking, the chest and abdomen were thrown forward, the back bent in, the chin high and head thrown backward. The face appeared unsymmetrical, the right brow drawn upward, the left compressed, the mouth drawn upward toward the left. She had had the eyes examined several times with negative results. Vision was 6/6, right eye, with cyl.+.25 ax. 90°. Left 6/5 without a glass or with sph.+.25. Ophthalmometer, Ax 1 2 d each, regular. Esoph 4. Hyperphoria 0;



Fig. 4.—Showing removal of expression or tension.

rotation up 35° each, down 45° each. Declination at first examinations, right 0°, left+6°. Ophthalmoscope, normal.

After several examinations to assure the correctness of the tests the photograph, of which Fig. 3 is a copy, was taken. The striking feature in this photograph is the asymmetry of the face. The left brow is strongly compressed while the right is elevated, its outer extremity being raised to a marked extent. Such an asymmetry occurs either when there is a positive declination on one side (the side on which the brow is depressed) and a negative declination on the other, or when there is a very high degree of positive declination on both sides but on one side a much higher degree than on the other. It will also be observed that the whole face is drawn and that the palpebral opening for the right eye is wider than the other. These were not fleeting expressions, they were permanent characteristics of the face as is shown by several photographs taken about this time.

An operation for declination was done for the left eye. This resulted in a very material reduction of the tilt in the meridian of the left eye, but a declination then became manifest in right eye.

Immediately following this first operation the patient expressed marked physical relief and a cheerful state of mind took the place of the former despondency. This operation was followed by a similar one on the right eye followed by continued improvement in the general health. The pains in the head and back became infrequent and only of moderate severity when occurring. The declination, however, continued to manifest itself, and other operations followed the first two, although no distress of body or mind seemed immediately to demand them.

More than a year has passed since the first operation and no serious return of either of the elements of her former group of affections has occurred. The dyspepsia and constipation disappeared after the first operation and neither condition has returned. Sleep became natural, strength came with each day and week until, within a few weeks from the beginning the patient was accustomed to remark that never since childhood had she been in so excellent a state of health.

At present the lady is occupied with responsible duties, well, happy, and hopeful.

The photograph, Fig. 4, was taken in January, 1911. The comparison with that shown at Fig. 3 is interesting. Not only is there a general expression of physical well being, the details of the face have changed. The asymmetry is as completely abolished as could be expected, while a material degree of declination remains in the left eye. The lower part of the face is more rounded, a sense of repose is indicated in the expression of the eyes, and the general suggestion of tension is removed from the face. The palpebral opening is equal for the two eyes and the eyelids are less conspicuous. The mouth is not drawn and the lips are not compressed.

It has been thought best to wait before any further attempts are made to dispose of the remaining declination and the last operation was done in November, 1910. It may be added that on the day of the taking of the photograph the weight of the patient was 147½ pounds in contrast with 133 pounds at the time of the first operation. Considering the height and form of the lady the weight of 147½ pounds is quite normal.

Looking at such a case from the standpoint of cause and effect we have a relief from pains in the frontal region by reason of the removal, to a large extent, of the tensions of the muscles controlling the brows, relief from pains at the back of head and neck from a change in the bearing of the head, which is no longer thrown backward, from pains in the lumbar region, because of a relaxation from the curving in of the back. All these muscular tensions were relieved, not because of the improved health of the patient, but because they were no longer demanded in the interest of the function of vision.

The change in the bearing of the head permitted a free conductivity of nervous energy along the pneumogastric nerve, and the same may be said of the conductivity of the sympathetic nerve, thus aiding the functions of the heart, the stomach, the intestines, as well as other organs involved in the processes of digestion and elimination.

Thus far, the change in the condition of such a patient would seem to result from mechanical causes.

In regard to insomnia and nervous irritability, we need only recall to mind the very common experience of a very large proportion of people, who, if they indulge in writing or close work, in which continuous and exact adjustments of the eyes are required by artificial light, sleep indifferently or poorly as a result. In the neurasthenic the difficulties of adjustments are always considerable and insomnia is a sure result. In just what respect the connection between the over exercise of these adjustments and the insomnia is established it may be difficult to determine, but that there is such a connection, that it is of very common occurrence, and that the unpleasant effects are abolished when

the adjustments are not required or when they are made easy is a common experience.

That an imperfect metabolism may give rise to toxines is possible, but if the toxines are present they are among the results arising primarily from the mechanical causes due to the pose of the body.

22 EAST FORTY-SIXTH STREET.

PSYCHOANALYSIS AS A NEW THERAPEUTIC PROCEDURE IN PSYCHONEUROSES.*

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[illegible]
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It is the experience of every neurologist that while some cases of psychoneuroses are amenable to treatment and the patients actually recover, there are also cases which under identical management and in identical conditions remain unaltered and appear to be incurable. If one group of such patients regain good health, why should the other group which undergoes exactly the same medical attention and care remain uninfluenced? In both cases the treatment is being carried out on the same lines. In both cases the old conception concerning the nature of psychoneuroses is taken into consideration, to wit: the malady is of a degenerative type and the afflicted individuals possess congenitally a special make up of their nervous system, which is abnormal, deviated, irregular, unstable. The chief solicitude is here directed towards the amelioration of that special predisposition and to the removal of all possible factors that are apt to irritate the abnormal nervous system and thus accentuate its various morbid manifestations. Otherwise speaking we practise hygiene of the nervous system. We surround the patient with all possible physical and moral means for the purpose of strengthening his easily breakable and extremely unstable nervous constitution.

We also know that the various episodic manifestations occurring in the life of a psychoneurotic individual, such as obsessions, phobias, abulias, etc., are the result of abnormal psychic processes in an abnormally constituted brain (in a functional sense). The treatment should, therefore, consist besides purely physical measures also of psychic influences and means. Psychotherapeutics was found to be an inevitable adjuvant in the management of various mental disorders in question. It was recognized as indispensable to reason, persuade and convince the sufferer of the necessity of training his own will power in overcoming his various phobias, obsessions, abulias, etc. Suggestion in its broadest sense was found to be necessary in discussing with the patient the various morbid manifestations of his abnormal mentality. Much good has been accomplished with this old method. I say "old," as in spite of apparently new claims in the direction of new movements in the field of psychotherapeutics, the method of influencing the psyche of an afflicted individual had been practised from time immemorial by every physician.

It was mentioned before that therapeutics in its various forms employed with equal force in all cases of psychoneuroses not infrequently meets with failure. What is the cause of this inability of removing certain mental disorders which persist with the greatest obstinacy? The reason of it lies in the absence of a true conception of the nature of those disorders and especially of their genesis.

The old methods of psychotherapeutics, it is true, have contributed considerably to the relief of the misery of certain psychoneurotics, they are nevertheless found to be insufficient, inadequate, and absolutely inefficient in a number of such cases. Psychotherapeutics has been recently enriched by a new psychological method which places at our command a totally different basis for work. It permits a deeper insight into the nature and origin of the morbid phenomena of the psychoneuroses. Although this new method was first propounded in the eighties, it nevertheless gained recognition only in the last few years. Its discovery is due to the genius of Breuer and Freud, but particularly to the latter. Freud was aided considerably by the experiments of Bernheim, of Nancy.

According to this profound thinker the disturbances of psychoneuroses are the result of the existence of two separate groups of mental processes in the same individual. One group is intimately associated with the conscious ego, inhibits, controls, and manages every act of daily life. The other group is composed of a multiplicity of ideas which occurred some time or a very long time previously, but which the conscious ego tried to reject, to forget, and to repress; in spite of these efforts they are nevertheless not annihilated, but only submerged and remain indefinitely in an unconscious state acting as an irritant. The conflict between these two categories of ideas or rather the inability of the conscious personality to absorb the unconscious ideas leads to formation of the mental disorders characteristic of psychoneuroses.

The hidden unconscious ideas are not idle but active, and the conscious ego is continuously striving to assimilate them. If it succeeds, they cease to exist; but if it fails to absorb them, it tries to repress them. The reason why the conscious personality seeks to repress them is because of the disagreeable or painful feeling they cause and of their incompatibility with the ruling conscious ego. If they are not thoroughly assimilated, but merely pushed to the background into the unconscious mental life of the personality, they will invariably announce their existence in some indirect way, without the patient's knowledge. If, for example, a cultured individual conceives an idea or is seized with an ardent desire to commit an act which he knows is against conventional laws, a conflict will set in between his elaborate and adapted conception concerning the nature of the act and those emotional forces which he endeavors to repress. If he succeeds through strong and logical reasoning in overpowering those forces and absorbs them, they cease to exist. But should he fail in his undertaking, the effect produced by the emotional factors will re-

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... an unconscious form, they will be only repressed and some time later under the influence of any exciting cause will come out from their latent existence and manifest themselves in some morbid act or morbid tendency such as we observe in psychoneuroses. The repression is done because of their painful or disagreeable character. The individual tries to get away from them, but they remain at work, and instead of the original act which he kept on avoiding he may commit other acts or other tendencies and wishes may develop. The latter are only deviations from the first, or merely substitutes, but are nevertheless the result of the continuous conflict between two antagonistc mental complexes.

This deviated act or wish is a necessity to the patient, a sort of a compensation for the energies spent on the struggle between the antagonistic forces at work. He does not realize the meaning of the struggle, and he will not cease to hold on to it and to express it in various abnormal ways. This persistence will have a mental aspect in psychoneuroses, and a physical aspect in hysteria. Freud includes in his psychological studies of psychoneuroses also hysteria and neurasthenia. According to him the physical substitutes for repressed wishes in hysterical attacks are those palsies, contractures, tremors, with which everyone is familiar. The mental presentations characteristic of hysteria are the outward expression of the forgotten or repressed processes which constitute the unconscious life. They are what Breuer calls "hypnoid states."

To sum up the discussion on the nature of psychoneurosis and hysteria, we may say that their chief characteristics consist of a continuous conflict between the ideas of the conscious ego and the unconscious mental processes separated from the ego which the latter could not assimilate, but instead submerged them, tried to forget them, and succeeded only in repressing them. Not being destroyed they remain in an unconscious state and act as an irritant to the conscious ego. At one time or another they will produce various morbid manifestations in the psychic or motor sphere and organize symptom groups commonly observed in psychoneuroses and hysteria.

The logical deduction from this psychological observation is that if there is a possibility of crowding out the mental presentations from the unconscious, so that the conscious ego will be placed in a position to absorb them, an enormous clearing up of the morbid mental phenomena will be distinctly gained. This can be accomplished by thoroughly awakening and bringing to light the old memories, also the effect produced by the repressed mental processes. When the latter are brought before the normal consciousnss, thoroughly discussed in every detail, so that nothing is omitted, corrected by the associative processes of the conscious ego, so that the latter gets complete control over them, they lose their *raison d'être*, and naturally disappear never to return.

In this procedure lies the quintessence of the special therapeutics elaborated by Breuer under the name "cathartic," and by Freud under the name "psychoanalytic" method.

It is evident that this form of therapeutics is the opposite of suggestive treatment. While in the latter the advice given to the patient "to convince himself, to believe that he will get well, to gain confidence, etc.," are added elements, which he tries to incorporate in his suffering mentality—in the psychoanalytic form of treatment the patient is helped to unburden himself of hidden thoughts, to gain control over them, and become the master of his own disturbances.

The procedure to which Freud and most of his followers have recourse consists of "free association of ideas." The patient presenting a certain psychoneurotic phenomenon is told to concentrate his thoughts on this disturbance and bring to his memory all possible ideas that occur to him at that time. He must be reminded not to select only those ideas that in his judgment are proper to relate, but repeat indiscriminately every insignificant fact no matter how ridiculous, improper, or painful it may appear to him. The observer must persist in this task until he finds in the mass of sentences and expressions unburdened by the patient, who is given a free hand in reminiscences, the so called *pathogenetic* link. *A priori* one may gain the impression that in such a chaos of thoughts which the patient expresses it is quite impossible to detect any logical sequence, but to one who experimented in this direction it is not difficult to observe that this is not the case. The thoughts discharged by the patient are in a striking connection with the morbid symptoms from which he suffers. It will then be comparatively easy to see that his suffering is nothing but the outer expression of an effect produced by certain wishes and ideas which were repressed and hidden in the unconscious world of the individual's ego. By bringing them into light, he becomes an objective observer, he sees them one by one passing before him, he gains control over them, and finally frees his personality from them.

Instead of the "free association" procedure, which in some cases may consume considerable time, as a certain class of patients are not easily amenable to an analysis of their own thoughts, Jung developed a method which may be of considerable assistance. It is the so called "word reaction association method." A series of words are mentioned to the patient and he is asked to express the first thought or several thoughts that each word arouses. In such a manner not only the same end is accomplished as with the free association procedure of Freud, but also a good insight is obtained of what particular idea, wish, or tendency provokes the greatest amount of emotion. When the latter is taken notice of, it can be taken up in detail, persisted in, and it will finally give the key to the genesis of the original morbid manifestation.

The treatment of psychoneuroses and hysteria by the psychoanalytic method is, in my judgment, one of the greatest achievements of scientific medicine and for these reasons: First, because it is based on rational, logical, and profoundly scientific principles; and, second, because the number of psychoneurotic persons is by far greater than those persons afflicted with other maladies known to humanity, and especially because the misery caused by the psychic suffering is indeed appalling. At first

glance the latter statement may appear somewhat overdrawn, but a careful reflection will convince not only the neurologist but every physician that the statement is correct. If one only considers those legions of individuals who, for months and years, keep on complaining of various ills and present endless varieties and subvarieties of mental disturbances; if one considers the unhappy existence they and their families lead in consequence of these disturbances, and that the community is continuously facing the burden of this social calamity —taking all these facts into consideration, I believe that a method of treatment which holds out good hopes for successful results should be welcomed and impartially experimented with. There is no doubt that the method is a difficult one; difficult only in the sense of the amount of time it consumes, but it is not an impossible method. Moreover, if it is capable to ameliorate and cure the distressing mental suffering of one patient out of ten or even twenty, considered by the old method as incurable and therefore abandoned—I believe such a new procedure should be gratefully adopted.

The difficulty is only apparent. Persistence and good faith in the method will overcome some embarrassment and little unpleasantness naturally associated with an inquiry into psychic operations of an individual. As the essential feature of the analytic procedure consists of overcoming a psychic force which opposes the pathogenetic idea from becoming conscious, and as psychic resistance can be broken only slowly, the physician must arm himself with a considerable amount of patience. Time and patience are the two essential requisites in carrying out the treatment. Not infrequently will he have to shorten the séances, resume them at the first opportunity, insist indefinitely on the patient expressing his or her mind, and not avoiding thoughts and wishes that seem to them inopportune or painful. He will eventually succeed in having the patient bring to light the innermost ideas and passions, to corroborate and view himself or herself with an objective interest. He will then observe that the original resistance exhibited by the patient is driven back and that a union is formed between the unconscious psychic groups and the ego consciousness. The pictures that gradually emerge from memory fade away; the patient exhausts them, so to speak, by transforming and converting them into words. The inner resistance of the sufferer is therefore the stumbling block in the treatment. But when the patient is taught how to overcome this resistance, how to reveal, interpret, and accept the gradually emerging ideas and wishes, which otherwise may cause him a certain amount of displeasure, when this is accomplished, the patient has learned the process of a good insight study, and consequently a piece of educational work has been achieved. This training for mastering psychic resistances is the most beneficial and important element of the analytic method.

To illustrate the value of psychonanalysis I wish to call attention to one particular case which came under my observation:

[illegible] of the affection and on this foundation multiple mental manifestations made their appearance at various intervals. Phobias, impulses, the most peculiar wishes, obsessions of a hallucinatory character, all alternated during a period of two years. During the entire third year of her miserable existence she feared that she "was losing her mind," to use her own expression. She was consequently unable to entertain her friends, unable to read, or otherwise spend her time usefully. She was obsessed by the idea that she would be ridiculed by her friends if she attempted to converse with them, as she feared she would not be able to understand them and to make herself understood. Accordingly she isolated herself and spent the time in worrying over her future. The patient was given every opportunity for improvement. Rest in bed for prolonged periods, massage, hydrotherapeutics, excellent food, proper surroundings in every sense of the word, continuously kept up suggestive methods—were all tried simultaneously. The case seemed to be unusually obstinate and, except for a few intervals of apparent amelioration of the morbid manifestations, it eventually became uncontrollable and apparently hopeless. With the beginning of the fourth year the psychoanalytic method was undertaken. The main principle was explained to the patient. She was told that the cause of her morbid symptoms was based upon some repressed ideas, that the repression was done by her for the reason of their unpleasant, unbearable, or painful character, that if they were brought to the surface, the psychic activities of her conscious ego would meet them, interpret them, and finally assimilate them, so that they would totally disappear and never return. As a woman of intelligence, she acquiesced to the proposition and promised to assist in the therapeutic undertaking. Twice a week for a period of four months séances were held and a thorough search into the past reminiscences was made. Facts were brought out that rendered the patient uncomfortable a great many times, but with gentle persistence aided by her intelligence the tendency for concealing certain data was gradually overcome. The method used was the "free association." Parting from the morbid manifestation she presented at the time the examination was undertaken, namely the obsession as to her mental failure, she was told to commence to relate all possible facts that had a direct or an indirect relation to it. The probing into the forgotten field of the ego must be a slow procedure at the beginning, but when a certain number of reminiscences is brought to the surface, the others appear with less difficulty. The present case proved to me the existence of an extraordinary logical connection between the isolated facts recalled and recited by the patient. She herself was astonished at the harmony between them. As they appeared one by one before her conscious ego, she discussed them and gradually dismissed them. At the end of each séance she felt, to use her own expression, "much relieved," but recovery was obtained only when the pathogenetic idea was reached. She recalled that ten years previously when she was only nine years old, her then married sister had a violent discussion with her husband after which they separated. The reason of the discussion she then learned was his attention to females of any age. On one occasion he came in the patient's bed where he spent an hour and then she observed he went into the nurse girl's bed. As his conduct was finally noticed by the wife, the altercation and separation followed. A year later the couple became reconciled and since then no disturbance occurred in the family. However, during the year of separation the outraged wife was several times in a sanatorium suffering from a nervous breakdown. At that time the patient was very much impressed both by the conduct of her brother in law and her sister's illness. As the reconciliation took place a year later and for nine years the couple lived happily, the patient, now a young lady of nineteen, had totally forgotten the event. The analytic method gradually led us to the recollection of the occurrence. It was indeed remarkable that since it was brought to the surface, discussed, and thoroughly assimilated, the patient's condition rapidly improved and finally a complete recovery followed.

Is the patient permanently cured? It is, of course, impossible to answer this question affirmatively, as only five months have elapsed since the recovery. Besides, psychoneurotic individuals usually

possess a neuropathic predisposition; their nervous system is unstable. They may at any time during life present mental disturbances under the influence of the most insignificant psychic traumata. This predisposition cannot be totally removed, as it is of an inherent nature, it belongs to their degenerative make up. The episodic manifestations, however, can be remedied in a certain number of cases. The psychoanalytic procedure can indeed be considered as one of the most powerful methods in dealing with psychoneuroses. It is true that other means may accomplish the same results. It is true that the old suggestion and persuasion may be just as successful in a number of cases. But it is also true that the old method is absolutely powerless in a large number of cases.

The sceptics may doubt that the psychoanalysis in the case of mine produced the recovery. In answer I will say that if after three years of actual suffering, in spite of all possible means employed, including the old form of psychotherapeutics, the patient's condition remained unaltered, and if a prolonged and painstaking treatment with the analytic method produced such a good result, how can one doubt the efficacy of the latter method?

In discussing the pathogenetic ideas in their relation to the psychic manifestations of psychoneurotics, it occurred to me in the case related previously that two particular facts influenced the recovery. They are: First, the mental disturbances of the sister lasting a year, which impressed my patient intensely, and remained in an unconscious state for a period of nine years. The other element was the actual sexual trauma which she herself sustained, and witnessed others sustain when she was a child of nine.

Freud considers past sexual experiences as the most significant ætiological moments in psychoneuroses. He states that the malady is produced through a conflict between the libido and the sexual repression, and that its manifestations are the result of a compromise between both psychic efforts. My own experience with psychoanalytic therapeutics makes me hesitate to accept this view *in toto*. It is possible that the reason of this hesitation lies in the, as yet, insufficient number of personal observations. Nevertheless, it appears to me that it is not absolutely indispensable to invoke sexual factors in the ætiology of the mental manifestations characteristic of psychoneuroses. In several of my patients there was absolute absence of past sexual traumata, and the results obtained from bringing to light past reminiscences of other than sexual nature were just as satisfactory. While it is correct that sexual emotions predominate in the life of every individual and largely control our thoughts, feelings, and acts, nevertheless it is difficult to attribute to them an omnipotent influence on every phase of our activities and sensations. In the above mentioned case, the repressed, concealed, and forgotten effect produced by the sister's mental disturbances of a year's duration, during which time the relatives doubted her recovery and considered her mentally unbalanced, may have alone perhaps played a sufficiently powerful rôle as to become a pathogenetic ætiological factor in the case.

The cathartic or psychoanalytic method is important not because one or another special element of the human psyche plays a pathogenetic part in the causation of psychoneurotic manifestations, but because of its principle based on daily observations. Its sole object is to overcome the psychic force of resistance, which exists in every person when attempts are made to reveal the unconscious thoughts and desires, which are the main causes of the morbid symptoms. The correctness of the latter can be ascertained by every unbiased thinker who is willing to investigate it without preconceived prejudice. Our armamentarium in neurological and psychiatric therapeutics is exceedingly meagre. That our former methods in treatment of psychoneuroses, viz.: suggestion, persuasion, etc., are frequently without avail, every one of us will concede. If psychoanalysis is capable even in a limited number of intractable cases to procure relief and recovery where the old procedures fail, it should be welcomed and adopted. Only those who have the opportunity to observe daily the sufferings and torture experienced by the psychoneurotic individuals during months and years, can appreciate how important becomes a method that promises relief and recovery. It is true that the method consumes a considerable amount of time and intellectual effort on the part of both physician and patient. It is true that it is not applicable to every case. Nevertheless the obtainable results are a sufficient compensation for any amount of intellectual effort.

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OZONE

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Ozone is not a new subject, though its application in the arts and sciences is of comparatively recent birth.

The first recorded mention of ozone was by von Marum, who, in 1785, observed that oxygen or air through which an electric discharge had taken place was possessed of a peculiar odor somewhat resembling that of chlorine. Von Marum referred to this as the "smell of electricity." The same "smell" was subsequently referred to by other observers, but it is not on record that efforts were made to analyze or classify the phenomenon chemically or physically.

In 1801 Cruickshank, during some of his experiments on the electrolysis of acidulated water, observed what he has referred to as the "same smell of electricity as that observed by von Marum," and he concluded on somewhat further investigation and speculation that electricity was liberated with the oxygen in water—electrolysis.

To Schoenbein is due the credit of having first recognized and studied ozone. In 1840 he prosecuted a very exhaustive and fruitful research upon the action of static condenser discharges, electrolyzed liquids, and metallic electrolytes, and established the fact that the observed odor was due to the formation of a new gas. His researches included many purely chemical experiments, and he

demonstrated that phosphorus, in the presence of moist air, was also a producer of ozone. Schoenbein further discovered the action of ozone on potassium iodide, in which iodine was liberated, and devised a rough approximate method for the measurement of ozone by determining the amount of iodine thus freed. This method, though faulty in the evaluation of the constants and in the interpretation of the reactions involved, is nevertheless the precursor of the present precise methods of volumetric analysis, whereby the amount of ozone in a sample of treated air may be determined to an accuracy of about one part in 600,000. The reaction of ozone on potassium iodide is as follows:

$$2\ KI + H_2O + O_3 = 2\ KOH + O_2 + I_2$$

The free iodine is determined by titration with sodium thiosulphate according to the following reaction:

$$2\ I + 2\ Na_2S_2O_3 = 2\ NaI + Na_2S_4O_6$$

From the molecular weights, it is thus calculated that one gramme of the thiosulphate is required for 0.09669 gramme of ozone; hence, the strength of the thiosulphate solution being known, the mass of ozone in the sample under test may be calculated.

Schoenbein invented the name ozone from the Greek root ὄζω, signifying smell.

The chaotic condition of chemical science, until recent years, accounts for the fact that not only the nature but the very existence of ozone was quite generally doubted, even when Soret had advanced the theory that ozone was an allotropic form of oxygen whose molecule contained three atoms of oxygen and weighed in consequence one half as much again as the oxygen molecule.

Ozone is a colorless gas with a sharp penetrating odor. In high dilutions the odor resembles that of chlorine, but when it is more concentrated the odor is very much like that of moist phosphorus. The chemical symbol is O_3, and the gas is an unstable one under most conditions, though it decomposes slowly, even at temperatures approximating 45° or 50° C. In the pure state it is probably stable at temperatures up to about 260° C.

In the presence of oxydizable, or, in general, organic substances, it readily decomposes into O_2, while the third atom forms a more stable compound with the substance attacked.

At a pressure of 125 atmospheres at —103° C., ozone becomes a mobile, dark blue liquid, which is highly magnetic and less active chemically than the gas.

Ozone is an endothermic compound, i. e., it is formed with the absorption of heat. Most endothermic compounds cannot be formed directly from their elements, and in such cases, the heat of formation is determined by calculation. Ozone, on the other hand, is formed directly from oxygen, and the endothermic heat has been determined directly. Berthelot has determined the endothermic heat of ozone by oxidizing arsenious to arsenic acid by oxygen and by ozone, and, by comparison, found that the endothermic heat is 29,600 calories to each gramme molecule. Still more recently, van der Meulen, by decomposing platinum black by means of ozone, has calculated the heat at 36,200 calories to each gramme molecule. The figure given by Berthelot is generally accepted. The reaction formula for ozone is then given by:

$$2\ O_3 = 3O_2 + 2 \times 29{,}600 \text{ calories.}$$

Like all endothermic compounds, ozone is highly explosive, but only when in the liquid state, and this explosiveness and chemical instability are indices of the great activity which renders ozone useful and valuable.

If a pointed conductor is raised to a very high electrical potential, the electricity flows out through the point and a so called electrical wind is formed. The discharge is oscillatory, as may be proved in many ways, e. g., by means of a revolving mirror and by the evidence of the hissing sound. In the dark the discharge is distinctly visible as a small, whitish ball of fire at the point and a violet effluve extending from the ball. The discharge, when in air, gives rise to the characteristic smell of ozone. There are characteristic reactions in gases other than air, when the electrical charge on the conductor is sufficiently intense, e. g., if the discharge reaches a certain critical intensity, nitric acid as well as ozone is formed in the air. It is thus essential, in the design of ozone generators, that the electric intensity be kept below that value at which nitrogen is ionized. Disregard of this point, in an effort to increase the production of ozone, and to keep the dimensions of machines small, has rendered some commercial forms of ozonizers useless.

Among the other reactions in the electrostatic field we find "in acetylene benzene is formed; in an atmosphere of carbon monoxide and water vapor, combination takes place and formic acid is produced; if carbon dioxide is used oxygen is evolved (this reaction corresponds with the process of vegetation); nitrogen and hydrogen give ammonia, which is again partially decomposed; sulphur dioxide and oxygen give sulphur trioxide; cyanogen and hydrogen give hydrocyanic acid; and nitrogen and oxygen, in the presence of water, give ammonium nitrate, a compound whose presence has also been detected after lightning."

The reaction which takes place around a distinct spark discharge differs from that of the silent discharge only in degree. The greater intensity of the spark discharge producing more intense reactions, and the point of difference between silent and spark discharge is more or less ill defined.

For the production of ozone it is essential that the intensity of the discharge remain below a certain critical value, at which the inert nitrogen molecule is ionized. The ideal method for the production of ozone is to employ two plates or curved surfaces of large area between which the air to be ozonized is passed. When the electrical intensity of surface charge upon these plates reaches a certain definite value, the electricity will leak into the air between the plates and the energy thus absorbed by the air will cause the molecules of oxygen to become ionized.

The resulting ions will possess an electrical charge and become the centres of aggregates of atoms and thus form the molecules of ozone. This

There exists at all times in air a small number of free ions possessing, say, a negative charge. When an electrostatic stress is applied to this air these ions begin moving toward the pole, having a charge opposite to their own. The rapidity of this motion is a direct function of the potential gradient, and when the velocity has reached so high a value that the kinetic energy of these ions is sufficiently great they will ionize molecules that they strike in their passage across the field. In this way the number of ions in the electric field is increased. This results in the presence of free atoms of oxygen, each possessing a charge of electricity, and these atoms are continuously moving in one direction or the other with great rapidity. They are incessantly colliding with each other and with unaffected molecules of the gas present, and in consequence are continually causing new ionizations and combinations. There are three such ways in which they can combine, viz., two oxygen atoms can recombine and form a new molecule of oxygen, or an atom of oxygen may combine with a molecule of oxygen and form a molecule of ozone, or three atoms may form a molecule of ozone.

The uses to which ozone has been successfully applied are many, and the field for legitimate speculation with respect to its further application in the arts and sciences is virtually boundless.

The chemical instability of ozone in the presence of organic, or in general oxidizable, substances, renders it the most active oxidizing agent known. The action of ozone in destroying organic substances is so certain and rapid that ozone cannot exist except momentarily in air containing organic matter, hence the presence of ozone in air is an indication that the air is not only sterile, but that gases and products of putrefaction have been converted into stable oxides, i. e., inert matter.

If the proportion of ozone in air does not exceed about one part per million, the air is nonirritating and slightly stimulating. It is probable, however, that the stimulation observed is due to the purity of the air rather than to the small excess of ozone which could be comfortably tolerated.

Kitchens and dishwashing rooms in which the volatilized product of steam washed dishes was very offensive, have been rendered odorless and comfortably habitable.

Ozone, in consequence of its great oxidizing activity, is a powerful and rapid disinfectant. The air in factory rooms, which had a high bacteriological content, has been rendered sterile on the introduction of a quantity of ozone diluted with air in such proportion that the average concentration over the room became about one part of ozone in one million of air.

Instruments may be sterilized without heat or moisture, by means of ozone, in a short time, the period depending on the strength of the air ozone mixture.

In a recent case of fire, where a certain room became so full of smoke and the lingering odor of combustion products as to be untenable, an ozonator completely cleared and sweetened the room in a few minutes.

The therapeutic applications of ozone have not been mentioned herein, but it is hoped that some interesting reports of cases of affections of the respiratory tract will be in shape for publication shortly.

115 WAVERLY PLACE.

CACODYLATE OF SODIUM IN THE TREATMENT OF SYPHILIS.

With a Preliminary Report of Ten Cases.

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It is needless for me to call the attention of this society to the report of J. B. Murphy upon the use of sodium cacodylate for the treatment of syphilis in the *Journal of the American Medical Association* of September 24, 1910, and the preceding report of A. Heim, on October 30, 1909, in the *New York Medical Journal*.

The unusual results of Murphy induced me to try the remedy in the cases I am reporting. It is well in passing to remind you that compounds of cacodylic acid in the treatment of syphilis are by no means new, Gross, of San Francisco, having so used cacodylate of mercury for nine years, according to his report in the 1910 June issue of the *American Journal of Urology*. In so much as the thousands of persistently treated yet uncured cases of lues testify to the nonspecificity of mercury and iodine, it is not unusual that there should enter into the armamentarium therapeuticum of this many sided disease other remedies. Such blind confidence and reliance have been reposed in the before mentioned compounds that further research may have seemed superfluous. Nor am I discrediting these time honored standbys, for I firmly believe in their powers to wholly neutralize the virus of syphilis in a vast majority of all cases, but I do believe that there may be other remedies equally efficacious, or even more so, in certain cases or certain stages of given cases, and furthermore, that, as in the treatment of all other diseases, our therapeutics should enjoy a wider scope than the mere routine administration of these two drugs.

This variety and deviation from a standard course may be afforded us through atoxyl, cacodylate of sodium, or arsenobenzol, salvarsan, as it is now called. And while I particularly wish to avoid a discussion of this latter at this time, I do not anticipate in it a panacea by any means; in fact, I doubt not that cases will be encountered which will respond better to other remedies, and in some, probably many, we will have to fall back upon mercury and the iodides. Already it is recommended that the iodides be used in conjunction with "606," especially in specific endarteritis, and that its injection be followed in all cases with a supplemental mercurial medication. In short, until we come into possession of an absolute and infallible specific, we must discourage the use of a routine dose of a routine preparation given in a routine manner, and

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adapt to the case in hand that remedy which is individually best for it (although a digression from the topic in hand and still germaine to it, I might remind you that while quinine is a specific for the *Plasmodium malariæ*, you all must have noticed the slowness at times with which it accomplishes its complete eradication, and how often you have to resort to Fowler's solution and other remedies to break up a chronic malarial toxæmia).

The apparent and heralded success of the numerous vegetable decoctions of former years may be attributed to the natural insusceptibility of some individuals to the inroads of the disease, and such results might have been attained under the use of far more harmless and less potent drugs than the ones which received the credit. For, that such a natural resistance or insusceptibility exists is well known to men of experience in the treatment of syphilis. Many of us have had patients in whom we had demonstrated the *Treponema pallidum* in the primary lesion, leave our service through distrust in our diagnosis, or for other reasons, and whom for curiosity or for scientific reasons we have kept under unostentatious surveillance these many years, with no signs of constitutional invasions appearing. Hence, without doubt, some cases of syphilis do spontaneously abort in the primary stage, as was pointed out in a series of observations and reported instances by R. W. Taylor in the *American Journal of Surgery*, November, 1906. How easy it would have been for some quack remedy, had it been taken, to have received the credit for a cure in such a case.

For convenience of description and elucidation the following cases have been divided into the heretofore classical stages. I say "heretofore," for all those whose observation of this protean disease has been very extensive, well know that syphilis does not conform to any fixed schedule in the exhibition of its innumerable manifestations. A striking example in refutation of this prevalent idea was a negro in my clinic last year with a labial chancre and a rupial, or so called tertiary lesion upon his eyebrow at the same time. By circumstance the cases under consideration do conform pathologically and chronologically to these classical stages with one exception. There are three primary cases, four secondary, one tertiary, one congenital, and one chronologically tertiary, but pathologically late secondary, this latter the single exception to the regular order mentioned before. All are from private practice save one case, which is a clinic case. Although presenting perfect clinical pictures, the diagnosis in each instance was confirmed by the demonstration of the *Treponema pallidum* or a serum reaction, the latter Noguchi's modification, done for me by Dr. Gradwohl. Their histories, treatment, and results are as follows:

Case I. Male, age twenty-six, presented [illegible] Hunterian chancre in the sulcus on November 27, when the sore was [illegible] old. Period of incubation [illegible] twenty-three days, left inguinal adenopathy. Beginning with the day of his presentation he received for four consecutive days an intramuscular injection [illegible] of sodium cacodylate and then two injections at intervals of three days, six injections in all. At this time he left my service, but the six injections had not checked nor held in abeyance the symptoms in the least, but on the contrary the induration of the primary lesion and the glandular infiltration progressively increased. It must be borne in mind that the unusual results thus far reported from the use of this drug in this primary stage followed a fewer number of injections of a smaller dose than this patient received.

Case II. Male, age twenty-three; admitted October 12, 1910, with single sore on prepuce, twenty days old, soft and pliable at time of admission. It gradually took on parchment induration and coincidentally inguinal adenopathy developed on the same side. Incubation approximately four weeks. Circumcision including sore, October 30th; ulceration healed but sclerosis pronounced. Spirochætæ in stained section, Levaditi method, diagnosis by confrontation also. No previous veneral disease. Sodium cacodylate was injected. Number of doses twenty-one, seven of three quarter grains and fourteen of three grains, interval three days. After twenty-one doses without improvement, treatment changed to bichloride of mercury, one quarter of a grain hypodermically, at same interval. I believe that either the toxic effect of the drug, or its inability to curb the infection, were responsible for the cephalagia and mental depression which induced me to change the treatment. Most likely it was the latter, as these conditions are incident to this stage of the disease. On change of treatment the improvement was prompt and uninterrupted.

Case III. (Courtesy of Doctor W. U. Kennedy). Male, age twenty-three; admitted November 14, 1910. Diagnosis: Indurative œdema of prepuce. Condition on admission: Sore five weeks old. Retraction impossible. Very slight adenopathy, two sores, sclerosis palpable through œdema. Incubation indefinite, penis deformed. Past history contained nothing having any bearing on the case. Size of dose, three grains. Number of doses, ten. Interval of doses, three days. Injections begun November 18th. Intermediate history: Constitutional disturbance quite severe, patient was compelled to quit work, fever, malaise, intense headache, arthritic, and muscular pains, but secondaries limited to very slight and transient roseolar eruption on abdomen, but enormous enlargement of post-auricular glands and intense congestion, though no ulceration of pharynx. Condition of chancre December 26th at which time I changed to hypodermic injection of one quarter grain of corrosive sublimate, showed little more improvement than would naturally have taken place in the course of its involution in that length of time (eleven weeks).

Case IV. Colored girl, aged thirteen years. Date of admission, November 25, 1910. Diagnosis secondary syphilis. Condition on admission: Profuse papular eruption on trunk and limbs, anal condylomata and vulvar moist plaques, spirochætæ exceedingly numerous. Size of dose, one grain. Number of doses, ten. Interval of doses, three days. Slow improvement up to Christmas. Discontinued visits and plaques on vulva returned. Lost much weight.

Case V. Male, age twenty-eight years. Date of admission November 17, 1910. Diagnosis, secondary syphilis. Treatment begun November 20th. Size of dose, three grains; number of doses, ten; interval of doses, two days. Very slight improvement followed the ten injections, and great mental depression was again noted as in Case II, but improvement was rapid upon beginning injections of mercury.

Case VI. Male, age twenty-two years. (Courtesy of Doctor W. F. Mayfield.) Date of admission, July 20, 1910. Condition on admission: Large, indurated chancre removed by circumcision. Injections bichloride, one quarter grain, began at once. Circumcision healed in ten days, although incision included one edge of chancre, general macular eruption followed in four weeks, post cervical glandular enlargement, and kidney shaped tonsilar lesions, bilateral, extending up on to uvula and soft palate. All lesions improved under mercury until he became derelict in his visits, when the tonsilar and palate lesions relapsed. At this time, November 21st, I began the cacodylate injections, eight in all, during which time the throat and palatine lesions grew steadily worse.

Case VII. Female, age nineteen years. Date of admission, November 7, 1910. Diagnosis: Secondary lues. Condition on admission: Anal condylomata, macular syphilides, mucous patches, conjunctivitis. Past history: No trace of chancre found. Size of dose, three grains. Number of doses, eight. Interval of doses, four doses one day

four days apart. Reaction immediate and very great, vomiting, and arsenical taste in mouth before patient arose from table each time. Bloody diarrhœa and swollen joints caused me to change to injections of mercury after which improvement was very rapid.

Case VIII. Male, age forty-nine years. (Courtesy of Doctor M. R. Hughes.) Date of admission, November 23, 1910. Diagnosis, hemiplegia. Past history: Infection seven years ago. Noguchi reaction, ++; subcutaneous gumma over tibia. Size of dose, three grains. Number of doses, twenty-seven. Intervals of one, two, three, four days, and finally a week. Present condition: Use of limbs almost restored enabling patient to walk about and feed himself whereas on admission he could do nothing for himself and was under the constant care of an attendant.

Case IX. Baby, female, age thirteen months. Date of admission, November 22, 1910. Diagnosis, hereditary syphilis. Condition on admission: Prominent parietal bones, fontanelles unclosed, iritis, and interstitial keratitis, snuffles, rhagades, large ulceration in each buccal cavity, otorrhœa, breast and belly pitted from healed pustular lesions; "pot bellied," spleen and liver enlarged; large ulceration on vulva; epiphyses of humeri enlarged; finger nails deformed and curved back; scars of palmar and plantar pemphigus; emaciated and marasmic; colliquative diarrhéa (twenty-four stools in twenty-four hours), anal ulceration area of silver dollar with a milder inflammatory areola extending out on to nates. Beginning on the day of my first visit (November 22d) she received for two consecutive days one fourth grain of sodium cacodylate, then three doses every second day, then four doses four days apart, then six doses a week apart, the three last of these being one half grain, all hypodermically: Her improvement began immediately and has, after fifteen injections in a period of nine weeks, been little less than wonderful.

Case X. Female, age twenty-four years. Date of admission, November 15, 1910. Diagnosis, late secondary syphilis. Condition on admission: Squamous lesion over left eyebrow, Noguchi reaction, ++. Past history: Had mild syphilis seven years ago. Had about eighteen months of indifferent treatment. Size of dose, 0.2 gramme. Number of doses, five. Interval, two and three days. Intermediate history: Reaction rather severe and prompt. Immediately after injection patient would become nauseated, perspire freely, arsenical breath, and complained of being "sick all over." She developed great sensitiveness of peripheral nerves, loss of appetite. Patient's lesion had been treated for weeks for "eczema" with no result. The same had entirely disappeared after fifth injection of sodium cacodylate, when she voluntarily quit treatment.

At the outset, I told you that I had no conclusions to offer, but would recite to you these histories directly from my case record (not having time to incorporate them in my paper), and let you form your own conclusions.

However, if one is warranted in forming a definite opinion in so limited a number of cases, I would say, based upon the experience with these ten cases, that the remedy was of but little, if any, benefit in the primary or early secondary stages, seeming to have an irritative rather than a resolutive effect. I would believe that this irritative effect bore a similarity to the Herxheimer reaction, following, in some instances, injection of "606," and which Ehrlich believes (foot note to Dr. Fisher's article, page 406, *Journal of the American Medical Association*, February 11th) is "irritative and due to an insufficient or 'sterilizing' dose," were it not that it could hardly be said of my cases, in which the results were indifferent, that they had received an insufficient dose, for some at least received the *dosis tolerata*, inasmuch as the reaction was prompt and severe, so patient of Case VIII exhibiting the arsenical taste and breath, vomiting, and great prostration before leaving the table. The other patients in the secondary class going through this in a milder degree and after a greater lapse of time, one case (Case X) bordering on neuritis (the peripheral nerves becoming exquisitely sensitive after the sixth dose). Finally, its beneficial effects were unquestionable in the cases of hemiplegia and the late secondary over the eyebrow, and little less than wonderful in the congenital case, hence I shall recommend and use it in these latter cases.

Since the reading of this report, a patient with syphilis of five years' standing, with but little and indifferent treatment in the beginning, presented with a tertiary ulcer on posterior faucial pillar, and a basilar headache of eight weeks' duration, was injected on February 18th in the presence of Dr. Ohmann-Dumesnil with six grains of sodium cacodylate, and reappeared on the 20th with entire cessation of headache and much improved condition of throat lesion, which strengthened my confidence in its efficacy in late cases. I agree with Dr. Nichols (*Journal of the American Medical Association*, February 18, 1911) that there is a lack of uniformity in results, thus far recorded, which a larger experience will no doubt equalize. In a personal communication from Dr. Spencer L. Dawes, he assures me that sodium cacodylate may be used with safety in the same sized dose as salvarsan. In the future I shall use much larger doses.

Commercial Building.

SODIUM CACODYLATE IN SYPHILIS.

Report of Cases.

By Harry A. Schirrmann, M. D.,
Portsmouth, Ohio.

Case I. Mr. M. B., a patient aged thirty-eight years, infected with syphilis about ten years ago, treated with mercury and potassium iodide with varying results. In 1909, having gummata of the brain, he was suffering intensely from pressure symptoms, intense pain, convulsions, paralysis of the right side, and squint. Was operated upon by Dr. C. H., of Columbus, Ohio, and an area removed 15 cm. x 8 cm. of the parietal and frontal bones.

I first saw patient December 18, 1910. Patient's left side drooped badly, ankles swollen, complained of rheumatic pains in different parts of the body, which made walking difficult even with a cane. Patient was a poor eater and had not been able to sleep for a long time. Had pains in his side, that came on between one and two o'clock in the morning, after which he was unable to sleep, and had no rest until he changed the bed with a chair. Patient was "all in," as he put it, was losing ground every day, and had been using morphine at night for ease and sleep. Had transient convulsions. Pupils normal and responsive to light and stimulation. Examination of the heart and urine negative.

Patient was admitted to the hospital for treatment on December 26, 1910, and put to bed. Temperature, 99° F.; pulse, 96; respiration, 20. One fifth gramme sodium cacodylate was injected in pectoral region of right side. Patient did not eat much the first day in the hospital, was worn out by the three blocks he had walked from the depot. Complained of pain in the side and could not sleep. Ten grains sulphonal given in hot milk for sleep, and hot stupes applied. Evening temperature, 99.8° F.; pulse, 76; respiration, 20.

December 27th. Temperature, 99° F.; pulse, 86; respiration, 18. Patient did not rest well during the night, was drowsy but ate a hearty breakfast. One fifth gramme sodium cacodylate given hypodermically. Patient ate but little dinner, but a hearty supper. Evening temperature, 99.2° F.

December 28th. Temperature, 98° F.; pulse, 84; respiration, 18. Complained of some pain in side, but much less than usual and slept nearly all night, the best sleep

he has had in weeks. One fifth gramme sodium cacodylate administered in pectoral region. Ate a good dinner and supper. Urine normal.

December 29th. Temperature, 98.4° F.; pulse, 86; respiration, 18. Had a little pain in side, but this did not last as long as usual. Had a good night. Patient said all rheumatic pains were gone; he was able to sleep on his left side, something he had not done for a long time. Ate a hearty breakfast. One fifth gramme sodium cacodylate given in the usual way. Evening temperature, 98.6° F.; pulse, 78; respiration, 18. Patient said he felt fine.

From December 30th to January 2d, inclusive, temperature, pulse, and respiration normal. Patient feeling fine, in excellent spirits, sleeping all night, ate heartily. One fifth gramme sodium cacodylate given daily in the pectoral region.

January 3d. Patient complained of pain around the heart during the night, and ⅛ grain morphine was administered. This was the only opiate given the patient at the hospital. For fear that pain was due to medicine, treatment was not given. Patient felt fine on rising, and ate heartily at dinner and supper. Temperature and respiration normal. Pulse, 98.

January 4th. Temperature, pulse, and respiration normal. Patient slept well all night, felt fine and could lie on either side. Ate well. One fifth gramme sodium cacodylate injected into pectoral region.

January 5th. Temperature, pulse, and respiration normal. Patient slept all night but had some pains in the stomach, which were thought to be due to treatment, and sodium cacodylate was discontinued. Patient left the hospital.

Patient was under my care ten days, temperature was normal after the second treatment, and he had no convulsions while at the hospital. Patient was admitted to the hospital in a desperate condition, and left there feeling fine, eating and sleeping well, free from pain, walked with the vigor of youth and regained strength. He called at my office January 14th, on his way to Columbus, Ohio, and stated that he had gained six and one half pounds in weight. I advised him to return to the hospital in three weeks for more treatment. He received no morphine while at the hospital except as noted. His meals consisted of regular hospital diet with plenty of milk.

Case II. Mr. E. S. had been under almost constant treatment for syphilis for the past four years. He was a bookkeeper, but could not do the work, as he could not write in a straight line. No tremor of the hand, reflexes normal, showed difficulty in speech. Dull pains in the hips; had a worn expression; had been getting up in the night several times to pass water, and thought that he passed a great quantity. This symptom had been going on for the past few months. Upon examination urine was found to be heavily loaded with sugar. Specific gravity, 1.036. Twenty-four hours' urine was not obtained.

On December 28, 1910, 0.2 gramme sodium cacodylate was given. Temperature normal. No diet was given and the patient was advised to return the next day for further treatment.

December 29th. Patient felt much better, dull pains in hips gone. Sugar in urine much reduced; specific gravity, 1.025. One fifth gramme sodium cacodylate administered.

December 30th. Patient feeling fine. Did not get up to pass water in the night. Did not pass much in the day. Never felt so well in the past few months. Good appetite. One fifth gramme sodium cacodylate injected into the pectoral region. No sugar in urine; specific gravity, 1.020.

December 30th. Patient complained of severe griping pains in the stomach, diarrhœa. Treatment was here abandoned for five days, on account of the unsettled condition on the stomach. During this period sugar again appeared in the urine.

January 12, 1911. Patient was given 0.6 gramme salvarsan after the method of Wechselmann, subcutaneously under the scapula. He complained of pain at the site of injection five days after treatment, but felt well. Nearly all traces of sugar disappeared from the urine in twenty-four hours, and none had shown up since. Patient felt better and slept well, did not get up at night, and quantity of urine seemed normal; specific gravity, 1.018.

I suspected that a gumma of the fourth ventricle, or [illegible] disturbance in the urine. The results obtained seemed to bear me out.

Case III. Mrs. E. M., twenty-eight years old; married. Primary chancre of palate and uvula. Complained of sore throat of several weeks' duration. Glandular enlargement of the neck. Patient was first put on mixed treatment for ten days. Daily injections were then started of 0.2 gramme sodium cacodylate and on January 14th all signs of disease had disappeared. She received seven injections of sodium cacodylate in all with no trouble except the foul breath.

I have treated some 200 cases of syphilis in the past two years, but results have never been so striking and really wonderful as in these treated with sodium cacodylate. Other cases under treatment seem equally promising. The foul breath was present in each case, but no other disagreeable effects.

33 West Eighth Street.

RABIES.*

By John A. McLaughlin, D. V. S.,
New York.

Everyone must admit that the diagnosis of rabies, during life, either in the dog or any other animal or in the human being, is surrounded with apparently insurmountable difficulties. The eradication of these difficulties, in my opinion, lies principally in the hands of the every day veterinary practitioner. He meets the dog and all the lower animals in their every day life as the physician meets his fellow man. He meets these animals where they are attacked, and is the best one to know how the disease originated and how it is transmitted from one to the other. He is the one to whom the public must necessarily look as the authoritative source, to discover a train of symptoms whereby rabies can be diagnosticated with some degree of certainty during life. At present we are all at sea.

In this paper, I propose to give my personal experience as an every day veterinary practitioner. I wish it to be distinctly understood, that I make no claims or pretend to any knowledge outside of that particular sphere, but I do assert the right to cling fast to apparent facts until they are disproved, even though these apparent facts run counter to accepted beliefs and laboratory conclusions.

In my investigations I had the help of nearly every veterinarian in the State of Rhode Island. They were undertaken at the end of a most virulent and widespread outbreak; the record shows several thousand cases in a city of 224,000 population, or about one twentieth the population of greater New York city. Rabies was so common in Providence that any one, it would seem, could diagnosticate it, and yet it was under such circumstances that I found myself making errors until I became lost in amazement. Some cases which no one had any trouble diagnosticating as rabies had no Negri's bodies, and two cases of impaction without any rabid symptoms had them in abundance. In one case the dog who had bit the affected one was alive and well several months later; in one or two there was no history of a bite—it was positively denied. Amazement led to incredulity, and I hope you will not consider me prejudiced when I

*Read before the Harrisburg Veterinary Medical Association, Pennsylvania Club, February 20, 1911.

say that the laboratory has not cleared the field, but rather made the confusion and mystery which have always surrounded rabies even more confounding. I was further assisted at Brown University by Professor Gorham and his assistants, who had charge of the laboratory department, and who examined the heads of the suspected dogs for the State of Rhode Island, so when I say the Negri bodies were found, they were always found by Professor Gorham or his assistants, at the University or at the Agricultural College at Kingston, R. I. In order to still further increase my knowledge on this very interesting subject, I wrote out a series of questions and sent them to every person whose name I found in print (medical or lay) as being possessed of some knowledge on the matter. I received but one answer from the score or more I had written to.

As a result of a very virulent editorial in the *American Veterinary Review*, assailing a Mr. Angell, I wrote that gentleman. He was editor of *Our Dumb Animals*. He simply nailed rabies to the cross, and recommended me to the New York Society for the Prevention of Cruelty to Animals, who forwarded me some literature. I also got in touch with Dr. Charles W. Dulles, of Philadelphia, who has been investigating rabies for about thirty years. Part of his investigations was the stupendous task of inquiring into every case reported in the public press for sixteen consecutive years, and in all but three cases they were proved to be canards. I also wrote to the Pasteur Institute in New York, which very kindly forwarded me literature. I can assure you the task was no sinecure for a busy every day practitioner.

Now for my experience: A dog rushed into a friend's grounds, killing some chickens and severely biting a young bulldog. The dog officer had taken away the rabid one (for he pronounced it rabid) and was to return for the bitten one. Instead I took him home for experimental purposes. He was very badly bitten about the head. Suffice it to say that four months later my attendant sold him, the buyer saying he was willing to take all risks.

At a meeting of the Rhode Island Veterinary Medical Association Dr. Chorlton and myself carried two dogs with dumb rabies to the meeting, one in his lap and my arm around the other, the dog sitting beside me in the buggy while I drove. At the meeting the diagnosis was unanimous in one case, and that dog was killed then and there; as some doubt was expressed about the other, I kept him for two days more, when it proved a well developed case. These heads were not examined for Negri bodies. Another case was in a dog that I was very well acquainted with, and had always been warned that he was very treacherous, biting any one who made free with him. He was suffering severely, drooling at the mouth, unable to swallow, lower jaw paralyzed; his throat on post mortem examination being almost black in color. His propensity for biting was all gone, and what I should not do in health I did while he had rabies, poured water down his throat, but he could not swallow, although he did appear to appreciate my attempt to relieve him. As near as I can remember I never saw a dog with dumb rabies show any disposition to bite a human being, and in but one instance attempt to bite another dog.

The cases came in quick and fast after this. A Boston bull was brought to me for an injury to the pad of one foot. I could detect nothing. The owner, next day, brought the dog to the stable, intending to leave her in my care for a few days. The stableman chained her in one of the stalls to await my return. Now you who are at all acquainted with the nature of a half baked, cranky, inbred screw tail Boston bull, and this one had never been chained, can imagine how she acted when she saw her master leaving and she unable to follow him—she just went crazy with excitement, and the stableman thought she would either strangle herself or break her neck in her attempts to get away from the chain, so he attempted to pacify her by patting her on the head, an act he was perfectly fearless in doing, for the owner had just assured him the dog would not bite, but the little ingrate bit him. Except for this piece of ingratitude I feel sure that the Negri bodies in this dog's head would never have been discovered or suspected. The owner insists that his dog was never bitten.

This case put me in an awful position—it is a terrible thing to feel yourself blamed, or to blame yourself, for causing the death of a fellow human being under any circumstances, but to kill him with hydrophobia! My feelings were beyond description. I determined then upon a rigid investigation.

The next dog had but one symptom, paralysis of the lower jaw. I told the family to tie him in the cellar. They did so, tying him to the headpiece of a very heavy wooden bedstead, which he pulled all over the cellar during the night. Next day Dr. Chorlton, my partner, and myself carried him in my buggy while we drove to Brown University. I wanted to show him to Professor Gorham. This dog, like the other, certainly hated a chain; he was a Boston bull, the same breed as the other, but with mongrel blood in him; he was totally devoid of the bite habit, as far as a human being was concerned, though he would bite a dog. After the professor viewed him (the first rabid dog he had ever seen alive) I lifted him into the buggy, and my partner and myself drove to Dr. Dunn's hospital. As soon as he was tied there he acted like the previous one, he seemed to go crazy, his efforts to free himself were so violent that his tongue turned black, he was actually strangling himself, and his bounds and leaps and twists were simply terrifying. I asked Dr. Sullivan (Dr. Dunn's partner), who had tied him, to unchain him, but he had become afraid of him, so I unchained him myself. Once off the chain he became perfectly natural. As we could not chain him and had to confine him some way until Dr. Dunn returned, he was put in a cage with a wire window. He acted about as badly at this method of confinement as he did with the chain, and spent the next two hours trying to jump through the window; as a result he was a sorry sight when the doctor arrived; his snout was covered with blood and he looked as though he had been playing with a threshing machine, and presented a popularized edition of "mad dog." Dr. Dunn was very careful to remove him from his cage with a loop around his

neck, to which form of confinement he objected just as strenuously as he did to either of the other two. At my request he was allowed his freedom, when, as before, he became perfectly natural, running around the infirmary and nosing every place he could put his nose into, with the result that he ferreted out Dr. Dunn's pet hunting dog (bitch) and tackled her as he would a rat, but drew no blood, for it must be remembered that in dumb rabies it is almost impossible to bite. I might make a note here that a dog very seldom attacks a bitch, but I have had my own bitch attacked by a dog of the same breed. We killed him then and there, five veterinarians being present, and the post mortem examination showed a perfectly sound dog; his organs were beautifully healthy. I understand that his brain was perfectly healthy, but the Negri bodies were found in profusion. I wish to lay particular emphasis on this point, for in the next case none could be found, although it was a very pronounced case. I saw this case in Dr. Dunn's hospital, called in by the doctor himself. The poor dog (a bull terrier, and a real fighter) was suffering intensely, drooling at mouth, breathing hard, lower jaw paralyzed, unable to swallow. His head was sent to Professor Gorham and proved "negative," although there were more pains taken to find them in this particular case than in any other.

Now, here is one of the humorous incidents which occur during the course of an investigation of rabies: This dog's owner was bitten by his own dog, and, at the same time, by the dog that bit his dog, but as no Negri bodies were found, the city authorities would not pay for the Pasteur treatment, and if they had, this man would not have undergone it, for he threatened Dr. Dunn with severe corporal punishment for daring to say his dog had rabies—of course the man is alive and well. This is a little digression and you may forget it, but what I do not want you to forget is, that where the Negri bodies were found in profusion but one symptom was in evidence, and where this one symptom was in even greater evidence the Negri bodies were absent. I wish to justify myself by this circumstance, to ask a question of very serious import, to wit: "If, when present in abundance, in but *one* instance, the Negri bodies produce but *one* symptom, is it possible for their presence ever to produce any other symptom?" And this question leads to another: "If Negri bodies produce but *one* symptom, what is it that produces the symptoms of furious rabies, in which form of rabies this particular symptom is always absent?" And this leads to still another: "What symptoms, if any, are produced by the Negri bodies?"

But to another case, a case of furious rabies. This dog was given me by the owner; he was bitten by the owner's own dog, which dog bit her mother, the mother undergoing the Pasteur treatment. I took this dog home with me, and was so interested that I took him to bed with me every night and watched him as continually as my business would permit during the day. I purposely neglected the bite, as much as cleanliness would permit. He played with a fox terrier bitch—my own—during all the time until he died, or, at least, until three weeks after he was bitten, when he took a fit and one week after died. The day before he took this fit he had been taken into a neighbor's house and fed. The little bitch, the one I mentioned as being his playmate, had been taken into this same neighbor's some time previous, and the next day also took a fit; later she died of distemper, but her head on examination had no Negri bodies. My little patient, who had Negri bodies, kept going from one fit into another. I put him under ether and poured a dose of male fern, ether, and olive oil down his throat, which, owing to my nervousness, or the fact that I had no help at all, passed into his lungs, and produced a pneumonia, which was in evidence during life, and proved by post mortem examination. During her week's sickness she never showed a symptom of rabies, and the post mortem examination showed what all the symptoms called for, evidence of an obstructed bowel, which was proved by a marked dilatation of the intestines.

Here is still another case of furious rabies, another of my blunders in diagnosis, if you will. I diagnosticated an enteritis, and gave as the probable cause the contents of a swill barrel. The post mortem examination showed an enteritis and a dilated intestine. I had this head examined, hoping that the Negri bodies might be found, as if found, I thought I would have proof positive that they had no connection with rabies. I candidly told the bacteriologist my purpose. When he wired me that he had found them I almost fainted. What did it prove? Nothing. The daughter had been bitten, the family was frightened, and the results of the Pasteur treatment were successful; if unsuccessful they would have proved even more thoroughly that the dog had rabies.

Now for my personal experience with dog bites. The following persons were bitten by dogs that were pronounced rabid, though not all of the heads were examined, and none of them ever showed any ill effects: Dr. John H. Dancer, of Orange, N. J., was bitten by three dogs that were pronounced rabid, and by nine others. Dr. J. T. Chorlton, of Providence, was bitten when the owner was bitten, then a Miss Case. I saw this dog bite her; it was about twenty years ago; she is alive and well yet. As far as my personal experience goes, the bite of a rabid dog is absolutely harmless to man. The one person, a Mrs. Marvin, that died, had received the Pasteur treatment; this case was related to me by Dr. Dunn.

To conclude: The subject of rabies has reentered an old field, the field of the plain, every day veterinary practitioner. The laboratory has not, to use a slang expression, "made good." I was taught that rabies was a rare disease; for centuries it was believed to be rare, now it is common—for centuries it was supposed to be connected with certain well defined symptoms, now the symptoms may be a pneumonia, inflammation of the bowels, distemper, a cold, any old thing. It seems to me that common sense is on our side if we assert that the Negri bodies are still on trial. In our present state of knowledge it is impossible to say a dog has or has not Negri bodies while he is alive, as they are found when all symptoms are absent and when all are present, so the diagnosis of rabies is pure guess

work. If it is pure guess work now, it was even more so among those great investigators who first diagnosticated the disease and made it a laboratory institution; and this, of course, includes Pasteur himself. If it is impossible for an experienced veterinarian to diagnosticate rabies in the dog, it is just as impossible (I came near saying presumptuous) for the physician to attempt its diagnosis in the man. In this disease, as in no other, must the human general practitioner join hands with the veterinary every day practitioner to clear up the mystery and confusion which surrounds the diagnosis of rabies, at least as far as the symptoms during life are concerned.

19 Vestry Street.

MORPHINISM AND MORPHINOMANIA.*

By F. McKelvey Bell, M. D.,
Ottawa, Canada.

The custom of taking stimulants in one form or another has become such a time worn and honored one, justly or unjustly—heaven forfend that I should be one to raise my hand in protest!—from the dainty maid in the five o'clock tea room all the way down to the debauched absinthe drinker of the Parisian Latin quarter, that at the present time we have come to look upon many of these habits not only with tolerance but with avowed approval. Tea, coffee, and cocoa we have come to regard, if I may be pardoned for a contradiction of terms, as luxurious necessities of life and even alcohol, administered to us in the form of various confusing but delectable beverages, is not lacking for enthusiastic advocates. But it is not of these harmless or harmful stimulants that I wish to speak to-day, but of a vicious habit which is becoming so alarmingly prevalent even in our own fair city that a few words upon the subject may not seem out of place. I refer to morphinism and morphinomania—two varieties of the same affection.

We may describe morphinism as the habit of taking morphine in small doses for the relief of pain and without any appreciable increase in dosage except as necessity demands.

Morphinomania, on the other hand, is a condition in which morphine is taken for pleasure or as a stimulant and in ever increasing doses. Statistics show that physicians, druggists, and nurses are the most frequent victims of this pernicious habit, and about ten per cent. of the cases occur among wives of physicians.

Why should this disease occur so often among those to whom experience and example should act as the greatest deterrent? I think the reasons are sufficiently obvious. First, the ease of procuring the drug; secondly, the secrecy with which its use may be commenced; thirdly, the false sense of security induced by association and knowledge; and, lastly, the nervous strain incident to long hours, loss of sleep, and anxious and responsible duties.

Self confidence and daring should never be measured against a foe so subtle and treacherous, nor is it wise to give our love to one who offers in exchange disease and death.

In one hospital in Paris out of 650 cases of this disease forty per cent. were physicians and ten per cent. wives of physicians, and in one of the German hospitals the ratio was about the same. This condition of affairs abroad should serve as a warning to us in the United States and Canada not only to protect our patients from the danger of forming a habit so devitalizing and so ineradicable but to look to ourselves that familiarity breed not contempt but a reasoning awe.

Morphine contains all the potentialities for good or evil. We have no more obedient or useful servant and no more tyrannical or dangerous master. It is the octopus of medicine, winding its great arms softly, subtly, soothingly about its victim; its horrible fascination overcomes him, and he falls limp and unresisting until at last the cruel tentacles contract with a firm, unyielding grasp and slowly but relentlessly crush him to death.

It is startling to think that in this city (Ottawa) of less than one hundred thousand inhabitants there are probably several hundred morphine habitués—poor unfortunate creatures, egotistic and unreasoning, who stalk about the city streets, sepulchral images of their dead selves, human in outward semblance only—in reality lost to the common instincts and impulses of humanity.

Morphine not only robs its victim of his physical vitality but leads finally to his mental and moral degradation.

Knowing as we do these facts it behooves us as the sanitary guards of the public to protect as far as lies in our power the future interests of our patients by never administering an opiate unless there is the greatest necessity therefor, and particularly to avoid morphine where the chronicity of the disease or the mental condition of the patient warns us that there is some danger of the formation of the habit.

As a general rule the drug is first used to combat pain, real or fancied, or as a remedy for insomnia, although many cases have occurred in which it was first used from curiosity or through the example or advice of an habitué. Unfortunately there is a considerable number of individuals in whom it produces even from the first a species of delirious pleasure akin to drunkenness, and to this type it is particularly dangerous. To plagiarize the expression of a former patient: "The world is transformed into a paradise *et tout est couleur de rose.*"

Morphinomaniacs almost invariably use the hypodermic method. There are several reasons for this. There is a certain morbid fascination about the needle; the transitory self inflicted pain followed so quickly by transcendent pleasure, the more rapid effect, and the greater certainty than where other means are used. The hypodermic method is less subject to variations in results and obviates to some extent the constipation following the use of opiates. A much smaller quantity will produce the desired effect than when the drug is administered *per os.*

The morphinomaniac feverishly pursues an elusive myth which appears before his distorted imagination. He seeks mental strength, exaltation, relief from ennui; the drowning of sorrow, and of the

*Read before the Graduate Nurses Alumnæ Association of Ottawa.

sense of failure and hopeless despair. He seeks to annihilate the present and the future. To approach this result he must constantly increase his dose, and even then the best he can hope for is a temporary forgetfulness, a fleeting happiness soon followed by a corresponding depression—he succeeds only in obliterating his better self.

After about six months use of the drug some of the characteristic symptoms develop. The memory becomes treacherous, the patient may be able to recall events which have occurred years before and yet the immediate or quite recent past remains a blank, amnesia becomes marked. During a conversation words fail to come and embarrassment and confusion ensue. Insomnia gradually becomes more pronounced, for, contrary to what we might expect, the morphine habitué does not sleep well; the nights are spent in restless tossing about or for want of a better occupation in reading. Or if by chance he should fall asleep he is obsessed by the most frightful nightmare; grotesque and hideous objects flit before his harassed imagination, he hears gruesome sounds and starts from his clammy pillow into wakefulness—only a degree less terrible than those phantoms of his dreams. When the morning breaks he is exhausted but sleepless, he is fatigued, stupid, and ill humored. A feeling of despondency oppresses him and this sensation predominates throughout the day or it is replaced at times by flashes of unwonted animation superinduced by the drug—a fleeting and transitory brilliancy in which the ideas are exaggerated and unnatural—a lightninglike illumination of the mind fast followed by impenetrable darkness. There is a great tendency to fall asleep during the day time and at the most unseasonable hours and occasions, as for instance in the middle of a conversation. The will power is enfeebled, whole days are often spent in bed, the patient lacking the initiative necessary to arise and attend to pressing duties. The sense of responsibility is obtunded, and is replaced by indifference and perfect egotism. An inability for consecutive mental work develops, and added to this we find a moral inertia; he becomes untruthful, unreliable, and unethical. Criticism of all kinds is resented. His self sufficiency recognizes no other authority. He shuns society or acts in a strange incomprehensible manner when in company. One patient whose attention I attracted to the fact that he often left my questions unanswered replied that although he heard distinctly he saw no good reason why he should use the necessary mental effort to answer them. This almost incredible indifference to the opinions and feelings of others is characteristic of the disease, and the morphine habitué is bound sooner or later to become a social outcast.

Morphinomania is by no means confined to the ignorant or illiterate. As a general rule we find that quite the reverse is the case, some of our best statesmen and "littérateurs" having been addicted to the drug. But while some use this as an illustration that morphine does not injure the mentality and even excuse their vice by pointing to these men, we must admit that this is the exception rather than the rule and that even these men in time degenerate. One has only to read the writings of Edgar Allan Poe to see the ramblings of a morbid though thrilling imagination distorted by morphine.

Nor do we find that the mental and moral health are alone in the process of degeneration; perhaps the physical health deteriorates to an even greater extent. We find in most cases fatty degeneration of the heart and liver, an anæmia which soon is manifested by the ashy or leaden pallor so well known to most of us. Nutrition suffers and the patients become thin or flabby. The pupils are small and react slowly to light. There is thirst, loss of appetite, or an appetite only stimulated by an *ante cibum* hypodermic of morphine.

Systemic disorders supervene and we find tremors, gastric disorders, generalized pains, cough, and diarrhœa, all these symptoms being relieved by resorting to the drug. As a matter of fact all the functions of the body which normally take place in a painless manner have become so subdued by the opiate that when it is temporarily discontinued these physiological actions become a source of positive discomfort, if not of actual pain.

We may divide the effects into three stages: First, before the system becomes demoralized we have the stage of exaltation, when none but an acute observer might notice an appreciable change in the patient; secondly, the stage of intoxication where the physical and mental changes commence to manifest themselves, and, thirdly, the stage of cachexia with progressive weakness, emaciation, and a shrivelled parchmentlike skin, œdema of the extremities, and nephritis. The disposition becomes morose and sullen, and the patient is scarcely conscious of his environment.

If the drug is suddenly withdrawn we find the most violent symptoms of reaction; restlessness, sleeplessness, pain, vomiting, diarrhœa, coryza, yawning, sneezing, coughing, palpitation of the heart, sweating, great prostration, dilated pupils, tremors, collapse, and even death.

If the pulse becomes weak, slow, and irregular, the face pallid and shrunken, watch for collapse and administer, not strychnine or other so called cardiac stimulants, but morphine in small doses. In these cases it acts as a much better and quicker stimulant than any other drug.

And what shall we say of the prognosis of this dread disease? In no other affection is there as great a tendency to relapse. Various writers have estimated the percentage of relapses as seventy-five or eighty, but to me this seems rather under than over the mark, for in a fairly large experience with these cases I cannot recollect more than ten per cent. of permanent cures. In one hospital where thirty-two physicians were treated twenty-six were known to have returned to the drug—and this percentage among those who should offer the greatest hope of permanent results!

Many morphine habitués have no desire to be cured and resist all the efforts and good wishes of their friends in their behalf.

It is not surprising to find that there are hundreds of morphine habitués among the criminals and paupers of our country and I think we may speak with reasonable assurance when we say that the use of opiates is largely responsible for many of the crimes of the present day.

To return to the prognosis, we may say that the best hope for recovery may be held out in those cases in which the drug has been used for some dis-

eased condition which has been removed by operation or treatment during the period of withdrawal.

The treatment of this dread disease is necessarily very varied, and must take into consideration the stage of the affection, the quantity of the drug used, and the physical condition of the patient. The patients should be treated either in a hospital or sanatorium or with absolute isolation from friends and acquaintances, for there is no more cunning and resourceful individual than the morphine habitué; he will resort to all forms of trickery to gain access to the drug. We need too a clear minded and firm nurse, one who can assert her authority and who will keep the patient under the strictest surveillance; she must have good judgment and experience, for often collapse will occur so suddenly that there is no time to send for the physician or other help.

Although there are many who advise immediate discontinuance of the drug, this plan has so frequently been followed by temporary insanity or collapse that it seems to be more advisable to adopt the system of rapid withdrawal in all but those cases in which there is great debility, when it will have to be done very gradually. Rapid withdrawal has this advantage over the slower method, that while it may cause severe suffering for a few days it does not prolong the agony until one's patient is fairly distracted. Most patients will be found to be taking from ten to fifteen grains a day, although I recollect one woman who stated that she had taken sixty grains of morphine and twenty grains of cocaine in the twenty-four hours. We are fairly safe in cutting the maximum in half the first day of treatment because it will be found that most habitués are taking almost double the quantity necessary for comfort, the surplus apparently remaining inert. We may cut this quantity in half the following day and so day by day until none at all is being used, excepting when symptoms of collapse supervene and we are forced to use a small quantity temporarily. At the same time we must use other sedatives such as the bromides, hyoscine, and best of all cannabis indica in order to keep our patient in what one might term endurable discomfort, for this is the best we can hope for in the first couple of weeks. At night it may be necessary to resort to such harmless hypnotics as paraldehyde, trional, or veronal, being careful to change the hypnotic continually so that no new habit may replace the one we are trying to cure, for these patients are prone to contract new habits with uncanny readiness. Above all discontinue the use of the hypodermic syringe as soon as possible and if it is necessary to give opiates at all give them by the mouth.

One word of caution about hyoscine hydrobromide, one of our best and most powerful nervous sedatives and one especially adaptable to many of these cases. Some individuals have a marked idiosyncrasy for this drug, and I have repeatedly seen a hypodermic injection of 1/100 of a grain produce severe delirium and in one case collapse. Some time ago I read an article in one of the medical journals in which a physician stated that he was giving his patient 1/25 of a grain every three hours and that in spite of this sedative he was wildly delirious. The physician attributed the delirium to the withdrawal of the morphine when in reality it was due to an overdose of hyoscine.

Tonics of nux vomica and cinchona seem to be very useful in these cases, and hypodermic injections of ergot are recommended by Dr. Osler, although I have had no experience with this drug in morphinomania.

Of course we must call into requisition all hygienic aids such as fresh air, cold sponge baths, massage, etc., and a hot wet pack will often relieve the excessive nervousness which nothing else seems to benefit. A nourishing but easily digestible diet is essential. Other symptoms must be treated as necessity demands. But let one last word of caution stand out in letters of fire: Never give a patient who has once been cured an injection of morphine or any other derivative of opium, for a single injection may be sufficient to bring about a relapse after months or even years of apparent cure.

400 McLeod Street.

Correspondence.

LETTER FROM LONDON.

Low Blood Pressure and Its Treatment. Smallpox in London.

London, *March 14, 1911.*

At a meeting of the Medical Section of the Royal Society of Medicine Dr. W. Edgecombe read a paper entitled Observations on Low Blood Pressure. He had made a long series of examinations to determine the average level of the blood pressure both morning and evening. The effect of various drugs had also been tried, and as the chief object was to test whether they produced a sustained rise in blood pressure, the method of taking morning and evening readings was preferred to that of observing the immediate effect of the drug. The latter was, however, also done in certain instances.

Excluding cases of acute illness with febrile disturbance the following were some types of disorder which frequently presented a low blood pressure:

1. Subjects with poor circulation, cold hands and feet, and those liable to chilblains.

Dr. Edgecombe had met with several examples in which the systolic blood pressure rarely rose above 95 mm. Hg. By means of baths, massage, and exercise a temporary rise might be effected, during the maintenance of which the objective and subjective signs of defective circulation improved manifestly, but it was difficult to effect an enduring rise in the general level of blood pressure in these cases, for they were prone on cessation of treatment to relapse to their former state.

2. Cases of pure neurasthenia having as their prominent characteristic profound fatigue, either somatic or psychical or both. Whether the low blood pressure in those cases of neurasthenia was the cause or the effect of the extreme fatigue it was not easy to say. The probable sequence of events was a lowering of blood pressure by toxic or other causes, and it was the extreme feebleness of the circulation that gave rise to the subjective sensation of intense fatigue. It was certain that a rise of blood pressure was an almost invariable accompaniment of improvement. In marked contrast to those was the irritable type of neurasthenia—the neurotic individual, who was frequently not a true

neurasthenic, but a psychasthenic or a hypochondriac. In those cases the pulse was usually quick and irritable and the blood pressure subject to great variation, but generally above the normal and sometimes markedly so.

3. Another cause of low blood pressure was tobacco poisoning.

4. In cases of dilated heart, with or without valvular disease, the pressure was usually found low, and a rise in pressure was one of the indications of the progress of the case toward recovery.

5. Fibrositis. Many gouty or rheumatic patients showed a blood pressure somewhat below normal. The blood pressure was also below normal in certain cases of phosphaturia and arthritis deformans.

Contrasted with the ease with which a high blood pressure was reduced, the permanent raising of a low pressure was a matter of great difficulty. Fortunately it was seldom necessary, were it possible to raise the blood pressure to a great extent. A relatively small rise was in most cases coincident with marked amelioration. To effect a rise, non-medicinal measures, such as diet, exercise, change of air—for example, to high altitudes—and hydrotherapeutic procedures, were to be preferred to drug treatment. With regard to diet an excess of meaty food should be prescribed with a corresponding diminution of the starchy elements.

If drugs were required, pituitary extract would seem to have the most powerful and rapid effect, but the speaker had little experience of its continued use over long periods and would rather hesitate to give much of so powerful a substance lest unlooked for late results should accrue of a harmful character.

Next in potency was caffeine, to be given only if the patient was not an excessive tea drinker. Calcium lactate appears to be moderately effective, but strychnine was disappointing. Digitalis was useful for cardiac cases.

The epidemic of smallpox in London now shows signs of diminution. In answer to a question in Parliament Mr. Burns stated that from January 1st to the evening of February 27th forty-one cases were notified and removed to the Metropolitan Asylums Board's Hospitals. There were now thirty-six cases in the hospital. Of these, twenty-nine were vaccinated and seven were unvaccinated. In twenty-four of the cases the vaccination was performed more than fifteen years ago and in two others at least ten years ago. The three other vaccinated cases were those of children and the attack was said to be mild. In answer to other questions Mr. Burns said that since the beginning of the outbreak forty-seven persons had been admitted at South Wharf, three of these had been found not to be suffering from smallpox, forty-three cases notified as smallpox had been sent to Joyce Green, seven of the cases notified were persons employed at the Mile End Infirmary, five as nurses and two as scrubbers. He could not give the age and vaccinal condition of each patient, as these particulars had not yet been verified, but it was stated that, of the forty-four patients, six were five years of age or under, and, of these, three had not been vaccinated and three were vaccinated in infancy. Two had been revaccinated since the onset of the disease. Seven were between five and fifteen years of age, of whom one had not been vaccinated, five were vaccinated in infancy, one case was doubtful.

Four cases had been vaccinated since the onset of the disease. Fifteen were between 15 and 30 years old, of whom two had not been vaccinated, twelve were vaccinated in infancy, one was doubtful. Eight of these had been vaccinated since the onset of the disease. Sixteen were cases of persons over thirty, of whom fourteen were vaccinated in infancy, two cases were doubtful. Ten of these cases had been vaccinated since the onset of the disease. There had been one death, a case of an unvaccinated child of three. Since this report there have been altogether seven deaths and the number of persons at present under treatment at the smallpox hospitals is about forty.

Therapeutical Notes.

The Treatment of Painful Menstruation.—Sireley (*Journal de thérapeutique*, March 10, 1911) gives the following advice regarding the treatment of painful menstruation: Before the flow begins to make its appearance the patient should be made to take a warm bath of a temperature of 98 to 100 degrees Fahrenheit, repeated, if necessary two or three times during the day, gradually increasing the temperature to 104 degrees F., if the condition of the patient permits of it. In addition, rest in bed must be insisted upon, and inunction by one or other of the following sedative mixtures, after the application of hot compresses or poultices:

℞ Camphorated oil of chamomile, ... ʒiss;
Oil of hyoscyamus, ʒiss;
Tincture of opium, ... ʒiiss;
Chloroform, ... ʒiii.
M

℞ Chloral, ... ʒiv;
Camphor, ʒiv;
Tincture of opium, ʒiss;
Wool fat, .. ʒv
M

Enemas of warm water, or decoction of flaxseed, are advised, and the internal administration of the following:

℞ Tincture of belladonna, ... ♏xxx,
Tincture of cannabis indica, ... ♏xxx;
Wine of opium, ... ʒiii.
M. et Sig.: Twenty to thirty drops in water.

If the pain is severe, antipyrine, seven to fifteen grains, should be added to the enema, or chloral hydrate, forty grains, and tincture of opium, twenty to twenty-five drops.

The enemata may be replaced by a suppository of the following composition:

℞ Morphine hydrochloride, ... gr. ¼,
Extract of belladonna, ... gr. ½,
Extract of cannabis indica, ... gr. ½;
Antipyrine, ... gr. viiss;
Cocoa butter, ... q. s.
M. ft. suppositorium.

Baths in Nervous Diseases.—In the *Western Canada Medical Journal* for March, 1911, Tom A. Williams comments on the use of hydrotherapeutic measures in neurotic states, where their indiscriminate prescription has been harmful, though, as he

says, under proper conditions no measure has a more beneficial influence than a bath. The calming influence of the warm bath in agitated mental states extends even to the insane. As he remarks, however, the effect of a bath is a physical one, and it should never be used for its so called suggestive effect. The systematic use of the cold douche in treating hysteria he regards as a barbarism. It is true that a cold douche may stimulate the attention; but it does so toward the unpleasant sensation of the douche and not toward the matter which causes the morbid symptoms. It is thus, if anything, harmful to the patient's mind; and this is hardly compensated for by any benefit to his body. The cold bath is indicated in certain neurotic states of which indolence is a feature; but it should be prescribed with the definite indication of removing lethargy, and should be supplemented by other methods with the same end in view. The use of the bath to minimize tension and strain of the muscles in the course of the meningitis of poliomyelitis must not be forgotten; and the suspension of the body in water, too, greatly facilitates the first feeble movements during recovery from that disease.

An Enema and Suppository in Inflammation of the Annexa.—Dupont is credited in *Quinzaine thérapeutique* for February 10, 1911, with the following formula for a sedative enema:

R Tincture of opium, . . . gtt. xv.
Antipyrine, . . . gr. xv
Yolk of egg, . . . No. i.
Water, . . . 5v.
M

It may be necessary before giving this mixture to administer a purgative enema. For patients who find this form of medication repugnant the following suppository is prescribed:

R Extract of belladonna, . . . gr. ½.
Cocaine hydrochloride, . . . gr. ii
Oil of theobroma, . . . gr. lxx
M. ft. supposit. No. i.
Sig.: One twice daily.

The Value of Lavage in Acute Gastritis.—In a paper contributed to the *Virginia Medical Semi-Monthly* for March 24, 1911, Hamner speaks of the control of the vomiting that persists in acute gastritis, even after emesis. He considers the washing out of the stomach with the tube to be the surest and quickest treatment, if followed with the introduction by the tube of the following antiseptic solution:

R Thymol, . . . gr. viss.
Boric acid, . . . ʒss.
Warm water, . . . Oii.
Ft. solutio et Sig.: One pint through stomach tube.

The water used during lavage should be quite warm and the antiseptic should not be used until the plain water runs out perfectly clear. The antiseptic should be caught up and measured to ascertain if it approximates one pint; a few ounces retained will do no harm. Vomiting, as a rule, ceases entirely after this lavage.

The Treatment of Gonorrhœal Rheumatism.—In the *Gazette des thérapeutiques* for March 10, 1911, Robin is cited as prescribing in the treatment of gonorrhœal rheumatism daily one drachm of sodium salicylate in divided doses. If the discharge from the urethra is free several injections of a 1 in 1,000 solution of potassium permanganate should be given during the day. At the same time five or six boluses of the following mass should be taken:

R Capsules, . . . 5.
Pulv. acaciæ, . . . ʒx.
Iron and potassium tartrate, . . . gr. xlv;
Magnesium oxide, . . . ʒiss;
Distilled water, . . . ʒiss;
Simple syrup, . . . q. s.
M. ft. confect.

The local treatment includes immobilization of the limbs as in gout and the application of Bourget's liniment, which has the following composition:

R Salicylic acid, . . . ʒss.
Oil of turpentine, . . . ʒi.
Lard, . . . ʒiss.
Wood tar, . . . ʒiss
M. et ft. unguentum.

In addition, mercurial ointment may be applied on compresses.

The Treatment of Anal Fissure.—Comby (*Paris médical*, March 15, 1911) advises touching the part lightly with a pencil of copper sulphate, or one of mitigated silver nitrate, followed by a suppository:

R Extract of rhatany, . . . gr. viiss;
Oil of theobroma, . . . q. s. xxx
M. et fiat suppositorium.

It may be advisable in addition to anoint the intraanal region with ointments as follows:

R Extract of belladonna, . . . gr. xv.
Petrolatum, . . . ʒss.
M
R Cocaine hydrochloride, . . . gr. iii
Petrolatum, . . . ʒiiss.
M.

Dreuw's Application in Psoriasis.—In his work, *The Principles and Practice of Dermatology*, a new edition of which has just been issued from the press of D. Appleton & Company, Pusey cites the following plan of treatment which is highly recommended by Dreuw in psoriasis:

R Salicylic acid, . . . ʒiss.
Chrysarobin, . . . ʒv;
Birch tar, . . . ʒx;
Green soap, . . . ʒvi
Petrolatum, . . . ʒvi
M. et ft. unguentum.

This is applied with a stiff brush to the affected areas daily for four to six days. After the fifth or sixth day the patient takes a hot bath daily for from one to three days. After each bath petrolatum is rubbed into the surfaces from one to three times a day. A day or two after beginning treatment it is found that the ointment remains on the normal skin around the patches as a black, parchmentlike crust, while over the plaques there is intense scaling. This black crust loosens in a few days of bathing and of inunctions of petrolatum. After eight or nine days the treatment may be repeated, if necessary, but, as a rule, the psoriasis disappears soon after the first period of treatment. Unna and Lassar recommend the method. In spite of the strength of the chrysarobin, it is said to cause very little irritation.

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OF SUCH IS THE KINGDOM.

Proceeding probably on an idea suggested by the recent action of some prominent residents of Flatbush, the Park Commissioner has issued an appeal to owners of unimproved property in Manhattan to allow its free use during the coming summer as playgrounds for the children. Such use will not only save the lawns of Central Park, but will keep boys and girls off the dangerously crowded streets. This appeal, which we expect confidently to see answered with generous enthusiasm, is directly in line with a very modern awakening to the importance of conserving the health and happiness of the child. The view of the child which has ruled through long ages was that he was a victim of original sin which had to be severely threshed out of him; his natural instincts and longings were repressed and his developing psychology was ignored to an extent that produced the most terrible consequences. Among the poor he has been considered mainly as an assistant bread winner, among the very rich an ornament to be cared for by alien hands, by all a crude object to be fitted, no matter how, into some one of the grooves of a rigid civilization. Now the child is beginning to loom large in the eye of science and the importance of his environment is being recognized. Nature is known not to be infallible, and we correct imperfections in the young animal as we have for ages those of the young plant. With adenoids removed, teeth straightened, refraction brought to normal, club feet rectified, the child who still hangs back is placed apart with other defectives and patiently trained to occupy a place somewhere in the ranks, instead of drifting, as once he inevitably would have drifted, into the cohorts of crime. We try earnestly to remove handicaps and start all children at scratch.

For the first time the child is recognized to have certain rights, first among which is a sound and normal body. He is being gradually set free from the blinding and stunting factory, the Ozanam and Big Brother movements are welcoming his groping for friendship and clean knowledge, the courts are respecting his youth and innocence, the hands of countless thousands of yearning, childless people are outstretched to him. The reward should be great in stopping the recruiting of the criminal and vagabond classes, in filling the ranks of scholarship, art, and industry instead of the jails and asylums. Ere long we shall all know that a child is the most wonderful of the gifts of Nature, an awful responsibility, yet a divine blessing; to lose one through preventable disease or moral neglect will be acknowleged as the most shocking of crimes. Childhood must be prolonged; too soon with us it is merged into an unlovely maturity. Economically considered, it seems obvious that if the labor of children is sternly repressed, there will be more work for the multitude of idle adults who ask only for a chance. Only civilized man demands labor of his child; Adam was grown up when he was told to go to work. Kindness will be the keynote of child culture; only guidance is needed. Solomon's rod was a metaphor; let the children be as olive plants about our table.

THE THERAPEUTICS OF GARDENING.

The days are growing longer, the sun is shining warmer, the brown leaf buds are beginning to swell, and the green shoots are pushing their way through the brown mould. And there are other signs of spring. Announcements of summer schools and European outings take the place of furnace and steam heating advertisements, and a flood of "nature books" is being poured out by the publishers.

Evidently spring has come. And in the spring the professional man who has a little square of garden or bit of lawn renews his youth by delving in the soil or trundling a lawn mower. This, indeed, is very well if done orderly and with discretion, but the man of middle age and after, with a background of twenty years of sedentary life and good living, must not too lustily engage in vigorous toil at the outset of spring. It is not so much the lame back and the sore muscles incident to the first day's hard work in the garden that counts against the man of sedentary habits as does the sudden strain on hardening arteries and possibly fattening heart.

No form of exercise is better on the whole than

gardening, for it has a psychic as well as a physical value. The mind is interested, while the muscles are exercised. And with the professional man the change of interest is of almost as much value as the purely physical exercise. In the flood of nature books is *A Manual of Gardening* by Professor L. H. Bailey, of the Cornell University (the Macmillan Company, New York), which is much more than a mere dry manual, for it has distinct literary charm. Professor Bailey's philosophy of gardening is admirable teaching for the patient who needs out of door exercise and whose circumstances permit this particular form of it. For Professor Bailey thinks that for the most part gardeners are happier who have no rigid and arbitrary notions. If plants grow and thrive, the gardener should be happy; "and if the plants that thrive chance not to be the ones that he planted they are plants, nevertheless, and Nature is satisfied with them. . . . A patch of lusty pigweeds, growing and sprouting in luxuriant abandon may be a better and more worthy object of affection than a bed of coleuses in which every spark of life and spirit and individuality has been sheared out and suppressed. The man who worries morning and night about the dandelions in the lawn will find great relief in loving the dandelions."

The tired deskworker will find Professor Bailey's book and the field it covers an excellent antidote to the strain and worry of either commercial or professional life. The doctor may well write out two prescriptions for the book, one for himself and one for his patients, but must not fail in his prescription to give careful directions for the taking of the medicine, lest the patient overtax his weakened heart and hardened arteries by too sudden and great devotion to the oldest of all callings, that of the gardener. This danger being guarded against, there is no better "spring medicine" than a spade and a hoe and the *Manual of Gardening*.

GASTROSPASM.

Gastrospasm, according to Waldvogel (*Münchener medizinische Wochenschrift,* January 10th), is a well defined morbid entity, a statement quite in opposition to the opinion of more or less skeptical modern internists. In his opinion, not only is gastrospasm a frequent affection, but it is one of the commonest gastric disorders. In many cases the chemical composition of the gastric secretion varies and is of only insignificant interest. The disturbances of the motor functions, considered entirely from the spasmodic viewpoint, should hold the first place, and they are rendered quite comprehensible from the recent studies in the normal and pathological physiology of the stomach.

One should consider the case as one of gastrospasm when the patient complains of pressure, gastric fulness, gastralgia, and eructations, when gastric palpation is negative and after insufflation percussion shows that the lower boundaries of the organ do not reach below two or three fingers' breadth above the umbilicus. One should both see and feel that it is the intragastric gas that distends the stomach and cannot escape by the pylorus.

The causes of such a pyloric insufficiency are usually not to be looked for in hysteria, the presence of a malignant neoplasm, or perigastric adhesions. One should invoke rather, among other more or less numerous affections, neurasthenia, occasionally saturnism, nicotism, arteriosclerosis of the abdominal viscera, coprostasis, etc. In all cases the prognosis is good. As far as treatment is concerned, the best results will be obtained by the use of half a milligramme of atropine twice daily, heat applied to the epigastrium, and the ordinary treatment of the nervous symptoms.

WOUNDS OF THE PANCREAS.

According to Tarsia (*Gazetta di medicina,* September 25, 1910), wounds of the pancreas, like all others for that matter, heal by the formation of connective tissue, part of which is derived from the omentum and part from the fundamental connective tissue of the organ itself. In the glandular elements in the neighborhood of the wound phenomena of proliferation are observed. That portion of the gland which remains detached from section of the pancreatic canal undergoes a progressive degeneration and atrophy of the glandular structures, the space thus produced being filled with connective tissue.

An occlusion of the duct from section, or by being included in the suture, without restoring its continuity, never gives rise to the formation of cysts, while the escape of small quantities of pancreatic juice into the peritoneal cavity is absolutely harmless. In cases of wounds, either superficial and limited in extent, or completely involving the gland and its main duct, the reaction of sugar and that of Cammidge are negative at all times, but both become positive when there is destruction of an extensive area of glandular parenchyma.

The diagnosis of a wound of the pancreas cannot be based on any characteristic symptom, except in those instances where an external wound gives exit to pancreatic juice. Suture of the pancreatic wound is the proper treatment, but when this is found impossible gauze packing should be resorted to.

SYMMETRICAL NODULAR OSTEOPERIOSTITIS OF THE SKULL IN INFANTS.

In certain tuberculous infants in whom the majority of symptoms leading to the diagnosis of tuberculous disease are absent, Tribaulet and Ribadeau-Dumas (*Archives de médecine des enfants*, October, 1910) point out that foci of osteoperiostitis may sometimes be found scattered over the cranium and should be looked upon as visible manifestations of a tuberculous septichæmia. In point of fact, they are tuberculous lesions developing in the diploe and adjacent periosteum, which, when occurring during the progress of general wasting or dyspeptic phenomena of an apparently mild nature, acquire a very considerable semeiological value.

The frontal and parietal bones are the seat of predilection, and the lesions undergo their evolution either by the formation of sequestra or perforation or, more infrequently, in the form of a progressive infiltration.

From the clinical viewpoint, these lesions are easily mistaken for syphilis, but their tuberculous nature can be detected by a study of the pus, which will be found to contain the tubercle bacillus. From this fact they possess a real semeiological value for the diagnosis of other symptomatic manifestations presented by this class of cases.

THE ORIGIN OF NURSES' TRAINING SCHOOLS.

Readers of the address to the nurses of the New York Hospital, by Dr. George L. Peabody, published on another page of this issue, may be astonished to learn that the idea of training women to the profession of nursing was due, not to Florence Nightingale, as is popularly supposed, but to a German clergyman and philanthropist, Theodor Fliedner. In fact Pastor Fliedner established at Kaiserwerth in 1836 the very deaconess house and nurses' home where Florence Nightingale obtained her training and absorbed the ideas of which she subsequently made such noble use. The popularization of the movement and its widespread adoption throughout the world are undoubtedly due to the indefatigable efforts and self denial of the heroine of the Crimea.

TETANY.

This disease, which is not to be confounded with tetanus, is said by American writers to be rare in this country. A mild form of it, however, is very common, but, as the spasms are generally transitory, the patient does not seek medical advice. This mild form is characterized by contractions of the thumb and fingers or by severe cramps in the calf or thigh, coming on at night. The latter are immediately relieved by standing up, and the patient on his way to light the gas finds himself suddenly free from pain. Such an item of personal history is usually elicited only when the patient consults the physician for some other reason, and even then it is likely to be lost sight of in the light of apparently more important symptoms. Massage, electricity, and strychnine are said to be contraindicated, phosphorus and iron giving better results. It seems far fetched to go to the parathyreoids for the ætiology of this disorder; some French writers consider it to be hysterical. It is noted after some of the graver infections, and may be due to toxæmia.

THE UNIVERSITY OF FRANKFORT ON THE MAIN.

We receive from Frankfurt a. M. the interesting news that the city has finally decided to found a university. This project was brought forward a few years ago on the death of a Mrs. Speyer, the widow of a wealthy banker of that name whose banking house is also represented in London, Paris, and New York, and who left a considerable sum for educational purposes. The university is planned to have three faculties, legal, philosophical, and medical, incorporating societies which exist at present, such as the well known Senckenberg Institute, the Academy for Social and Business Sciences, the Physical Society, the Speyer and the Th. Stern foundations. As the city has quite a number of hospitals, there is only left for the medical faculty to create an anatomical and physiological institute. It is intended to open the university for the summer semester of 1914. In the report it is stated that the finances of the new university lack but $125,000 more, with an additional annual expense of $40,000. All this money will be received in donations, thus following the example of the rich American universities.

While in former years, in Europe, universities were founded by ruling princes and by governments, the Frankfort institution will have the distinction of being the first opened by a private citizen and supported without any governmental aid whatever; a proud distinction. Although for quite a number of years rumors have been circulated that the city of Hamburg had the intention of opening a university, and although that city also is well endowed with medical and business institutions and its leading citizens certainly are as wealthy and as charitable as the citizens of Frankfort, this project seems to have been abandoned.

Obituary.

CHARLES H. LEWIS, M. D., of New York.

Dr. Lewis was suddenly stricken with apoplexy at the corner of Seventh Avenue and Twenty-third Street on March 30th, as he was walking home from his visit to St. Vincent's Hospital; he died a few hours later. Dr. Lewis was born in Naugatuck, Conn., in 1858, and graduated from Yale in 1882 and from Bellevue Hospital Medical College in 1884, and was visiting surgeon to St. Vincent's and Columbus Hospitals. He was widely known and liked throughout New England, whence numerous patients were referred to him by the local practitioners.

CHARLES TALBOT POORE, M. D., of New York.

Dr. Poore died suddenly on Tuesday, April 4th, in his sixty-seventh year. He received his medical degree from the College of Physicians and Surgeons in 1866. After a term on the house staff of the New York Hospital he devoted his attention particularly to hernia and to orthopædics. Several years ago he made a thorough study of sacroiliac disease, and at that time he was much interested in osteotomy.

News Items.

Changes of Address.—Dr. Emil Mayer, to 40 East Forty-first Street, New York.

Dr. F. F. Simpson, Dr. T. M. T. McKennan, Dr. C. H. Henninger, and Dr. David Silver, to the Jenkins Arcade Building, Fifth and Liberty Avenues, Pittsburgh, Pa.

The College of Physicians of Philadelphia held a regular meeting on Wednesday evening, April 5th. A portrait of Dr. James Tyson was presented to the college, Dr. George A. Piersol making the presentation address. A portrait of Dr. George C. Harlan was also presented to the college, the presentation being made by Dr. John B. Shober. Other speakers were Dr. George E. Pfahler, Dr. L. L. Flick, and Dr. George Erety Shoemaker.

Obstetrical Societies Hold Joint Meeting.—A joint meeting of the New York Obstetrical Society and the Philadelphia Obstetrical Society was held in Philadelphia, at the College of Physicians, on Thursday evening, April 7th. Papers were read by Dr. J. O. Polak, of Brooklyn, Dr. Joseph Brettaur and Dr. W. E. Studdiford, of New York, and Dr. John G. Clark and Dr. E. P. Davis, of Philadelphia.

American Guild of St. Luke.—The next meeting of this society will be held on Thursday evening, April 13, 1911, at the Catholic Club, No. 120 West Fifty-ninth Street, at 8:30 p. m. The subject for general discussion will be The Proper Teaching of Physiology to the Young. Physicians interested are invited to send their names to Dr. Charles E. Nammack, president of the Guild, or to Dr. James J. Walsh, secretary. Branches of the Guild have been established in Philadelphia, Chicago, and Boston, and a branch is being formed in St. Louis.

The Extermination of the Mosquito.—The Department of Public Health of the town of Kearney, Hudson County, N. J., has issued a circular which contains two plans which, it is believed, if properly carried out will result in the extermination of mosquitoes. The first plan provides for the use of a combination of carbolic acid and camphor as a fumigant, and in the second plan jimson weed and saltpetre are used. The circular contains full directions for the use of these materials, with the cost involved. The formula for making either fumigant can be obtained by applying to any officer or member of the Board of Health or at any drug store in the town of

The New Pavilion for Thoracic Surgery at the German Hospital.—The board of trustees of the German Hospital and Dispensary and Dr. Willy Meyer announce the completion of the new pavilion for thoracic surgery. It was opened for inspection on Saturday afternoon, April 8th.

The Society of Medical Jurisprudence will hold its two hundred and thirty-seventh regular meeting on Monday evening, April 10th, at eight o'clock, at the New York Academy of Medicine. The paper of the evening, entitled The Control of the Person and Estate of the Habitual Drunkard in Its Medicolegal Aspects, will be read by James Richards, Esq., of the New York Bar. The discussion will be led by Dr. Carlos F. MacDonald and Edward K. Summerwell, Esq.

A Memorial to the Late Dr. J. Allison Scott.—A fellowship for medical research is to be established at the University of Pennsylvania, Philadelphia, as a memorial to the late Dr. J. Allison Scott, former adjunct professor of medicine at the university. About $10,000 has already been contributed. It is planned to use $200 of the interest each year to help some needy third or fourth year student. The remainder of the interest will be invested until the entire sum is large enough to enable the university to carry on the research work.

Tuberculosis in Syria.—Consumptives in Syria are treated to-day much in the same way as the lepers have been for the last two thousand years. Tuberculosis is a comparatively recent disease among the Arabs and Syrians, but so rapidly has it spread that the natives are in great fear of it. Consequently when a member of a family is known to have the disease, he is frequently cast out and compelled to die of exposure and want. A small hospital for consumptives has been opened at Beyrout under the direction of Dr. Mary P. Eddy.

Free Scholarships at Columbia to be Increased in Number.—The board of trustees of Columbia University has voted to increase the number of free scholarships in medicine, law, engineering, and fine arts for the coming year from 85 to 130. This increase is due to the policy adopted by the university last year whereby the number of scholarships increases automatically with the growth in registration. The College of Physicians and Surgeons is the largest beneficiary under the increases for next year, as it will have 29 scholarships, as against 13 this year. The School of Mines, Engineering, and Chemistry will have 62, as against 47 this year.

The Antispitting Crusade in New York.—The Department of Health of New York is making a determined effort to prevent the nuisance of spitting in public places, and prompt attention is being given to all complaints received. The Woman's Municipal League recently communicated with Commissioner Lederle regarding the condition of the sidewalks in Washington Square due to the spitting nuisance, which constituted a real menace to the health of the children in the vicinity who used Washington Square as a playground. The immediate supervision of the district was ordered by the commissioner, and Washington Square has since been kept under observation by one or more officers of the Health Squad. Six arrests have already been made, and the offenders immediately taken to court.

The Late Dr. Charles H. Lewis.—At a meeting of the medical board of St. Vincent's Hospital, held on April 2, 1911, the following minute was adopted:

We enter in the records of the board a minute expressive of our deep grief and profound shock, because of the sudden death of Dr. Charles H. Lewis, president of the medical board, and a much respected colleague.

His ever genial companionship and his sincere attention to duty were an inspiration to us all. His keen sense of justice and patient consideration of the shortcomings of his associates were an earnest of an amiable and forgiving nature rarely to be found, and sad indeed to lose.

The afflicted and the unfortunate of this institution will long mourn his loss and seek in vain for the degree of aid and comfort so bountifully bestowed by him.

Dr. Lewis served on St. Vincent Hospital, as interne, chief of staff of out-patient department, and as visiting physician, twenty-seven years in all, fitted him completely for the high station in his profession generally accredited to him, and for the fulness of sympathetic spirit so characteristic of his nature.

By his death the hospital loses a substantial support, the profession an able and valued member, and the community a good citizen.

Resolved, That a copy of this minute be published in the *Medical Record*, the *New York Medical Journal*, the *New York Herald*, and the *New York Times*; also, that a copy of the same be forwarded to the family of the deceased.

Charles E. Nammack, M. D.,
Secretary of Board.

A Conference on Tuberculosis in Philadelphia.—The first Pennsylvania conference of tuberculosis workers was held in the College of Physicians, Philadelphia, on Friday and Saturday, April 7th and 8th. Among those who spoke were Dr. Williams Charles White, of Pittsburgh; Dr. Charles J. Hatfield, of Philadelphia; Mr. J. Byron Deacon, of the Pennsylvania Society for the Prevention of Tuberculosis; Dr. Mary Gage-Day, of Kingston, N. Y.; Dr Joseph Neff, of the Department of Public Health and Charities, Philadelphia, and Dr. James Tyson, president of the Pennsylvania Society for the Prevention of Tuberculosis.

Gifts and Bequests to Hospitals.—The Ann May Memorial Hospital, in Spring Lake, N. J., and the Adirondack Cottage Sanatorium, Essex County, N. Y., will divide the estate of Jacob T. Van Wyck, who died in New York on February 26th, with the exception of $5,000.

By the will of Mrs. Frances Swan Welles, the Presbyterian Hospital, of New York, will receive $10,000 to provide a permanent fund, half the income from which is to be used to brighten the lives of the nurses at that institution, and the other half to brighten the lives of the patients in the general wards. Other bequests are the Bryson Day Nursery, $5,000, and the Belknap Summer Home for Day Nursery Children at Far Rockaway, $5,000.

The will of Miss A. A. Cheever, of Nashua, N. H., contains a bequest of $200 to the Nashua Hospital Association.

The American Medicopsychological Association.—The preliminary programme of the sixty-seventh annual meeting of this association, which will be held in Denver, Colo., on June 19th, 20th, 21st, and 22d, has been issued. The complete programme will be issued in May. The Brown Palace Hotel will be headquarters, and all meetings will be held there. Those who expect to attend should secure reservations as early as practicable, as the American Surgical Association holds its annual meeting at the same place at the same time. The Committee on Transportation will arrange a round trip including Salt Lake City and Yellowstone Park at a reduced rate, if a sufficient number of persons desire such a trip. Arrangements are also pending for a special California trip to include the meeting of the American Medical Association in Los Angeles. The committee is also endeavoring to secure special railroad rates for those who wish to go directly to Denver and after the meeting directly home. Dr. J. Percy Wade, of Catonsville, Md., has these matters in hand. The officers of the society are: President, Dr. Charles W. Pilgrim, of Poughkeepsie, N. Y.; vice-president, Dr. Hubert Work, of Pueblo, Colo.; secretary and treasurer, Dr. Charles G. Wagner, of Binghamton, N. Y.; Committee on Programme, Dr. E. H. Howard, of Rochester, N. Y., chairman.

Prosecuting a "Medical Institute" for Administering "606."—In the Yorkville City Magistrate's Court, on Friday, March 31st, James H. Scott, who conducts a "medical institute" at No. 33 West Forty-second Street, New York, under the name of "606 Laboratories" was paroled in the custody of his counsel for a further hearing in the Jefferson Market City Magistrate's Court next Tuesday. The defendant had been haled to court on a warrant charging him with the illegal practice of medicine. The New York County Medical Society prosecuted through Almuth C. Vandiver, Esq., counsel for the society, and also represented J. W. Walker, the complainant against Scott, whom he accused of having administered salvarsan hypodermically in the interscapular region as a remedy for catarrh. The agents for salvarsan in this country took an active interest in the proceedings, Herman A. Metz, the president of Victor Koechl & Co., being in attendance at the hearing. It was declared by the prosecuting attorney that the defendants in the case were acting dangerously in advertising and administering salvarsan in the way they were doing. The complainant exhibited a photograph showing a severely ulcerated condition of the part of his body where the injection had been made, and this was said to be caused by the use of an infected needle. The agents for salvarsan and reputable physicians throughout the country who are using the remedy are interested in suppressing the extensive advertising campaign and the large mail order business which the defendants and similar concerns are doing in New York and other cities.

The New York Academy of Medicine.—At a meeting of the Section in Neurology and Psychiatry, to be held on Tuesday evening, April 11th, the following papers will be read: Pineal Gland Tumors; their Occurrence and Symptomatology, by Dr. Smith Ely Jelliffe; Can an Epidemic of Poliomyelitis be Prevented? by Dr. M. Allen Starr; Some Notes on the Metastases of the Nervous System, by Dr. Barney Sachs. Dr. Max G. Schlapp is chairman of this section and Dr. E. W. Scripture is secretary.

Street Vendors of Candy Punished.—The New York Department of Health has begun an active crusade in the enforcement of Section 46 of the Sanitary Code which reads as follows:

> SECTION 46. No breadstuffs, cake, pastry, sliced fresh fruits, dried or preserved fruits, candies or confectionery or other perishable food products, except those that are peeled, pared or cooked before consumption, shall be kept, sold or offered for sale or displayed outside of any premises in the City of New York, or in any street or public place, unless they be kept so covered so that they shall be protected from dust, dirt, and flies, and other contamination.

Special attention is being given to the vendors of candy from stands on the streets, where large quantities of confectionery are exposed for sale in an uncovered and unprotected condition. A few days ago a squad of food inspectors invaded the district including Broadway from Duane Street to the Battery and Wall Street, Fulton Street and the Bowery and condemned and destroyed from two hundred and fifty to three hundred pounds of exposed candy, which was found to be in a filthy and evidently a contaminated condition. Commissioner Lederle announced that the activity of the department in enforcing the law against exposure of foods would be continued, both by means of arrest, and, where the conditions warrant it, by prompt condemnation of the exposed food.

The Schuyler County, N. Y., Medical Society Honors Two of Its Members.—On Thursday, March 31st, the Schuyler County Medical Society gave a complimentary dinner at the Glen Springs, Watkins, N. Y., in honor of the fiftieth anniversary of the graduation of Dr. Charles De L. Clawson, of Montour Falls, and Dr. Gideon O. Smith, of Odessa. Dinner was served at 2:30 p. m., after which Dr. Charles G. Stockton, of Buffalo, professor of the theory and practice of medicine in the University of Buffalo, made an address. Dr. Clawson read a paper entitled Reminiscences of a Student of Fifty Years Ago. Judge O. P. Hund, of Watkins, made an address on the Experiences of a Patient Fifty Years Ago. Dr. Arthur W. Booth, of Elmira, read a paraphrase on Kipling's *Road to Mandalay* entitled *The Road to Yesterday*. Dr. Sherman Voorhees, of Elmira, chairman of the Sixth District Branch of the New York State Medical Society, made a few appropriate remarks. Thirty-four members and guests of the society sat down to the dinner. Dr. Clawson and Dr. Smith were the recipients of hearty congratulations and expressions of the good will of their friends and neighbors.

Open Air Schools for Tuberculous Children.—According to a report issued by the National Association for the Study and Prevention of Tuberculosis, since January 1, 1907, sixty-five open air schools for children afflicted with or predisposed to tuberculosis have been established in twenty-eight cities. The first open air school in the United States was established on January 1, 1907, by the Board of Education of Providence, R. I., at the instance of Dr. Ellen A. Stone. The next school was established in May of the same year in Pittsburgh, a third one in Boston in July, 1908, and the fourth at Bellevue Hospital in New York in December, 1908. During the year 1909 ten schools in five different cities were opened; in 1910, sixteen schools in twelve cities were opened; and eight schools in five cities have been opened to April 1, 1911, while definite provision has been made for twenty-seven more schools in six cities. Many cities are considering the question and will act during the coming year. New York City now has in operation twelve open air schools and classes, and definite provision has been made for fourteen similar classes to be opened by next fall. Boston has five open air classes in its schools, and Chicago also has several. According to reports received by the National Association, the result of the open air class work has been to restore most of the children to normal health and efficiency. One of these open air schools or classes should be established for each 25,000 population, especially in cities.

Transmissible Diseases in Cuba.—According to a report issued by the national department of sanitation of the Island of Cuba, and forwarded to the surgeon general of the United States Public Health and Marine Hospital Service on March 21st by Acting Assistant Surgeon Villoldo at Havana, during the ten days ending February 28th the following new cases of and deaths from transmissible diseases were reported: Tuberculosis, 32 cases, 68 deaths; leprosy, 3 cases, 1 death; malaria, 28 cases, 4 deaths; typhoid fever, 16 cases, 3 deaths; diphtheria, 22 cases, 4 deaths; scarlet fever, 18 cases, 2 deaths; measles, 153 cases, 1 death; chickenpox, 17 cases, 0 deaths; tetanus in the newborn, 4 cases, 4 deaths; dengue, 1 case, 0 deaths. No quarantinable diseases were reported in the island during the week ending March 18th.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending April 1, 1911:

	March 25th.		April 1st.	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis pulmonalis	666	5	451	177
Diphtheria and croup	193	2	188	18
Measles	182	1	557	20
Scarlet fever	100	2	62	34
Smallpox	1		1	1
Varicella	116		213	1
Typhoid fever	31	1	21	3
Whooping cough	118	1	91	12
Cerebrospinal meningitis	3	1	4	1
Total	2,080	13	1,442	266

Vital Statistics of New York.—During the week ending March 25, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,706, corresponding to an annual death rate of 17.86 in a thousand of population, as compared with a rate of 18.66 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 19.50; the Bronx, 16.63; Brooklyn, 16.74; Queens, 14.28; Richmond, 14.56. There were 140 stillbirths. The deaths of children under five years of age numbered 489, of whom 316 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 55; over five years of age, 58. There were 205 deaths from pulmonary tuberculosis, 25 from bronchitis, 170 from pneumonia; 159 from bronchopneumonia, 121 from Bright's disease, 136 from organic heart diseases, and 66 from congenital debility and malformations. There were 16 deaths due to suicide, 6 from homicide, and 52 due to accidents.

National Confederation of State Medical Examining and Licensing Boards.—The twenty-first annual meeting of this organization was held in Chicago on February 28, 1911, under the presidency of Dr. Joseph C. Guernsey, of Philadelphia. Dr. George W. Webster, of Chicago, chairman of the Committee on Arrangements, delivered the address of welcome, which was responded to by Dr. Lee H. Smith. Dr. Guernsey delivered the annual presidential address, his subject being Medical Licensure. The principal feature of the programme was a "symposium" on State Control of Medical Colleges, the subject being discussed from the viewpoints of State, law, the medical colleges, State Medical Examining and Licensing Boards, and the medical profession. The attendance was the greatest in the history of the confederation, and the enthusiasm continued throughout the session. All papers were earnestly and intelligently discussed, the interest becoming so intense that it was necessary to limit the period of the discussions. The Oregon State Board of Examiners, the Louisiana State Board of Medical Examiners (Regular), Dr. R. S. Copeland, New York City, Dr. James H. McDonald, Pittsburgh, Dr. F. F. Lawrence, Columbus, and Dr. C. M. Hazen, Bon Air, Va., were admitted to membership in the confederation. The following officers were elected: President, Dr. Charles A. Tuttle, of New Haven, Conn.; first vice-president, Dr. James A. Egan, of Springfield, Ill.; second vice-president, Dr. A. B. Brown, of New Orleans, La.; secretary-treasurer, Dr. George H. Matson, of Columbus, Ohio; Executive Council: Dr. N. R. Coleman, of Columbus, Ohio; Dr. James A. Duncan, of Toledo, Ohio; Dr. Charles H. Cook, of Natick, Mass.; Dr. Joseph C. Guernsey, of Philadelphia, Pa., and Dr. W. Scott Nay, of Underhill, Vt.

The Health of Philadelphia.—During the week ending March 18, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Typhoid fever, 17 cases, 5 deaths; scarlet fever, 47 cases, 8 deaths; chickenpox, 42 cases, 0 deaths; diphtheria, 73 cases, 17 deaths; measles, 704 cases, 9 deaths; whooping cough, 56 cases, 3 deaths; pulmonary tuberculosis, 83 cases, 63 deaths; pneumonia, 92 cases, 100 deaths; erysipelas, 15 cases, 1 death; mumps, 25 cases, 0 deaths; cerebrospinal meningitis, 1 case, 0 deaths. There were 10 deaths from tuberculosis other than that of the lungs, 14 from diarrhœal diseases under two years of age, 1 from pellagra, and 1 from puerperal fever. There were 28 stillbirths; 12 males and 16 females. The deaths of children under five years of age numbered 144, of whom 83 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 599, in an estimated population of 1,573,509, corresponding to an annual death rate of 19.50 in a thousand of population.

The Health of Chicago.—During the week ending March 25, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 11 cases, 3 deaths; measles, 274 cases, 3 deaths; whooping cough, 21 cases, 0 deaths; scarlet fever, 211 cases, 12 deaths; diphtheria, 140 cases, 24 deaths; chickenpox, 45 cases, 0 deaths; tuberculosis, 140 cases, 80 deaths; pneumonia, 61 cases, 158 deaths. There were 6 cases of German measles, 3 of influenza, 2 of cerebrospinal meningitis, and 54 of contagious diseases of minor importance reported, making the total 974 cases, as compared with 935 for the preceding week, and 957 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 34, and there were 31 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 189, of whom 120 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 733, in an estimated population of 2,233,954, corresponding to an annual death rate of 17.1 in a thousand of poulation, as compared with a rate of 16.2 for the preceding week and a rate of 17.6 for the corresponding period in 1910.

Society Meetings for the Coming Week:

Monday, *April 10th.*—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Association of Alumni of St. Mary's Hospital, Brooklyn; Williamsburg Medical Society, Brooklyn; New Rochelle Medical Society; Corning Medical Association; Waterbury, Conn., Medical Association.

Tuesday, *April 11th.*—New York Academy of Medicine (Section in Public Health); New York Obstetrical Society; Medical Society of the County of Schenectady, N. Y.; Practitioners' Club of Jersey City, N. J.; Medical Society of the County of Rensselaer, N. Y.; Buffalo Academy of Medicine (Section in Medicine); Rome Medical Society; Jamestown Medical Society.

Wednesday, *April 12th.*—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital, New York; Alumni Association of the Norwegian Hospital, Brooklyn; Brooklyn Medical and Pharmaceutical Association; Medical Society of the County of Richmond, N. Y.; Dunkirk and Fredonia Medical Society.

Thursday, *April 13th.*—New York Academy of Medicine (Section in Pædiatrics); Brooklyn Pathological Society; Blackwell Medical Society of Rochester, N. Y.; Jenkins Medical Association, Yonkers, N. Y.; West Side Clinical Society, New York; Gloversville and Johnstown Medical and Surgical Association; Physicians' Club of Middletown, N. Y.; Auburn City Medical Society; Buffalo Ophthalmological Club; Society of Physicians of the Village of Canandaigua.

Friday, *April 14th.*—New York Academy of Medicine (Section in Otology); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Saratoga Springs Medical Society; Society for Clinical Serology, New York; Society of Alumni of St. Luke's Hospital, New York; Society of Ex-Internes of the German Hospital in Brooklyn.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL

March 25, 1915

1. Popular Fallacies about Insanity.
By Henry R. Stedman.
2. Address of the President before the New England Pædiatric Society, By John Lovett Morse.
3. When Shall We Remove Tonsils and What Type of Operation Shall We Do? By Eugene A. Crockett.
4. Secondary Efforts to Hasten Healing after Mastoidectomy. By H. O. Reik.
5. The Alleged Increase of Nervous Diseases,
By Philip Coombs Knapp.

3. When Shall We Remove Tonsils and What Type of Operation Shall We Do?—Crockett observes that in children one should remove the tonsils in all cases where the child presents large non-adherent tonsils largely filling the cavity of the pharynx because of the obstruction in breathing that such cases present and of their possible influence upon nutrition, and to secure the proper formation of the jaw at the period of second dentition. One should enucleate the tonsil in all cases associated with enlarged glands in the neck, and in all cases of articular rheumatism in which the tonsil is probably an ætiological factor. These operations should be, as a rule, performed in a quiescent period, especially in the case of rheumatism, when the nervous shock and the additional sepsis should both be avoided in the acute stage. The existence of endocarditis in a more or less chronic state need not necessarily be regarded as a contraindication for operation. The tonsils should be thoroughly enucleated in all cases of repeated circumtonsillar abscess. The tonsils should not be removed where they are of moderate size, that is projecting not over a quarter of an inch beyond the anterior and posterior pillars. They should also not be removed under the promise to the parents that their removal will relieve the child of cold in the head or ear trouble. This may seem a self evident proposition, but his experience is that the parent is frequently assured that the operation will relieve both of these troubles, which is a result not to be expected. In adults we occasionally see one or both tonsils very large, almost filling the pharyngeal cavity, with a history of repeated throat trouble in childhood, but with no throat infection for many years. Such a case, and it is a fairly common one, would be anything but benefited by an operation. It should be remembered that the operative shock to the adult is very considerable. There is also the danger of hæmorrhage, which is certainly a more considerable one in adults than in children. There is also the possibility in cases of persons with a well developed musical voice that the voice may be permanently injured or they may have to change the whole musical method to obtain the same good results, so that even although some tonsils are distinctly pathological, he does not advise their removal. With this exception his position is the same, as far as indications go, both for children and adults. He is sure that in doing an adenoid operation a great majority of operators remove all the tonsil tissue in the throat regardless whether it is normal or abnormal in amount at the time the adenoid is removed. This is contrary to good surgical procedure. It adds a great deal to the amount of shock which the patient receives and does not add anything to the success of the operation, although materially increasing the danger. The mere fact that the child is under ether for an adenoid operation should not be considered justification for the removal of tonsils if they are of normal size and the case has no history of their infection. If the case presents a clear history of infectious process such as circumtonsillar abscess, acute articular rheumatism or tuberculous infection of the neck, beyond question the whole tonsil should be enucleated and removed as completely as possible. This should be done by blunt dissection rather than sharp dissection. In an ordinary case of simple hypertrophy devoid of symptoms, the most common type in children, it is not necessary to remove the base of the tonsil, but a perfect result may be obtained by removing enough of the tonsil to bring it down to a normal size so as not to project beyond the pillars. This may be done with a snare or punch or with the tonsillotome, if the operator is skillful in the use of that instrument. We should, however, guard ourselves against future trouble by warning the parents that it is possible for the child to have an acute infection of the nasopharynx without the existence of any demonstrable amount of tonsil tissue, although the child is very much less liable to such infections than before the tonsils were removed. We should also after this type of tonsil operation keep the child quite quiet for several days, and particularly in cases of adults warn the family that there is going to be a very sore throat.

4. Secondary Efforts to Hasten Healing after Mastoidectomy.—Reik observes that mastoid fistulæ do not ordinarily require elaborate plastic operations, with the formation and transposition of skin flaps, but may be closed by repeating what was or should have been done at the time of the original mastoid operation, and primary union will almost surely follow the closure of such wounds. If one fears to attempt primary union after mastoidectomy, or if attempts in that direction are attended by failure, this method of secondary closure offers an alternative or a corrective. The wound may be packed at the time of operation in the ordinary way, and at some later date, when sure that the local infection has been controlled, if not eliminated, and that the patient is satisfactorily convalescing, then one can recleanse and close the wound with every assurance of safety and speedy healing. The advantages to be gained are: The saving of at least a month in the time required for healing; the saving of much discomfort for the patient and trouble for the surgeon; and the substitution of a small linear scar for a rather unsightly one with more or less depression.

March 25, 1915

1. The Nurse and the Public Health,
By Annie W. [illegible]
2. Fibrous Stricture of the Rectum,
By J. [illegible]
3. Hæmorrhagic Disease of the Newborn,
By Robert M. Green and John B. Swift, Jr.
4. Medical Inspection of Schools in Boston,
By [illegible]
5. Simple, Quickly Removable Head Bandage,
By Eben C. Hill.

2. Fibrous Stricture of the Rectum.—Tuttle uses this term to distinguish all other constrictions of the organ from those due to neoplasm, malig-

nant or benign. They have their origin in some previous intrarectal injury, irritation, or ulceration. Muscular spasm may cause temporary stricture. Sometimes a stricture is a congenital deformity. There are circumrectal strictures caused by very fine adhesions or plastic bands in Douglas's cul-de-sac, which are postoperative in women. They may follow improperly done operations for hæmorrhoids, Whitehead's ligature, or excision. Pelvic abscesses may give rise to stricture. Amœbic dysentery is a cause, also syphilis, in which case systemic treatment is of no avail. Gonorrhœa is a very doubtful cause; tuberculosis is a great factor. Strictures are valvular, annular, and tubular. Diagnosis is easy with the finger or pneumatic speculum. Treatment comprises gradual dilatation, partial or complete proctostomy, followed by dilatation, and extirpation of the strictured area. Colostomy is sometimes successful; in long, tubular strictures, patients should be persuaded to permit the formation of an artificial anus.

3. **Hæmorrhagic Disease of the Newborn.**—Green and Swift have studied 51 cases; their observations are carefully tabulated and their conclusions are as follows: 1. The parity and civil status of the mother, the fœtal presentation, the duration of labor and the complications of labor and the puerperium are factors of no significance as predisposing or determining causes of hæmorrhagic disease in the newborn. 2. The seasonal incidence and the occurrence of hospital cases in groups tend strongly to confirm the theory of the infectious ætiology of the disease. 3. The earlier the onset of the disease, the worse its prognosis; after one week, the prognosis becomes relatively, and after ten days, absolutely, good. 4. Clinically, the disease occurs in three fairly distinct types, the umbilical, the seromucous, and the purpuric, which have an approximate respective mortality of 60 per cent., 50 per cent., and 22 per cent. The gross total mortality is about 50 per cent. 5. The treatment should be directed toward local hæmostasis and increase of coagulability of the blood. Gelatin and rabbit serum are agents of proved value. Quiet and isolation are indicated in every case. Blood transfusion is a promising procedure which deserves further trial. The ideal treatment has not yet been demonstrated.

4. **Medical Inspection of Schools.**—Ayer concludes that physician inspectors should be appointed under civil service rules and well paid, they should be permanent, except for grave cause, and politics, a menace to good work in Boston, should play no part in appointments. All medical schools should have a course designed to train school inspectors. Physicians and nurses should be under the same executive head.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

April 1, 1911

1. Chronic Urethritis and Chronic Ureteritis Caused by Tonsillitis, By Guy L. Hunner.
2. Two Cases of Huntington's Chorea with Spinal Fluid Findings, By W. F. Lorenz.
3. Traumatic Psychoses and Posttraumatic Psychopathic States, By Bernard Glueck.
4. Prognosis and End Results of Gastric Ulcer, By George R. Lockwood.
5. Vernal Conjunctivitis and Eosinophile Cells, By Brown Pusey.
6. New Tonsil Dissector, By Joseph B. Greene.
7. Report of Thirteen Cases of Hemiplegia Following Head Injury, By Edmund A. Babler.
8. Hyperplastic Tuberculosis of the Cæcum and Colon, By N. P. Walker.
9. An Obscure Case of Traumatic Subdural Hæmorrhage Without Fracture, By Meyer Solomon.
10. Electric Treatment of Obstruction and Postoperative Paralysis of the Bowel, By William H. Dieffenbach.
11. Bacillus Aerogenes Capsulatus Infections, with Report of Ten Cases, By Walter R. Hewitt.
12. An Improved Apparatus for Estimating the Pressure in the Cerebrospinal System, By Burrill B. Crohn.
13. Aneurysm of the External Plantar Artery, By Cheney M. Stimson and J. Torrence Rugh.

1. **Urethritis and Ureteritis Following Tonsillitis.**—Hunner gives details of eleven cases where urethritis or ureteritis followed amygdalitis in women. One case of inflammatory rheumatism and chronic bladder trouble resisted all treatment till the tonsils were removed, when symptoms ceased. A second had chronic bladder symptoms for over two years, ceasing only with ablation of the tonsils. In one case where there was return of bladder symptoms after amygdalotomy, Hunner suspects a paranasal sinus infection. A fourth case presented bladder symptoms for three years, ceasing immediately after removal of tonsils. There are many cases of ureteral stricture where the usual ætiological factors, tuberculosis, stone, tumors, have been excluded, and these Hunner attributes to probable tonsillar infection; if this is true, dilatation becomes useless until the tonsils are removed.

3. **Traumatic Psychoses.**— Glueck sums up his paper as follows: 1. There is no psychotic entity which can be diagnosticated as a traumatic psychosis without a history of a definite relation of the mental disturbances to a preceding trauma of the head. 2. Contrary to Kreuser's views, even what he terms endogenous psychoses can be brought on by head injuries, as our paranoid and hypomanic cases show. 3. The prognosis is favorable in the cases which show acute mental disturbances, such as acute delirious or confusional states, while in those cases which resemble what Kreuser terms the endogenous psychosis, the prognosis is extremely bad. The hypomanic patient is still insane six years after the injury, while the paranoid patient has shown no appreciable improvement since the occurrence of the accident in 1904. 4. The last one of his series of cases shows that head injuries may have a lasting deleterious effect on the individual; that while a cross section at any particular point may not show any gross pathological findings, yet a study of the entire individual's life will reveal a decay of his finer functions of intellect, which stamps him as a chronic psychic invalid.

7. **Hemiplegia Following Head Injury.**—Babler says this complication is commoner than has been supposed, although only thirteen cases followed out of 614 fractures of the skull admitted to the St. Louis City Hospital during the last five years. It is a serious complication, six of the thirteen patients dying, although the mortality of those

operated upon was only 33⅓ per cent. Ransohoff's mention that the prognosis of fracture of the skull is more favorable in the conscious patients is corroborated by the findings in 600 cases studied. Only two of the hemiplegic patients were conscious at the time of admission, and both recovered. On the contrary, however, the patient with a fracture may be admitted in a conscious condition, and thirty minutes thereafter may become dazed, lapse into unconsciousness, and die within ten minutes. This is especially true of patients who are partially intoxicated. In two of the thirteen cases the fracture and the paralysis were on the same side of the body. Four of the patients presented equal pupils that reacted to light. In four cases the pupils were unequal, but both pupils reacted. It is interesting to note that only two of the patients presented a hæmorrhage from the ear, and both recovered. The development of paralysis following cerebellar laceration is worthy of mention. The treatment of hemiplegia following fracture of the skull is too well known to require comment. Early surgical intervention saves the most lives.

9. **Traumatic Subdural Hæmorrhage Without Fracture.**—Solomon states that the case he reports is of unusual interest because of the following points: 1. The occurrence of a primary injury which caused a simple incised wound of the scalp and probably resulted in nothing more than a momentary stunning. 2. The presence of a "free interval" of unusually long duration (ten days) from the original injury to the onset of the first symptoms of compression. This initial injury and the subsequent "free interval," are, it is to be noted, considered characteristic of extradural bleeding, but have here occurred in subdural hæmorrhage. 3. The absence of any fracture of the skull. 4. The absence, except for dilated, immobile pupil on the side of the hæmorrhage, of any definite focal symptoms which might have given a clue to the location of the hæmorrhage, although as found post mortem, the hæmorrhage was practically localized to the convex surface of the frontal lobe, with extension backward to the region of the occipital lobe. 5. The localization just described. 6. The finding at autopsy of the presence of almost completely fluid blood—which may be accountable for the last mentioned condition. 7. The absence of macroscopic blood in the excessive basal cerebrospinal fluid. Unfortunately a lumbar puncture was not performed, but this, as proved by post mortem findings, would have been free from any blood. The patient was a white man, aged thirty-seven, suffering from the katatonic form of dementia præcox. In a scuffle he struck his head on a wooden settee. There was no fracture. Patient died ten days later and an examination of the brain disclosed, on the right side, over the convex surface of the brain, a flat subdural hæmorrhage. Both the dura and the piaarachnoid were intact, but the piaarachnoid was very much engorged. The bleeding vessels could not be found, but the blood was almost wholly fluid, with some slight, fresh soft clot, and it seemed to be mainly of venous rather than arterial origin. The blood did not extend to the base nor on to the mesial surface, being confined mainly to the convex surface of the frontal lobe, though extending backward in a thin layer, nearly to the occipital lobe. The surface of the frontal lobe, especially about its middle, was considerably depressed. This depression was so marked, that, as a result, the right ventricle was very much flattened, and contained but little cerebrospinal fluid, while there was an excess of fluid at the base, about the origin of the pons. This fluid was perfectly clear and contained no blood. There was no laceration of the brain surface, and, on sectional examination, no intracerebral injury was found.

MEDICAL RECORD

April 1, 1911.

1. Vagaries of the Pneumococcus,
   By [illegible]
2. The High Death Rate from Diphtheria in the United States: The Probable Causes and Means of Reduction, with Report of Cases. By Eben C. Hill.
3. What Is Rheumatism?
   By Herbert C. De V. Cornwell.
4. Arthritis Deformans and Its Relation to Intestinal Putrefaction,
   By [illegible]
5. The Hospital and the Young Physician,
   By [illegible]
6. Source of Error in the Diazo Reaction,
   By Samuel Levinson.
7. A Case of Blood Extravasation into the Sclera from Indirect Violence, By Frederic Griffith.
8. Short Talks with My Students and Others: Being Random Suggestions for the Younger Practitioners,
   By [illegible]

1. **Vagaries of the Pneumococcus.**—Thomson details a personal attack of weariness, temperature of 102° F., headache, a fiery red throat without swelling, general glossitis, paralysis first of the arms, then of the legs; examination of the blood disclosed 24,000 leucocytes with an unusual proportion of multinuclears. Swabbing the throat showed an abundant and pure culture of pneumococcus. The pneumococcus varies its behavior with its locality, producing pneumonia, pleurisy, peritonitis, endocarditis, pericarditis, and arthritis; its degree of virulence varies with the season. It always causes trouble with the heart and is fond of the pericardium. We are hoping for a specific vaccine. Meanwhile, give the victim of pneumococcus plenty of fresh air and let him avoid bodily movement; camphor hypodermically dissolved in olive oil is the best stimulant for heart failure; one quarter to one half grain of morphine is the best thing for the pleuritic pain; a single venesection is admirable treatment when there is rapid congestion of the affected lung, causing acute dilatation of the right ventricle with suffocating dyspnœa. Thomson has found one drug that so changes the course of pneumonia that 70 per cent. of the cases end by lysis instead of crisis, and that drug is creosote carbonate, given in 15 grain doses every two or three hours in a specially prepared emulsion, which is extremely well borne. The formula is gum acacia, four drachms; water, four and one half ounces, mix; then add five drachms and twenty minims of creosote carbonate, mix again and add glycerin, one ounce, and enough peppermint water to make eight ounces. The dose is a tablespoonful every three hours. Thomson gives this mixture also in

...tosis pulmonalis, not to act on the tubercle bacillus, but on the pyogenic organisms which are so disastrously allied with it in the lungs.

2. **Diphtheria in the United States.**—Hill states that the high mortality from this disease in the United States is due to the following factors: 1. Late diagnosis, late or inefficient prophylactic measures, lack of faith in antitoxine, and insufficient dosage in serious cases. 2. Cases diagnosticated early demand from 3,000 to 5,000 units immediately to be followed by a further administration of 5,000 units or more in from four to six hours if there is no improvement. Cases diagnosticated late, or those of a serious laryngeal character, or those showing especially toxic symptoms as indicated in the general condition of the patient and in the quality and rate of the pulse, should receive from 10,000 to 30,000 units immediately, and this dosage should be repeated at intervals of four to six hours until there is a complete subsidence of symptoms. 3. All of those in contact with diphtheria patients, or those suspected of such contact, should be given at once an immunizing dose of 1,000 units of antitoxine. 4. All statistics indicate that there is no danger to the heart, kidneys, or nervous system from very large doses of antitoxine. The danger to the patient lies in using insufficient serum. He injects the serum into the abdomen of children. Meddlesome therapeutics is extremely dangerous. An otitis media demands immediate incision of the tympanic membrane.

3. **What Is Rheumatism?**—Cornwell says the word rheumatism is loosely used to cover gonorrhœal, tuberculous, and other arthritides; it is not primarily a disease of the joints but a coordinate process of a constitutional infection. We are learning that rheumatism is due to some specific germ and not to lactic acid, or to any pyogenic organism not specifically rheumatic, because, however diversified, the course of the disease is too constant and classical in its evolution and too sensitively responsive to the therapeutical test to permit of such an attitude. In speaking of rheumatism we should never employ the term in the description of a symptom, but should limit its application to the conception of an acute, constitutional, self limited infectious process, with a practically incontestable bacterial ætiology, a proneness to find focal expression in the joints (arthritic type), or the endocardium (endocardial type), and to a less extent in other tissues, and a tendency to react specifically and characteristically to medication by the salicylates.

4. **Arthritis Deformans and Intestinal Putrefaction.**—Cornwall says arthritis deformans is not the name of a disease, but of a clinical group, and embraces the following clinical varieties: 1. Cases involving the finger joints chiefly or exclusively, with development of Heberden's nodes. These commonly begin in early middle life. They are usually chronic from the start. 2. Cases showing progressive polyarthritis. These may begin acutely, and partial recovery may take place, but more often the disease becomes chronic or is so from the beginning. Sometimes only a few joints are affected. The progress of the disease is usually arrested, but not before considerable damage has been done. In extreme cases the patient may be completely bedridden and perhaps able to move only the joints of the hand, which are less apt to become locked than the other joints in this variety. 3. Cases involving only one joint, usually the knee, the hip, the shoulder, or the spine. It occurs mostly in the aged. 4. Cases in which there is progressive ankylosis of the spine; in addition, the characteristic lesions may appear in the hip or shoulder. The ribs may become fixed, compelling abdominal respiration. Pressure on nerve trunks may cause pain, paræsthesias, and atrophy of muscles. 5. Cases differentiated as Still's disease. This disease is an acute arthritis occurring in children, in which the inflammation and enlargement of the joints are accompanied by fever, sometimes by chills, often by sweating, by anæmia, and by notable swelling of the lymph glands, and enlargement of the spleen. Among the toxic agents which have been suspected of causing arthritis deformans are the poisons produced by the putrefaction of animal proteids in the intestines. Numerous varieties of the bacteria of putrefaction are regular inhabitants of the human intestine. Flesh proteids ingested supply them a suitable culture medium. In conclusion Cornwall emphasizes: 1. The importance of finding out, in any particular case of arthritis deformans, if chronic putrefaction toxæmia enters into the ætiology. 2. The value of a diet of lactacid milk, cereals, fats, vegetables, and fruits in those cases which are caused or aggravated by chronic putrefaction toxæmia. 3. The importance of "feeding up" in cases with debility and malnutrition, and the harmfulness of burdening feeble patients with an excess of food, especially putrefiable proteids. 4. The value of potassium iodide in some cases and the worthlessness of the salicylates in all cases. 5. The beneficial effects that can be derived from living in a warm, dry climate. 6. The necessity for patience and perseverance in treatment on the part of both invalid and physician.

6. **Error in the Diazo Reaction.**—Levinson says that when a urine shows the diazo reaction it becomes necessary, in order to avoid mistakes, to ascertain whether the reaction is not due to phenolphthalein. As the presence of this drug can be easily demonstrated by the addition of alkalies it is only necessary to test the urine with a few drops of some alkali; a pink or reddish color shows the presence of phenolphthalein. If this reaction is negative we have a true diazo. But in case this reaction is positive (the urine becomes red after the addition of alkalies), we may have phenolphthalein alone, or a true diazo, together with the reaction produced by phenolphthalein. In order to test the urine in such a case of a suspected "mixed" reaction we have to add a few drops of some acid to the test tube in which there is a positive diazo reaction. If the color disappears altogether and appears again only after the addition of enough alkali to render the mixture alkaline, the reaction is due to phenolphthalein alone. If after the addition of acid the color becomes lighter, but does not disappear completely and becomes more intense by addition of enough alkali to render the mixture alkaline, the reaction is due to the substance or substances producing the true diazo reaction and also to the presence of phenolphthalein.

BRITISH MEDICAL JOURNAL

March 18, 1911

An Address on Aphasia, By Robert Saundby.
2. Two Cases of Hereditary Congenital Word Blindness, By James Hinshelwood.
3. An Epidemic of Infantile Paralysis in Bristol, By George Parker.
4. Ætiology of Poliomyelitis, By A. E. Vipond.
5. The Gastric Origin of Angina Pectoris, By H. Walter Verdon.
6. A Note on the Beneficial Effect of the Ingestion of Cane Sugar in Certain Forms of Heart Disease, By A. Goulston.
7. Mechanotherapeutics in the Treatment of Chronic Constipation, By Edgar F. Cyriax.
8. The Treatment of Syphilis by Salvarsan, By Arthur Evans.
9. The Curative Effect of Salvarsan in Framboesia, By Henry Alston.
10. Observations on the Occurrence of Fluid in the Abdominal Cavity in Pregnant Rabbits, By Charles Bolton and A. M. H. Gray.
11. The Histology of Rheumatic Carditis and other Rheumatic Phenomena, By Carey Coombs.
12. The Rat Flea as the Intermediate Host of a Rat Tapeworm, By William Nicoll.

3. Infantile Paralysis in Bristol.—Parker reports thirty-seven cases in what was one of the first epidemics in Great Britain. He does not report cases in which paralysis was absent throughout, and while he has had no complete recoveries, six of the patients are practically well. Two died, a mortality of six per cent. Most of the children had a febrile attack immediately before or after the onset of paralysis; in about a quarter of them, rheumatic pains were recorded; some had pain down the spine; there was facial paralysis in one case; amygdalitis appeared in two cases, pulmonary complications in several, measles in three. On the other hand, several children were suddenly paralyzed while apparently in perfect health; in a few there was a history of a blow. The location of the paralysis includes one or both legs, complete paralysis of both legs and trunk, of left arm, right arm, all four limbs, right side, left shoulder. Recovery from acute symptoms leaves usually a cold limb, but the occurrence of knee jerk varies, as well as that of ankle clonus.

4. Ætiology of Poliomyelitis.—Vipond had a mortality of slightly less than 6 per cent. of some sixty cases under his care during the Montreal epidemic of 1909. He finds a similarity between the disease and typhoid fever: Both occur in the late summer or fall months; both usually become extinct at the onset of cold weather; diarrhœa is common in both; the incubation period is the same in both; both diseases are prevalent in large cities and small towns at the same time where and when the cause of typhoid fever is traceable to the water and milk supply; while, on the other hand, where the supply of water and milk is pure, both of these diseases are less frequent. It is practically the same degree of contagion. The Widal reaction is present in the blood of patients with poliomyelitis, therefore the diseases are probably allied. As typhoid attacks the weakest part of the adult, the intestinal tract, so poliomyelitis attacks the most vulnerable part of the child, the nervous system. Pending the discovery of a specific serum, Vipond advises the use of typhoid serum where the Widal reaction is found.

5. Gastric Origin of Angina Pectoris.—Verdon has relieved many seizures of angina simply by introducing an œsophageal tube and emptying the stomach of much flatus. He believes that 50 per cent. of angina cases are of gastric origin, all of them where upon autopsy, no lesion of the coronary arteries is discoverable. Thrombus and embolism of the coronary arteries, therefore, are the result and not the cause of the anginal seizure; many cases presenting the true paroxysmal characteristics may perchance be made amenable to gastric treatment by surgical methods, palliative or radical.

6. Cane Sugar in Heart Disease.—Goulston avers that dextrose is capable of nourishing the heart muscle in a most wonderful and peculiar manner; he cites cases of dilated heart in advanced age, valvular heart disease, postinfluenzal dilatation, heart strain, failure in tuberculous phthisis, where a régime of cane sugar produced surprising results; he has also had good results in anæmic cases with dilatation and in chloroform heart. Although the sugar is given in massive doses, he has never found any in the urine.

8. Salvarsan in Syphilis.—Evans cites several cases of syphilis in all stages treated with salvarsan. His experience in primary lesions is to see rapid improvement, with complete disappearance of the chancre before the fourteenth day; secondary lesions also disappear rapidly. Nearly all tertiary cases have shown marked improvement, gummatous ulceration of the skin and lesions of the buccal mucous membrane healing in the most satisfactory manner. Cases for months under mercury and iodides without improvement cleared up wonderfully under salvarsan. In primary and secondary cases the intravenous method seems to be preferable, in tertiaries both methods seem to be equally good. Distilled water should be used. Evans has had no untoward results, although there is always a rise of temperature, followed by headache and vomiting, and in some cases rigors and diarrhœa.

LANCET.

March 18, 1911

1. Ankylostoma Infection, By A. L. Boycott.
2. Ancient British Races, By Arthur Keith.
3. "606" and Syphilis, By James McIntosh and Paul Fildes.
4. Observations on the Use of Salvarsan in Syphilis, By T. W. Gibbard and L. W. Harrison.
5. The Diagnosis of Gastric Carcinoma by the Cleavage of Polypeptides, By I. Walker Hall and G. Scott Williamson.
6. The Iodine Method of Sterilizing the Skin, By Philip Turner and H. C. Catto.
7. An Egyptian Holy Man, By G. Elliot Smith.
8. A Case of Strangulated Hernia of the Appendix Vermiformis, By Robert Ollerenshaw.
9. Note on a Case of Nodular Fibromyositis, By Rolleston Knowsley.
10. Operation at Sea on a Case of Strangulated Hernia, By Stanley Bott.

1. Ankylostoma Infection.—Boycott believes that ankylostoma is responsible for as much unhappiness as the malarial organisms and as much mortality. All tropical countries are infected, and where conditions for its propagation are not unfavorable it may reduce four fifths of the population to a state of chronic invalidism. The adult worms live in the small intestine of man and develop from the egg in ten days; reproduction does not occur

outside the body. Infection takes place through the skin as well as by the mouth and alimentary canal, and the latter mode is not so uncommon among civilized people as might be supposed. Nearly all cases, however, give a history of skin infection with an eruption and itching. The time from the first infection of one individual to the establishment of an infection derived from him in a second individual may vary from seven weeks to at least six years. There are two causative organisms, ankylostoma duodenale and ankylostoma (Necator, uncinaria) Americanum, both being restricted to man and the higher apes. Symptoms of infection are local erythema, slight bronchial catarrh, and pains in the abdomen, followed by the characteristic anæmia, which may become very severe, cases with 15 to 30 per cent. hæmoglobin being common in heavily infected places, the anæmia being due to an increase in the amount of plasma. Sometimes there remains, as noticed in Cornwall, a surprising capacity for work. Some observers seem to doubt that the mere absorption of blood by the worms is sufficient explanation of the severe anæmia, and have tried to show the presence of certain hæmolysins in the worms; this is doubtful, for the worms loose their hold on one part of the intestine to seize upon another, and in feeding upon the mucous membrane undoubtedly attack bloodvessels. About one tenth of the normal hæmoglobin is missing, and the amount of iron in the liver remains normal. Some cases, when improving, show some degree of polycythæmia. This is the same phenomenon as is well known in chlorosis, and is due to a rapid concentration of blood containing in all too many red cells of a low color index. A good number of worms acting for some time can cause a marked sclerosis of the intestine and atrophy of the mucous membrane, although it is hard to see what this can have to do with the anæmia.

3. "606" and Syphilis.—McIntosh and Fildes write in answer to the views of Marshall, expressed in the *Lancet* for February 25, 1911, to the effect that: 1. In the present state of our knowledge there is no drug which can replace mercury in the treatment of syphilis. 2. Although arsenobenzol causes rapid healing of certain syphilitic lesions, this effect is not constant and is often only temporary. 3. There is no proof that an abortive cure of syphilis can be realized by this drug. 4. If arsenobenzol is indicated at all in the treatment of syphilis, it is chiefly in those cases which are not influenced by mercury, but such cases are rare. Moreover, some cases resist the action of both drugs. 5. The administration of arsenobenzol is attended with many risks and dangers. 1, they consider a gratuitous statement; as to 2, hardly sufficient time has elapsed to allow of so positive a declaration; as to 3, the writers state that they have seen no lesions, even of the gravest nature, that have failed to yield to 606, except interstitial keratitis, and in three cases where after the syphilitic element had been removed, a second underlying pathological state was found. 4. Rapid healing, so common in 606, is extremely rare under mercury, as references to the literature will show, particularly the studies of Sequeira. Marshall cannot be aware of the large dosage recently advised by Ehrlich, one to four grammes being now considered the average dose, divided into three, given at intervals of two days, and at least one should be given intravenously. Less intense treatment is mere trifling and renders liable to relapse. 5. Of the twenty or more deaths, some were advanced cases of general paresis, six were in infants, others occurred in subjects with advanced cardiac disease or vascular degeneration. Marshall's statement that the intravenous route is dangerous is not borne out by facts. Optic neuritis after the administration of 606 positively does not occur; as to iritis and keratitis, they are due to the syphilis and not to the remedy.

4. Salvarsan in Syphilis.—Gibbard and Harrison conclude from their experiments that salvarsan has a very marked and rapid effect on the clinical manifestations of syphilis; that this effect is due to its action on the parasites and is not simply a cloaking of symptoms, as is shown by the disappearance of treponemata from local lesions and the effect on the Wassermann reactions; it is impossible to say whether this effect consists in the annihilation of the whole or only part of the parasites or simply in suppression of their activity; the risk in using it being so slight, no judgment against it will be justifiable till every method of administration has been worked out.

PRESSE MEDICALE.

January 21, 1911

1. Dwarfs and Cretins. By H. Meige and A. Bauer.
2. Urinary Changes in Some General Paretics. By H. Labbé and A. Gallais.

January 18th.

3. Albumin in the Saliva. By M. Gantz and R. Hertz.

January 25th

4. A Meningeal Form of Actinobacillosis. By P. Ravaut and Pinoy.
5. Anatomical Study of the Thyreoidparathyreoid Structure in Two Cases of Congential Myxœdema. By G. Roussy and J. Clunet.
6. Hepatoptosis. By D. Chilaiditi.
7. A Case of Arterial Grafting. By Auguste Pirard.

1. Dwarfs and Cretins.—Meige and Bauer point out that dwarfs as well as giants have left the realm of anthropology for that of medicine since modern studies of the thyreoid gland and the pituitary body. Besides the three types, however, of rhachitic, myxœdematous, and achondroplastic dwarfs, there are occasionally found what the writers call *total dwarfs*, who are apparently as well proportioned as normal people. The myxœdematous dwarfs only can be made to grow by feeding with thyreoid extract.

2. Urinary Changes in General Paresis.—Labbé and Gallais present a study of 15 female paralytics from the point of view of urinary analysis. They found a feeble output of phosphates, calcium, and nitrogen; urea was normal; the output of ammoniacal salts was about the same as in normal patients, as was the percentage of endogenous purins; the alimentary purins diminished notably just before death; purins eliminated as uric acid were high under the mixed régime, low under vegetarian diet. Albumin and nucleoalbumin were always present, but in small quantity; percentage of mineral substances was small; the elimination of chlo-

rides was full of surprises, but was usually very poor; sugar seemed to be rare. Just before death the relative quantities of all matters excreted altered in a striking manner.

3. **Albumin in the Saliva.**—Gantz and Hertz believe the analysis of the saliva to be as important clinically as that of fæces and urine. Where diagnosis hesitates between a chronic bronchitis and incipient tuberculosis, the presence of albumin decides for the latter; it is also present in cardiac and renal disorders, and in pneumonia before the crisis, although absent afterwards. The writers examined the saliva in 125 patients, obtaining positive results in 60 cases of tuberculosis, 8 of fibrinous pneumonia, 1 of gangrenous lung, 8 of pleurisy, 6 of disease of the cardiac muscle, 9 of valvular trouble, 8 of chronic bronchitis with emphysema, 9 of nephritis, and 20 miscellaneous. Uncomplicated bronchitis never produces albumin in the saliva. The writers used 10 c.c. each of saliva and distilled water and 2 c.c. of acetic acid.

4. **Meningeal Form of Actinobacillosis.**—Ravout and Pinoy detail a case, the first they say to be observed in man, where the patient was under treatment for meningitis; he recovered and the case would have attracted little attention had it not been for the examination of the cerebrospinal fluid, which disclosed coccobacilli, clubshaped and refusing Gram. Actinomycosis being extremely rare in France, but common in the Argentine Republic, an investigation of the young man's history was made with the discovery that he hailed from that part of South America. The writers think all cases of meningitis should be examined for actinomycosis, a delicate procedure. It is interesting that this case was cured after two rhachicenteses: in cattle the disease yields quickly to potassium iodide.

6. **Hepatoptosis.**—Chilaiditi has studied hepatoptosis for four years in the Vienna clinics; he presents the history of three cases. All were marked by the interposition of the large intestine filled with air between the liver and diaphragm, which was apparently the cause of the hepatic displacement. There was extreme mobility demonstrated on change of decubitus and manual pressure. Pain was absent and the patients were unconscious of the displacements.

7. **A Case of Arterial Grafting.**—Pirovano details a case of an aneurysm as large as an ostrich egg in the femoral artery of a man thirty years old. He removed the sac and grafted in a portion of artery from a fresh cadaver. The autopsy proved that the graft had united in its entire length. Death had occurred from peritonitis, the patient being exhausted from delay and mismanagement at the hands of various quacks.

SEMAINE MÉDICALE

January [illegible], 1911

1. "Signe du lacet" in Diseases with Hæmorrhagic Manifestations, By C. Frugoni and F. Guigni.

January [illegible], 1911

2. Indications for and Technique of Biliointestinal Anastomosis, By [illegible]

1. **"Signe du lacet."**—Frugoni and Guigni have found that in patients with any of the hæmorrhagic diseases, if a ligature is applied to the arm, not too tightly, it is easy to excite hæmorrhagic manifestations in the peripheral end of the limb similar to those produced spontaneously elsewhere. To this phenomenon they have given the name of *signe du lacet*. It constitutes not only an excellent prognostic sign, but a precious practical criterion of the more or less complete disappearance of a tendency to hæmorrhagic accidents. The ligature is applied much less tightly than when designed to produce Bier's hyperæmia. The first experiments of the writers were with young women attacked with purpura hæmorrhagica.

WIENER KLINISCHE WOCHENSCHRIFT

March 16, 1911.

1. Investigations Concerning Aseptic [illegible] the Bacteriological Revision of Aseptic Operations, By V. Hecht and Koehler.
2. Further Studies Concerning the Effect of Ferments upon Tuberculin, By Th. Pfeiffer and H. Trunk.
3. Diseases of the Acoustic Nerve in Acquired Syphilis, By Otto Mayer.
4. The Occurrence of Diseases of the Internal Ear in the Early Stages of Syphilis: the Effects of Salvarsan, By Hugo Frey.
5. Clinical Observations Concerning the Parasites of the Muscles and Skin. X Ray Demonstration of Calcified Cysticercus. Remarks Concerning Tape Worm and the Statistics of these Troubles. (*Concluded*), By [illegible]

1. **Asepsis.**—Hecht and Koehler present the following conclusions: 1. Perfect asepsis is to be attained at present only by direct sterilization of everything employed, instruments, sutures and dressings. 2. An ideal asepsis of the hands cannot be obtained; all methods of washing hitherto employed result at best in a diminution of the germs, never in freedom from them. 3. The sterilized rubber glove alone furnishes an aseptic covering of the hand at the beginning of an operation and is the sovereign means of protection against germs from it. 4. The use of a one half per cent. solution of sublimate alcohol upon the surface of the skin in the vicinity of the operation produces temporarily an absolute freedom from germs. Tincture of iodine does not kill the germs, but simply tans the skin. 5. Harmful infection from the air cannot be proved generally. The demand for a separation of the operating room from the other rooms appears to be justified bacteriologically.

3. **Diseases of the Auditory Nerve in Acquired Syphilis.**—Mayer concludes from the examination of 65 cases that the disease of the auditory nerve may appear three weeks after the primary lesion, but most frequently during the first six months, although twenty-five or thirty years may intervene. The disease of the auditory nerve starts usually with subjective noises associated, in half the cases, with dizziness. These symptoms probably may appear before the exanthem, in which case they form a portion of the prodromal symptoms of syphilis. In the later stages of secondary syphilis the aural affection is always coincident with a relapse and is to be considered as one of its symptoms. The disturbance of hearing is almost always gradual and reaches different degrees. It is usually bilateral and may cause deafness either on one side or on both. It happens rarely that the hearing on one side is normal and on the other very bad. The tuning fork test demonstrates in these cases the presence of an affection of the nerve and the ab-

sence of an affection of the middle ear. In a great many cases, about half, vestibular symptoms were observed in addition to the loss of hearing, which showed themselves usually in the form of slight attacks of dizziness, sometimes of severe attacks accompanied by vomiting and disturbances of equilibrium. An isolated disease of the vestibularis was not observed. Mayer thinks that in at least some of the cases of disease of the auditory nerve which promptly followed the injection of 606 the remedy must be held responsible and that these should be differentiated from the others.

4. Diseases of the Internal Ear in Syphilis.—Frey presents a paper on the same lines as the preceding. He cites a large number of cases from literature, going back as far as Roosa's case in 1876, in which grave auditory symptoms appeared within a few months of the outbreak of syphilis. These cases he thinks form an argument which leaves the question open whether 606 is productive of harm to the ear in cases of recent syphilis.

REVUE DE MÉDECINE

March, 1911

1. Uric Acid Excretion and Alimentation, By Labbé and Furet
2. Nystagmus Myoclonic, By Lenoble and Aubenas

1. Uric Acid Excretion and Alimentation.—Labbé and Furet find that uric acid excretion in the invalid is quite different from that of the healthy subject: there is still a relation between the ingestion of nucleoalbumin and purin excretion, but it is irregular and distant. The effect of meat feeding varies; in two diabetic cases it was negative; in a case of obesity purin excretion diminished under meat. In disease there is a tendency to purin retention, and uric acid accumulates in the organism; if nucleoalbumin is diminished, the purin excretion increases. A strict lactovegetarian régime not only prevents uric acid formation, but rids the system of previous accumulations; it has not only a hygienic value but a therapeutical action. The writers regret their small experience with the gouty, whose uric metabolism is typically faulty. Obesity is not a direct cause of uric retention, but the eliminatory organs of the obese do not usually work well. There is no need to call in heredity in considering the uric acid diathesis; everybody is predisposed who overeats of food rich in nucleoalbumins and may become a subject of stone, gout, or lithæmia.

REVUE DE CHIRURGIE

March, 1911.

1. Treatment of Papillomata of the Larynx in the Child, By Broca and Roland
2. Ligature of the Inferior Vena Cava, By Béjan and Cohn
3. Mixed Tumors of the Thyroid, By Chavannaz and Nadal
4. Treatment of Biliary Perforations of the Peritonæum during Lithiasis, By Cotte and Arnaud

1. Papillomata of the Larynx in the Child.—Broca and Roland state that treatment of these growths is very unsatisfactory; the best that can be accomplished is: 1. Where there is dyspnœa, no matter what the age of the child, tracheotomy; there is some hope of subsequent atrophy; 2, extraction with the aid of the mirror is the best procedure at four years and older. The series of operations may extend over months, even years; 3, when extraction is impossible, thyreotomy, or, better, thyreostomy should be performed; success by this method is rare, but not as rare as has been stated; 4, after these various procedures, intubation may be impossible, which will necessitate a laryngostomy.

2. Ligature of the Inferior Vena Cava.—Béjan and Cohn state that if the ligature is performed below the opening of the renal veins, perfect health may result; if the ligature is made at the level of the renal veins, including one of them, toleration occurs, circulation being established through anastomoses; ligature immediately above the renal veins and including, usually, the left, is also compatible with life and even with excellent health; in the writers' experience, every ligature made above the right suprarenal has been followed by a fatal result.

SOUTHERN CALIFORNIA PRACTITIONER.

March, 1911.

1. The Effects of Chronic Cholecystitis on the Heart, By Robert H. Babcock
2. Acute Diffuse Œdema of the Lungs, By C. E. Yount
3. Phthisiophobia, By Isaac W. Brewer
4. A Psychological Study, By Hamilton Forline
5. Cardiospasm, By Clarence Moore

1. Chronic Cholecystitis and the Heart.—Babcock draws attention to the extreme frequency of gallbladder disease in persons over forty years old, producing symptoms which they attribute to indigestion; when Reidel's lobe is found together with a very moderate leucocytosis, diagnosis is sure; the effects of gallbladder disease are generally very pronounced on the heart and circulatory system and may produce myocardial breakdown. Whenever heart symptoms are marked, the liver should be examined and if gallstones are found, an operation is imperative.

MILITARY SURGEON.

April, 1911.

1. The Training of Sanitary Troops, By Paul F. Straub
2. Efforts, Accomplishments, and Aim of the Ohio National Guard, By Joseph A. Hall
3. The "Inactive" Medical Reserve Corps, By Henry C. Moe
4. The Medical Department at Sea, By A. M. D. McCormick
5. Duties of the Supervising Surgeon of a Naval Hospital, By Edward M. Shipp
6. Diagnosis and Treatment of Asiatic Cholera, By Allan J. McLaughlin
7. Contagious and Infectious Diseases, By Arthur N. Collins
8. Mental Diseases in the Military Service, By L. L. Smith
9. Tropical Diseases in the Philippine Islands, By W. P. Chamberlain, H. D. Bloombergh, and T. B. Vedder
10. Surgical Clinics in Chicago, By Powell C. Fauntleroy

6. Asiatic Cholera.—McLaughlin treats collapse with salt solution intravenously, the revivifying effects being startling. The uræmia is met along classical lines. Diagnosis is certain only by bacteriological examination; the fine spirilla of normal or diarrhœal fæces may cause confusion, and differentiation is possible only through agglutination and other biological tests.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

1. The Therapeutics of Digitalis and Its Allies,
2. Personal Experiences with the Use of Salvarsan in the Treatment of Syphilis,
3. The Physiology of the Pituitary Gland and the Actions of Its Extracts, By Carl J. Wiggers.
4. Stiff and Painful Shoulders, with Loss of Power in the Upper Extremity, By T. Turner Thomas.
5. The Interrelation of the Organs of Internal Secretion, By R. G. Hoskins.
6. The Sudden Onset of Paralysis in Pott's Disease without Deformity of the Vertebræ. By Williams B. Cadwalader.
7. The Pathological Findings in the Parathyreoids in a Case of Infantile Tetany, By B. S. Oppenheimer.
8. Sarcoma of the Vagina, By Joseph McFarland.
9. Prognosis of Tuberculous Lesions Involving the Whole of or More Than One Lobe, By Joseph Walsh.

3. The Pituitary Gland.—Wiggers recapitulates the ideas developed in his paper, as follows: 1. Developmentally and histologically, the pituitary gland is composed of an anterior or epithelial portion and posterior or neuroglial portion. 2. The anterior lobe evidently elaborates a secretion that is necessary to life and to normal metabolism and development. 3. This substance has so far resisted extraction by various solvents, hence its chemical nature and physiological properties remain unknown. 4. The posterior lobe, which is not of vital importance, contains or secretes a substance that may be extracted by water, glycerin, or salt solution, and resists boiling, but it has not been demonstrated that it is identical with the secretion of the anterior lobe or that it represents its vital principle. 5. These extracts constrict the peripheral vessels (probably by a direct muscular action), thus producing a marked rise of arterial blood pressure. This constriction is not equally pronounced in all organs, for the renal vessels are, at least passively, dilated during its action. 6. These extracts are generally stated to slow and strengthen the heart, but myographic tracings of the intact and perfused heart indicate a depressing influence to be the most constant and characteristic one, an increase in the amplitude being only exceptionally the case. The slowing, as well as depression, are largely attributable to a direct cardiac action, but the former may be augmented by a vagus effect. 7. Pituitary extract resembles adrenalin in its action only in that it causes a rise in blood pressure. The manner in which they affect the heart and bloodvessels, as well as the effects induced, are entirely different. 8. In addition to its cardiovascular actions, pituitary extract augments the secretion of urine and inhibits the flow of pancreatic juice, but it has not been definitely determined whether these varied reactions are due to separate substances, to a specific affinity of a single substance for different cells, or whether they are secondary to changes in the circulation.

9. Prognosis of Tuberculous Lesions.—Walsh briefly summarizes his conclusions as follows: 1. Lesions involving the whole of one lobe of the left lung usually give better results than lesions of the same size in the right lung. One reason for this appears to be that the large lesion on the left more frequently represents the secondary development in a somewhat resistant case. 2. Lesions involving an amount of lung tissue the size of the left upper lobe give a better prognosis when the opposite side shows a chronic healed lesion.

Proceedings of Societies

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

The President, Dr. Reynold Webb Wilcox, in the Chair.

Election of Officers.—Dr. Thomas Darlington was elected chairman for the Borough of Manhattan and Dr. Ross McPherson a member of the Council.

A Portable Photomicrographic Camera.—Dr. Robert Lincoln Watkins demonstrated a remarkably ingenious apparatus, in compact form, for photographing any microscopic object. It contained a microscope, camera, box, and both an arc and an incandescent lamp, and Dr. Watkins stated that its planning and construction had occupied him for many years. The object to be photographed, he said, could be viewed either in the usual way, through the microscope alone, or it could be viewed on a mirror, with both eyes open, without looking through the microscope. The rheostat, which necessarily accompanied the apparatus, weighed only a few ounces, and unless this were the case the simplicity, practicability, and compactness which characterized the apparatus would have been impossible.

Notes on the Surgery of the Prostate Gland.—The first paper of the evening, with this title, was read by Dr. Kingman B. Page. In it he advocated the suprapubic operation, and urged that operation should not be undertaken simply on account of enlargement of the prostate, but in consequence of the presence of symptoms of obstruction.

Dr. Victor C. Pedersen agreed with Dr. Page that operation should be resorted to for obstruction, rather than for anatomical enlargement of the prostate. There were two broad types of cases requiring operative interference: Those with, and those without, severe cystitis. In the latter a one stage operation was usually desirable, while in the former drainage was required for the relief of the cystitis, the congestion of the prostate, and the frequent depression of the kidneys, and the two stage operation was the proper procedure. Personally, he was in favor of the suprapubic operation, especially on account of the good functional result which could as a rule be obtained by means of it. The preliminary preparation of the patient was of great importance. By a more or less prolonged office treatment the patient was rendered in good condition, while without such a preparatory course of manipulation the most serious or even fatal results might attend the performance of the operation.

Dr. J. Herman Branth spoke of the treatment of enlarged prostate by electricity. While he had not had much experience with this method, in a number of instances he had succeeded, by the employment of high frequency currents, in affording

such relief that the patient was enabled to do away with the use of the catheter. He presented the glass tube by means of which the current was applied.

Dr. A. Ernest Gallant said that, like most others at the present time, he preferred the suprapubic operation. He agreed with the previous speakers that the conservative plan of treatment was the wisest. It was obstruction that called for operation. He then narrated a case in which, after removing two lobes of the prostate, he found there was still obstruction, and the cause of this proved to be two prostatic calculi at the entrance of the urethra which shut off the bladder.

What is Rheumatism?—In this paper Dr. Herbert C. de V. Cornwell said that the term rheumatism was a most loose one and supremely unsatisfactory. It was used indiscriminately, now to describe a symptom and again the actual disease, as well as to cover our ignorance of some unknown conditions; likewise to qualify diseases having nothing in common with rheumatism except a similarity of symptoms. He thought it would be also more in keeping with our idea of the real nature of the affection to speak of rheumatic arthritis, rather than articular rheumatism, in the same manner that we spoke of rheumatic endocarditis. We had been accustomed to look upon the disease as primarily an affection of the joints, whereas it bore all the ear marks of a constitutional infection. Thus, the onset was acute and febrile, and the course a definite one, as a rule, and self limited, while the attack was characterized by a general intoxication with local manifestations in the tonsils, joints, and muscles, in the endocardium, pericardium, and, less frequently, other serous tissues. Most men to-day were inclined to the idea that it was caused by a specific germ, and, indeed, there was fairly good scientific support for the application of the germ theory.

Excellent observers had identified a diplococcus, to which the name *Diplococcus rheumaticus* had been given, and they had isolated this infective agent from practically all the tissues subject to clinical evidence of the disease, including the tonsils, and, in the case of chorea, from the cerebrospinal fluid. Having referred to the important relationship between chorea minor and rheumatism, the speaker said that the germ had been grown on broth cultures and had been injected into a large number of rabbits, with the production of all the essential symptoms of rheumatism, including arthritis, endocarditis, and even chorea. It was hardly probable that the infection was a mixed one or an expression of a mild pyæmia caused by any one of several varieties of pyogenic organisms, as had been held by many; for in experiments on rabbits with pyogenous germs, by these same observers, the results on the whole were so different from those obtained with the supposed specific organism that few were now inclined to doubt the ætiological influence of the *Diplococcus rheumaticus*. A further argument in favor of this diplococcus was the production from it of a vaccine which, by comparison with other organisms in the treatment of the disease, showed a percentage of cures far too high to be ascribed to natural causes.

As to the channel of invasion, the existence of amygdalitis before and during systemic attacks in from twenty to twenty-five per cent. of the cases was a strong argument as a focus of primary infection, but whether all cases of rheumatism arose by way of the tonsils, or whether there was another as yet undiscovered avenue of entrance, was still a matter of active debate. The close association of tonsils and rheumatism was indicated by the fact that persons subject to repeated attacks of the disease were more apt to be free after removal of the tonsils, while those with normal tonsils were less subject to attacks than those in whom the latter were soft, congested, and spongy. Moreover, histologically the tonsils were lymphatic glands, and the disease found its favorite expression in serous and synovial membranes, and in the lymphatics of muscles. While the endocardium might not be a lymph space histologically, it was his belief that lymph spaces within the musculature of the heart were in close relation with its lining membrane. This observation rather tempted one to regard rheumatism as a disease of the lymphatics, and if one did, it would simplify our understanding of its distribution very materially. Still, the matter of localization brought up the issue as to why certain joints or tissues were more frequently invaded than others, and this we must for the present relegate to the unanswered problems of the disease.

While in adults the arthritic phenomena were more common and striking, with a diminution of heart disturbances directly proportionate to the age of the patient, there could be no question that children were more susceptible to rheumatic infection than was generally supposed. In them the onset of the disease frequently escaped recognition, yet the focal symptoms appearing later might be as severe and lasting as if the febrile attack had been profound and prolonged. As to the production of the chorea, between which and rheumatism a close relationship had long been observed, the diplococci were supposed to produce the expression of minor chorea by causing a mild leptomeningitis.

The germ theory had been and was still denied by not a few authorities whose opinions could not be lightly passed over; some of them indicating with great force the influence of diet in predisposing to or even bringing on attacks, as well as in the treatment. We could not doubt the relationship of nutrition to rheumatism, and, he believed, could explain it in no other way than by the assumption that the diplococcus found its most favorable soil under conditions which were brought about by a definite nutritional state. On the other hand, if there were no bacteriological evidence whatsoever of the nature of the affection we could with practical certainty ascribe to it a bacteriological origin on the basis of analogy. Having traced out this analogy between rheumatism and other specific diseases, Dr. Cornwell said, in conclusion, that he thought, therefore, that in speaking of rheumatism we should never employ the term in the description of a symptom, but should limit its application to the conception of an acute, constitutional, self limited infectious process, with a practically incontestible bacterial ætiology, a proneness to find focal expression in the joints (arthritic type), or the endocardium (endocardial type), and to a less ex-

tent in other tissues, and with a tendency to react specifically and characteristically to medication by the salicylates.

Dr. FRANK H. DANIELS said he agreed with the reader of the paper that the word rheumatism, as commonly employed, was a most vague term, including a vast number of conditions which had little in common. Most of these could be assigned to their true causes, and thus, by a process of elimination, we might finally get down to something which was really scientific. Rheumatism was almost always preceded by some acute attack, and it had been pointed out that this might be influenza, pneumonia, scarlet fever, typhoid fever, or an infected wound. We seemed justified in considering the enlarged and painful joints met with in rheumatism as symptoms of an infection, but whether we could confine the term rheumatism to one form of infection due to a specific diplococcus was as yet an open question. To his mind it did not seem altogether justifiable thus to limit the disease. He thought it would be preferable to give up the name rheumatism altogether. The difficulty in many instances was to discover where the infection came from. Even now this whole question was in a very unsettled state. The conclusion at which he had arrived was that rheumatism, so called, always depended upon an infection, and it behooved us to try to find out what the infection was. As to the treatment, it was a fact that the results obtained fifty years ago by Flint, with his palliative methods, were just as good as those of Osler to-day, with the most modern treatment. The cases in which the salicylates were successful were those resembling gout, in which there was a chemical, rather than a bacterial, ætiology.

Arthritis Deformans, and its Relation to Intestinal Putrefaction.—Dr. EDWARD E. CORNWALL said that arthritis deformans was not the name of a disease, but of a clinical group which included cases of deforming inflammation of the joints whose specific cause was unknown. As soon as we learned the cause of any case in this group we stopped calling it arthritis deformans, and classed it with the disease to which it belonged by ætiology. The clinical varieties of arthritis deformans generally recognized were the following: 1. Cases involving the finger joints chiefly or exclusively, with development of Heberdens' nodes. 2. Cases showing progressive polyarthritis. 3. Cases involving only one joint, occurring mostly in the aged. 4. Cases with progressive ankylosis of the spine. 5. Cases differentiated as Still's disease, an acute arthritis occurring in children.

Pancet, of Lyons, had recently stated that all joint conditions, and especially those hitherto called rheumatic, which could not be associated with a specific pathological cause, were really tuberculous. He did not maintain that the joints were directly infected by the tubercle bacillus, but that they were irritated by an attenuated tuberculous virus, derived from some tuberculous focus in the body, circulating in the blood. The opinion that was perhaps most widely held at the present time, however, regarding the cases classed as arthritis deformans, was that they were caused by specific infections, by the absorbed products of specific infections, or by putrefactive processes. To the speaker it seemed more reasonable to believe that these arthritides were due to several causes, rather than to a single specific cause. Among the toxic agents which had been suspected of causing arthritis deformans were the poisons produced by the putrefaction of animal proteids, and in this connection, and regarding the general treatment, he emphasized the following points: 1. The importance of finding out, in any particular case, if chronic putrefaction toxæmia was a constant factor. 2. The value of a diet of lactacid milk, cereals, fruit, and vegetables in cases caused or aggravated by putrefaction toxæmia. 3. The importance of properly "feeding up" debilitated patients, and also the injuriousness of overloading the alimentary canal of a feeble subject with an excessive amount of food, particularly proteid. 4. The value of potassium iodide in some cases and the worse than worthlessness of the salicylates in all cases. 5. The beneficial effects that might be derived from residence in a warm, dry climate. 6. The necessity of patience and perseverance in treatment on the part of both invalid and physician.

In speaking of putrefaction poisoning as a possible cause of arthritis deformans, Dr. Cornwall called attention to the relation of the putrefaction of flesh products in the intestines to disease in general. In the course of his remarks on this point he said there was little doubt that chronic putrefaction toxæmia could produce, or strongly assist in producing, Bright's disease, arteriosclerosis, cirrhosis of the liver, obstinate headaches, epileptoid attacks, functional disorders of the heart and vasomotor system, irregular fevers, and neurasthenia. It could also aggravate the symptoms observed in the so called lithæmic condition. In all these conditions marked benefit was usually derived from treatment which diminished putrefaction toxæmia; and cases of arthritis deformans had been reported which improved very markedly under treatment of this character. He then narrated in detail a case of his own, in a woman seventy-seven years old, in which such benefit had been observed.

The Surgical Treatment of Arthritis Deformans.—This paper, by Dr. FRED H. ALBEE, was confined to the consideration of arthritis deformans and similar conditions of the hip. In his first report of the operation he devised, which was published in June, 1908, five cases were given. Twenty-one operations had now been done by him, and sixteen other surgeons had reported one or more operations successfully performed. Sufficient opportunity had therefore been afforded, he said, to report final results with certainty. Three years and nine months had elapsed since the first case was operated in, and of his own twenty-one cases, seventeen were instances of arthritis deformans. He described the technique of the procedure in detail. Approximately one half the upper hemisphere of the head of the femur was removed with a large chisel, through a plane as nearly parallel as possible with the long axis of the femoral neck. The portion removed was split, *in situ*, into segments, from one half to two thirds of an inch thick, by means of a small osteotome, and these fragments were removed with a curette or clamp. The upper part of the acetabulum was transformed by means

of a chisel and strong curette into a flat surface, against which the flat surface of the head was finally approximated by abduction of the thigh. After the removal of the upper portion of the head the femur was strongly rotated outward, and all the cartilage which could be reached on the anterior aspect of the remaining portion was removed with a chisel, after which the cartilage on the contiguous surface of the acetabulum was destroyed as far as possible, in the endeavor to get an ankylosis in two planes at right angles to each other. To prevent a recurrence of the adduction deformity after operation, tenotomies of the adductor muscles and tendons were done, and both thighs were encased in double plaster of Paris spicas, reinforced with steel, (extending on the operated side to the toes and on the other to the knee), with both limbs in abduction.

The speaker expressed the opinion that the field of this operation should be extended to include all conditions which, if they existed at the knee joint, would be rightly treated by excision, and, furthermore, that the hip was much better adapted to this kind of treatment than the knee. The Albee operation, as shown by the cases treated, had the following advantages: 1. It brought large bony surfaces into close approximation, and held them there by the correction of the deformity, thus assuring bony ankylosis and eliminating a painful joint and a recurrence of the deformity. 2. It produced a minimum amount of bony shortening, which was compensated for, as well as that already existing, by the fixed abduction of the limb. 3. A dislocation or displacement of the femur was extremely unlikely, even from weight bearing, immediately after operation. Therefore, aged patients could be got out of bed very early, if necessary. 4. It involved very little cutting of soft tissues, and did not require the dislocation of the head from its socket, and thus produced very little postoperative shock, even in old people.

Dr. Henry Ling Taylor said that the pain experienced in these cases was due to the rubbing together of the bony surfaces, and the object of treatment was to prevent motion. Of course, it was not every case that was to be operated in, as some cases were of a mild type and could be rendered comfortable by palliative treatment. But in some instances the suffering was so severe as to make work impossible, and here heroic measures were called for. We could prevent motion either by operation or by the employment of a splint, but very few adult patients were willing to put up with the inconvenience of wearing a hip splint indefinitely. Personally, he had performed the operation in question three times, with the assistance of Dr. Albee. It was a fairly difficult and somewhat tedious procedure, and it would be wise to do the first operation on the cadaver. Excision of the head of the femur had been performed for the relief of this condition, but as a rule it had not proved satisfactory, and he considered Albee's operation the best that had as yet been devised.

Tendon Transplantation.—This paper, by Dr. Reginald H. Sayre, will be published in the *Journal*.

Dr. T. Halsted Myers said it had been argued by some that extensors could not be made to perform the function of flexors, but this had been disproved by the successful results of many operations. In operating, the use of the Esmarch band had been found to be of great assistance. Personally, he had employed the bichloride silk, covered with paraffin, and had never had any untoward results from the procedure.

Dr. Russell A. Hibbs said that when tendon transplanting first came into notice all the surgeons were very enthusiastic over it. He was free to confess, however, that in many cases which he had followed up for four, five, or six years there had not been very much gain. Disappointment in the results obtained had led to arthrodesis, and this seemed to him a decidedly preferable procedure. In the matter of transplantation the question should always be considered, Do we gain enough to sacrifice the good muscles? In operations on the upper extremities, as for infantile paralysis, he had not observed that the results were sufficiently satisfactory to justify transplantation, and therefore he had never resorted to it in these parts.

Dr. Cornwell, in closing, said that it was undoubtedly the case, as Dr. Daniels had stated, that other infections often preceded the symptoms of rheumatism. The point which he desired to bring out was that there was a specific form of acute infectious disease, characterized more particularly than any other by certain manifestations, and this he would designate as rheumatic fever. The term rheumatism he thought should be abolished.

Dr. Cornwall, in closing, said that if the word rheumatism were used at all it should be only in connection with rheumatic fever, as to the distinctive and specific character of which he entirely agreed with Dr. Cornwell. It should be limited to this particular disease.

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of January 4, 1911.

The President, Dr. George E. deSchweinitz, in the Chair.

Dioxydiamidoarsenobenzol as a Therapeutic Remedy in Lues was the title of the paper read by Dr. Judson Daland. He stated that a study of this treatment seemed to show that we had in it a remedy with a definite and very distinct influence upon syphilitic processes, primary, secondary, tertiary, and congenital. There was evidence also that the influence varied in different cases. In cases in which the disease was not definitely localized the intravenous method of treatment gave the best results. Relapses had occurred in from five to fifteen per cent.

Therapeutic Results from the Use of Dioxydiamidoarsenobenzol in Lues.—This paper was prepared by Dr. Jay F. Schamberg and Dr. Nate Ginsburg. Dr. Schamberg gave a brief summary of nineteen cases of syphilis treated with arsenobenzol, eight subcutaneously and eleven intravenously. Of the patients with secondary syphilis treated subcutaneously, one was freed of eruptive manifestations by two injections. In one the eruption had disappeared, but the disease was obviously

not cured. In two cases the treatment failed, possibly as a result of an inadequate dose. In one patient the ulcerating syphilide of lip was cured. One case of tabes was not improved. In one case of cerebral syphilis the result was indeterminable. In one case of spinal syphilis the improvement had been rapid.

Of the intravenous injections, one case of paresis was not improved; one case of paresis was improved; one case of tabes was reported by the physician as improved; one patient with secondaries was free of recurrence at the end of sixty days, while in one case of secondaries there was suspicion of recurrence after forty days. One patient with semimalignant late secondaries was free of symptoms when last seen. Three cases of late secondaries with mouth lesions were healed. One gummatous ulcer of leg and one case with initial lesion were healed.

In his experience the intravenous injections had produced a prompter response to treatment and had exerted a more permanent beneficial effect than the subcutaneous route. Ehrlich's latest advice was to inject intravenously and follow this in some days by a subcutaneous injection.

Intravenous injections were usually painless, but were followed, as a rule, by nausea, vomiting, and by brief moderate fever. In the two cases in which alarming symptoms followed the injection, they felt strongly that the result was due to faulty technique. The subcutaneous injections given by them were in the scapular region. In three patients there was severe pain; in three, moderate; and in three, little or no pain. An infiltrative tumefaction, tender to touch, slowly subsiding in the course of several weeks, developed in practically all of the cases.

They recognized the fact that the results obtained in these cases with arsenobenzol could, in large part, have been achieved more slowly with mercury. It must be remembered, however, that the successful treatment of syphilis consisted in more than the mere effacement of cutaneous and mucous membrane manifestations.

Ehrlich and others had proved that arsenobenzol had a greater spirillicidal value than any known remedy. As to the duration of effect no one was in a position to speak dogmatically at the present day. Ehrlich's hope of a *therapcia sterilisans magna*, a cure at one stroke, was certainly not realized, save possibly in exceptional instances, but those who were disappointed in this must not conclude that a great therapeutic advance had not been made.

Dr. Frank Crozer Knowles remarked that practically all of the articles first written on the subject of "606" were a unit in the praise of Professor Ehrlich's preparation. The tide was now turning somewhat. There were several insurmountable difficulties in the use of salvarsan, except in selected cases, unless the technique could be simplified and the dangers lessened. First, the use of the drug should be preceded by not only careful examination of the organs and vascular system, but also of the inner structure of the eyes. Second, the preparation of the drug for injection required, if the Wechselmann method was used, approximately one hour; if the simpler technique of Lesser was employed, about one half hour. Third, it was almost essential that patients treated by this drug should be kept in bed for several days to prevent either serious discomfort or complications. Moreover, the remedy was not infallible as was at first thought. While salvarsan was an important aid in our treatment of syphilis, it would not, in his opinion, displace mercury in the cure of this disease.

Dr. H. M. Christian's experience with "606" had been limited to about seven cases because of the inability to obtain the drug freely. The first case was one of tertiary syphilis with a necrotic gummatous ulcer at the ankle of about two years' standing. The man was injected in the gluteal region about six weeks ago. The ulcer healed within ten days and the man gained in weight from fifteen to eighteen pounds. He had been taking mercury and potassium for over a year. The next case was one of chancre which had resisted all ordinary methods. One dose of "606" was given. The temperature ran to 103° F., even 104° F. for two nights, and then dropped to normal. In a week the ulcer was entirely healed. He had had five cases at the Philadelphia Hospital, where through the courtesy of Dr. Flexner they had been furnished with some of the drug. One patient with acute roseola with sclerosis of a chancre was not much affected. In a case of papulosquamous eruption, in which an injection was given very lately, the eruption had almost entirely scaled off after four days. In all these cases the Wassermann reaction was positive.

Dr. S. Solis Cohen observed that a single case did not amount to much, but there was a peculiar psychic effect of "606," which might be noted concerning a patient whom Dr. De Schweinitz had examined for him at Blockley before the remedy was administered to determine whether or not there were any eye lesions. The patient, a colored man, much emaciated, was admitted on account of enlarged liver. There was a perforation of the palate extending through the bone, as well as the mucous membrane and a gumma in the neighborhood of the sternoclavicular articulation, which was giving considerable pain. Through the courtesy of Dr. Coplin and Dr. Funk 0.8 gramme of the neutral solution was given by injection into the muscles of the back. The pain of the gumma, which had been excruciating, disappeared within a couple of days, and all other external evidence of disease disappeared. The Wassermann reaction, however, had remained continuously positive for some twelve weeks. The man felt well; his appetite had been good, and he had gained in weight. A curious fact was that daily and careful examinations of the urine had failed to reveal arsenic in the urine. The fæces, unfortunately, had not been examined.

Dr. F. X. Dercum asked for a more definite expression by the readers of the papers as to dose and method of administration. Possibly some of the differences in results might be explained by differences in dose and methods.

Dr. Daland said that because of a large number of relapses reported in Berlin it had been decided definitely that the method of administration should be changed from the intramuscular to the intravenous. The intravenous dose for a male adult should be not less than 0.5 gramme. More than one gramme had been given intravenously without

ill effect. It was well to follow the advice of Professor Ehrlich, that the alkaline solution should be employed in all intramuscular injections. The point that Dr. Cohen had made regarding the urine being arsenic free, he could not explain. Most of the reports showed that arsenic remained in the urine for from ten days to two weeks or longer, and had been found in the fæcal discharges for about the same length of time. When given intravenously the arsenic was supposed to disappear from the urine in about four days, but recent observation at the Rockefeller Hospital showed that it persisted much longer.

Dr. SCHAMBERG in closing remarked that regarding the value of this particular remedy opinion must depend largely upon the point of view. Those who were led to expect a cure at one stroke doubtless experienced a feeling of disappointment. Those, however, who recognized that we had introduced into our therapeutic armamentarium a drug of marvellous immediate value could not but feel that a great advance had been made. Doubtless many cases of syphilis would require a repetition of treatment by this drug. At the present time arsenobenzol had its chief indication in those cases which resisted mercury and iodide. It was perhaps fortunate that there was a halt in the exuberant enthusiasm excited by Ehrlich's announcement, for this might retard injudicious haste in the use of the drug by unqualified persons and in conditions in which it should not be employed. At the present time, given a robust individual with early syphilis who desired this treatment, it seemed to him that we were perfectly justified in using it.

Angeioneurotic Manifestations in and around Joints in Crises of Vasomotor Ataxia.—This paper was read by Dr. S. SOLIS COHEN.

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Manual of Physical Diagnosis. By Dr. F. X. GOURAUD, Formerly Chief of the Laboratory of the Medical Faculty of Paris. With a Preface by Prof. ARMAND GAUTIER, of Paris. Only Authorized Translation into the English Language by FRANCIS J. REBMAN. With a Glossary Containing Definitions of the Principal Technical Terms, and an Index of Diseases Referred to in the Text. New York: Rebman Company, 1911. Pp. xvi-379.

A dear friend of our *Journal*, now deceased, reviewed the original French book by Gouraud in our issue of June 25, 1910, page 1360, and said there: "The little volume before us is characterized by simplicity of style, excellence of arrangement, and thorough scientific discussion of the subject embraced by the title. . . . We do not hesitate to recommend the work to those seeking light on the subject."

We are very glad to see an English edition of the book. The translator, Mr. Francis J. Rebman, is known to our readers as the English translator of Krafft-Ebing's *Psychopathia sexualis*. As then, so in this book, the translation is well done; and while it is mainly written for laymen, the physician will, for himself as well as for his patients, find in these pages a great source of information.

A Manual of Physical Diagnosis. By BREFNEY ROLPH O'REILLY, M. D., C. M., Demonstrator in Clinical Medicine and in Pathology, University of Toronto, etc. With Six Plates and Forty-nine Other Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xxi-369. (Price, $2.)

As anatomy and physiology are the foundations upon which the whole structure of medicine is based, so is the knowledge of diagnosis the basis of therapeutics. The author has succeeded in epitomizing the various physical methods employed in the diagnosis, and the book is therefore of special value for the student, but the practitioner will also derive many practical hints from the condensed knowledge set forth in it.

Municipal Chemistry. A Series of Thirty Lectures by Experts on the Application of the Principles of Chemistry to the City, Delivered at the College of the City of New York, 1910. Edited by CHARLES BASKERVILLE, Ph. D., F. C. S., Professor of Chemistry and Director of the Laboratory, College of the City of New York. New York and London: McGraw-Hill Book Company, 1911. Pp. ix-526. (Price, $5.)

Professor Baskerville has collected the lectures on municipal chemistry which were delivered under the auspices of the Board of Trustees of the College of the City of New York during the spring of 1910. The lectures themselves were open to the general public, but laboratory work, in addition, was provided for senior students of chemistry only, who had elected the course. In looking over the lectures it will be seen that they have been well selected, and the lecturers themselves were authorities on the subjects which they treated. We thus find men from New York, Troy, N. Y., Washington, D. C., and Lowell, Mass. Space prevents our going into detail, but we earnestly recommend to every physician the perusal of this collection of lectures.

Outlines of Psychiatry. By WILLIAM A. WHITE, M. D., Superintendent of the Government Hospital for the Insane, Washington, D. C., Professor of Nervous and Mental Diseases, Georgetown University, Washington, D. C., etc. Third Edition, Revised and Enlarged. Nervous and Mental Disease Monograph Series No. 1. New York: The Journal of Nervous and Mental Disease Publishing Company, 1911. Pp. viii-272. (Price, $2.50.)

The text of this edition has been increased some thirty-eight pages over that of the first edition, the author having added to the discussion of heredity as a causative factor in Chapter IV, and to the description of psychotherapeutics and psychoanalysis in Chapter V, and in Chapter VI having referred to the symptom of approximate answers and the complex. Chapter VII has been improved, and gives an excellent scheme of principles and methods of examination. Reference is made to the delirium of interpretation and delirium of revindication in the chapter on paranoia. A section of juvenile general paresis is included in the chapter on that disease. There is reference to the psychoses of pellagra and to the compulsion and anxiety neuroses, though the author does not commit himself to Freud's theories. The volume is up to date and an excellent guide for the student and practitioner.

Modern Therapeutics. The Methods of Treatment with Medicinal and Nonmedicinal Remedies. In Contributions by American and Foreign Authorities. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia. Assisted by H. R. M. LANDIS, M.D., Director of the Clinical Department of the Phipps Institute (University of Pennsylvania). In Two Volumes. Volume II. Illustrated. Philadelphia and New York: Lea & Febiger, 1911. Pp. vii-900. (Price, $6.)

The second volume of this work includes a section on the treatment of diseases due to parasitic infection, which comprises a chapter by Dr. C. F. Craig on malarial infection, trypanosomiasis and kala-azar, uncinariasis, and helminthiasis; a chapter on syphilis, by Dr. W. S. Gottheil, whose caution in regard to the ultimate value of salvarsan must commend itself to all who realize that time alone can prove the therapeutic value of that drug; and a chapter on the dysenteries, by Dr. T. L. Rhoads, whose recommendation of timely resort to appendicostomy should be followed generally.

The second section, on the treatment of diseases of the circulatory system, has a chapter on diseases of the heart, by Dr. James Mackenzie, and one on diseases of the blood and blood making organs, by Dr. J. C. Da Costa.

The third section, on the treatment of diseases of the digestive system and allied organs, comprises a chapter on diseases of the mouth, stomach, and intestines, by Dr. Joseph Sailer, and one on diseases of the liver, gallbladder, and pancreas, by Dr. H. C. Moffitt.

The fourth section, on the treatment of diseases of the respiratory system, includes a chapter on diseases of the nasal chambers, pharynx, and larynx, by Dr. G. Fetterolf, and one on asthma, bronchitis, and whooping cough, by Dr. A. Newlin.

In the fifth section, on the treatment of diseases of nutrition and diathetic diseases, is a chapter on diabetes, scorbutus, and obesity, by Dr. E. P. Joslin, also one on diseases of the thyreoid and thymus glands, by Dr. S. P. Beebe.

The sixth section, on the treatment of diseases of the nervous system, has chapters on insanity, apoplexy, sleep disorders, hysteria, neurasthenia, and diseases of the spinal cord and nerves, by Dr. D. J. McCarthy; one on occupation neuroses and poisonings in the arts and by foods, by Dr. J. H. Lloyd; one on pellagra, by Dr. H. F. Harris; one on epilepsy, tetanus, and chorea, by Dr. N. T. Shanahan; and one on drug habits, by Dr. F. X. Dercum.

The treatment of diseases of the genitourinary apparatus has a chapter on nephritis, albuminuria, chyluria, lithuria, oxaluria, and phosphaturia, by Dr. James Tyson, and a chapter on diseases of the uterus and pelvic organs, by Dr. B. M. Anspach.

Dr. Howard Fox is the author of a chapter on the treatment of diseases of the skin; Dr. J. Thorington of one on ocular therapeutics, normal and abnormal refraction, presbyopia, and the principles involved in fitting glasses; and Dr. S. MacSmith of one on the treatment of diseases of the ear and tympanic membrane.

The methods of treatment are quite up to date, and the work is a practical and useful volume for reference.

Experimentelle Therapie. Vorlesungen für Studierende und Aerzte. Von Dr. HANS H. MEYER, Wien, und Dr. R. GOTTLIEB, Heidelberg, Professoren der Pharmakologie. Mit 61 Textillustrationen und 1 Farbigen Tafel. Berlin und Wien: Urban & Schwarzenberg, 1910. Pp. xvi-483.

As a work on pharmacology in the broader sense of the term this volume surpasses any that has come from the German press in recent years. The descriptions of drugs and their actions on the human economy are instructive to an unusual degree, the theories of drug action being elaborated to an extent not hitherto deemed possible. Among the more important divisions of the book attention may be called to the monograph on digitalis and its congeners. A vast amount of experimental work has been done with drugs of the digitalis series which are characterized by their action on the heart, and the authors give a most comprehensive summary of this work in the chapter devoted to the pharmacology of the heart. This we cannot help regarding as the most important chapter in the book, worthy of a most careful study.

The book is more than a work on experimental pharmacology, and it will be found a valuable reference book, both for students and practising physicians, on the nature and actions of drugs, whether of natural or synthetic origin. The closing chapter, on antitoxine, deals with such timely topics as immunity, antigens and antibodies, hæmolysins, agglutinins, precipitins, and cytotoxines.

Actualités médicochirurgicales. Conférences faites en mai et en juin 1909 par MM. P. BONNIER, BORREL, P. DELBERT A. DESJARDINS, H. DOMINICI, DIEULAFOY, C. DUCROQUET, E. FOURNIER, H. HUCHARD, M. LETULLE, LÉOPOLD-LÉVI, C.-L. MAILLARD, A. PÉCHIN, S. POZZI, F. RAYMOND, A. ROBIN, P. SEGOND et THOINOT, Recueillies et publiées par le Dr. H. DE ROTHSCHILD. Avec 226 figures et 16 planches dont 3 coloriées. Paris: O. Doin et fils, 1911. Pp. ix-537.

It is well known that a member of the Rothschild family belongs to the medical profession. Dr. Henri de Rothschild received his medical degree in 1898 from the Paris faculty and since then has made pædiatrics his specialty. Supported by his financial resources he has been able to found a children's polyclinic, which existed first as an addition to the Rothschild Hospital and was later transferred to the Montmartre district. This building has been open to the public since the first of January, 1903. Assisted by a staff of very able physicians, Dr. Rothschild has made the pædiatric polyclinic of Paris a great success. The institution publishes, every two months, a journal which was founded in 1902. Lectures were instituted in 1903 and a regular course of them was given in the months of May and June, 1909, by the leading authorities of France; these Dr. Rothschild has collected. The book is well illustrated and the typography is faultless. Among the lecturers we find such men as Dieulafoy, Desjardins, Dominici, Huchard, Bonnier, Pozzi, Raymond, Fournier, Lévi, Péchin, Letulle, Borrel, Robin, Thoinot, Ducroquet, Maillard, Delbet, and Segond. Professor S. Pozzi's article will be of special interest to us, as his subject is Hospitals and Surgeons in the United States. Among the illustrations of this article we find the French and German Hospitals of New York, St. Mary's Hospital of Rochester, Minn., a view of a

lecture delivered to nurses, a cut of Ephraim McDonald, and a reproduction of some newspaper clippings. The author is well acquainted with the subject. Dr. de Rothschild, it may interest our readers to know, is also the author of several books on his travels, *Notes scandinaves, Notes afriques*, etc., and has edited unpublished letters of Jean Jacques Rousseau: *Lettres inédites de Jean Jacques Rousseau.*

The Prophylaxis and Treatment of Internal Diseases. Designed for the Use of Practitioners and of Advanced Students of Medicine. By F. Forchheimer, M. D., Professor of Medicine, Medical College of Ohio, Department of Medicine of the University of Cincinnati, etc. Second Edition. New York and London: D. Appleton & Co., 1910. Pp. xxvi-712. (Price, $5.)

The progress of medicine has been so great lately that medical books quickly become antiquated. The first edition of Forchheimer's book was published only four years ago, was reprinted the following year, and appears now as a second edition with many alterations. The book before us contains many new chapters, including those on dysentery, Rocky Mountain fever, splenomegaly, tuberculous meningitis, diseases of the pancreas, etc. A very good addition is the list of prescriptions. Some chapters have been entirely rewritten, and thus we really have an entirely new book before us. The book has become so well known since its first publication that it is hardly necessary for us to claim for it our readers' special attention.

MEDICO-LITERARY NOTES

The *Brooklyn Eagle*, in its issue of March 25th, expressed a hope that the Bayne antivivisection bill would eventually become a law in spite of the efforts of Dr. Robert P. Bush, of Horseheads, Chemung County, head of the Committee of Health, whom it calls a Bourbon in medicine. On March 26th it spoke approvingly of the antityphoid vaccination of the troops along the Mexican border. Bills like that of Senator Bayne will put a complete stop to the production of typhoid serums and the like and set back the clock a half century. The *Eagle* likes also the Travis bill, "requiring a report of all deaths following an administration of any form of toxine or vaccine within six months." This, it thinks, will supply a line of statistics that have been too long in the dark. Physicians will appreciate the graceful innuendo.

* * *

Current Literature for April gives a page to the discussion in England as to whether radium can cure cancer, and the strong affirmative statements of Dr. Louis Wickham to the effect that radium destroys malignant cells and at the same time stimulates the healthy surrounding tissue. Considerable space is also given to extracts from English newspapers on The Plague Panic, the plague having been found in rats in East Anglia some months ago. A citation from the *Contemporary Review* seems to show that Ernest Häckel and the Archbishop of York are ready to meet on the ground of a common pantheism. *Current Literature* calls Bernard Shaw's The Doctor's Dilemma, a play we have discussed editorially, "a diabolically clever attack on the practitioners of medicine."

The Twenty-First Reason is a story by Charles Belmont Davis in the April *Scribner's* that tells cruelly of a honeymoon ruined by a motor car accident and the thousand dollar fee of the attending surgeon, in consequence of which the bride's parents had to give up a trip to Europe planned since twenty-five years. There is a selection of newly found letters by R. L. Stevenson, edited by Sidney Colvin, some of which describe his trip to the Riviera after his well remembered breakdown in health of which he once spoke in his essay Ordered South.

In the March *Editorial Review*, Dr. Louis Livingston Seaman, formerly major and surgeon, United States Volunteers, asks Should the Panama Canal be Fortified? and answers in the affirmative, deploring the weakness of human nature, which renders war inevitable, as instanced in the "Vivisection of the Sick Man of the East" by the Powers. The canal cannot be protected by a fleet at either end, as has been proposed, for men cannot be kept in the tropics on board of steel ships. Dr. Seaman avers that our army medical corps is still based, as during the Spanish war, on the deplorable theory of cure instead of prevention.

A small but excellent handbook on dietetics speaks of "cheyenne" pepper. Once upon a time Cheyenne was certainly a warm town, the souvenir of which may have caused this *lapsus calami*.

NEW PUBLICATIONS.

Lavers, Lewis C., and Kenwood, Henry R.—Hygiene and Public Health. Fourth Edition, with Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xi-691. (Price, $3.50.)

Bailey, L. H.—Manual of Gardening. A Practical Guide to the Making of Home Grounds and the Growing of Flowers, Fruits, and Vegetables, for Home Use. Second Edition. New York: The Macmillan Company, 1911. Pp. xvi-541. (Price, $2.)

Kellas, A. M.—A Manual of Practical Inorganic Chemistry. Including Preparations and Qualitative and Quantitative Analysis with the Rudiments of Gas Analysis. Specially Adapted to Cover Preliminary and Intermediate University Courses and the First Three Stages of the Syllabus of the Board of Education. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1910. Pp. viii-347. (Price, $1.35.)

Doty, Alvah H.—Prevention of Infectious Diseases. New York and London: D. Appleton & Co., 1911. Pp. 281. (Price, $2.50.)

Pusey, William Allen.—The Principles and Practice of Dermatology. Designed for Students and Practitioners. With Five Plates, One in Color, and Three Hundred and Eighty-four Text Illustrations. Second Edition. New York and London: D. Appleton & Co., 1911. Pp. xiv-1079. (Price, $6.)

Lapage, C. Paget.—Feeblemindedness in Children of School Age. With an Appendix on Treatment and Training by Mary Dendy, M. A. New York: Longmans, Green, & Co., 1911. Pp. viii-359.

Thirty-fifth Annual Report of the New York State Reformatory at Elmira, and the Tenth Annual Report of the Eastern New York Reformatory at Napanoch. For the Fiscal Year Ending September 30, 1910. Pp. 88.

Goepp, R. Max.—State Board Questions and Answers. Second Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 715. (Price, $4.)

Miscellany.

A Psychological Factor in Vision.—More or less [illegible] accounts have from time to time been given of the powers of vision possessed by savage races, says the *Scientific American*. During a British anthropological expedition to Torres Straits the visual faculty of the natives was carefully tested, and from these tests the conclusion was reached that the excellence of vision shown by the savages has a psychological origin; that is to say, it arises from knowing what to look for. When the civilized man acquires familiarity with the environment he can see as far as they can. Thus the power of an Indian to tell the sex of a deer at such a distance that distinguishing features like antlers were invisible was found to rest upon his knowledge of the peculiar gait of the male deer.

The Causes of General Paresis.—There once was a time, in ethical controversies, when a ship's captain was held morally blameless, according to the *Southern California Practitioner* for March, 1911, even if his ship struck some rocky isle, provided he was sailing by the chart. It is a safe contention to-day, in maritime affairs, that any chart is a better navigator's guide than no chart. Changing the conditions to fit the medical profession, doctors must have theories in which they believe, as a basis for therapeutic action, and any good working theory is far better than no theory, even though it may later be proved untenable through the discovery of some noncharted medical facts. For many years alcohol and syphilis have been considered the great causes of general paralysis of the insane. Alcohol so unmistakably causes some forms of hardening of tissues that it has been assumed that it must be a cause of cerebral changes in general paresis, and perhaps it is. Ever since Fournier's time syphilis has had to stand sponsor for all manner of inexplicable degenerative changes in the central nervous system, and since the invention of the term "parasyphilitic diseases," cytological diagnosis, and the Wassermann test, the weight of these burdens has increased. These considerations are suggested by a somewhat recent report by Rudin of his observations among the native tribes of Algeria. Among some of these tribes he found from 60 to 70 per cent. of syphilis in all forms, and among the same people general paresis is practically nonexistant. On the other hand, in Japan the percentage of general paresis and syphilis is very high and that of alcoholism low. These alleged facts go far to prove the correctness of Rudin's contention that general paresis is the result of the wear and tear of modern civilization acting upon nervous systems hereditarily weak, and that alcoholism and syphilis are only incidental factors. The causal relation of hereditary influences to the pathological changes in the muscular dystrophies and Friedreich's disease is so well established that great support may be drawn from these facts for Rudin's interesting observation. This report will not, of course, change the minds or the treatment of all psychiatrists, and many a poor general paretic will still get vigorous antiluetic treatment, and there may be much to justify the course. And meanwhile it will produce a state of mind in both doctor and patient unsurpassed by even that of the devotees of Christian Science or the Emmanuel movement. Incidentally this report of Rudin will prove of very great value in directing attention to the necessity of rational methods in the education and bringing up of children, and of living generally. It is in such directions as this that doctors can exercise their great function of preventing disease.

Official News.

Public Health and Marine Hospital Service Health Reports:

The [illegible] general of the United States Public Health and Marine Hospital Service [illegible]

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Tripoli—Hani		Sept. 20-Dec. 8	
Tripoli—Tripoli		Sept. 20-Dec. 8	
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

Ports	Date	Cases	Deaths
[illegible]	[illegible]	[illegible]	0
[illegible]	[illegible]	[illegible]	3
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Straits Settlements—Singapore	Jan. 29-Feb. 4	5	1
[illegible]	[illegible]	[illegible]	[illegible]

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the United States Public Health and Marine Hospital Service for the seven days ending March 29, 1911:

GUNNAN, A. H., Assistant Surgeon General. Granted three days' leave of absence from March 23, 1911.

KEARNEY, R. A., Assistant Surgeon. Directed to proceed to Astoria, Oregon, and report to the Commanding Officer of the Revenue Cutter *Manning* for duty.

MACCAFFRY, W. B., Acting Assistant Surgeon. Granted five days' leave of absence from March 24, 1911.

MCLAUGHLIN, A. J., Passed Assistant Surgeon. Directed to proceed to various places on the south shore of Lake Erie on special temporary duty.

PARCHER, GEORGE, Assistant Surgeon. Directed to proceed to Ellis Island, N. Y., and report to the Chief Medical Officer for duty.

PETTYJOHN, JOSEPH, Passed Assistant Surgeon. Granted two months' leave of absence from March 23, 1911, on account of sickness.

STILES, C. W., Professor of Zoology. Directed to proceed to Wilmington, N. C., on special temporary duty.

STIMPSON, W. G., Surgeon. Granted seven days' leave of absence from March 25, 1911, under paragraph 189, Service Regulations.

STIMSON, A. M., Passed Assistant Surgeon. Directed to proceed to Philadelphia, Pa., on special temporary duty.

WARREN, B. S., Passed Assistant Surgeon. Granted fifteen days' leave of absence from March 24, 1911, on account of sickness.

Appointments.

Dr. George Parcher commissioned (recess) an assistant surgeon in the Public Health and Marine Hospital Service.

Dr. Louis Schwartz commissioned (recess) an assistant surgeon in the Public Health and Marine Hospital Service.

Boards Convened.

Boards of medical officers convened to meet on April 3, 1911, for the physical examination of candidates for appointment as Cadet-Engineer in the Revenue Cutter Service.

Stapleton, N. Y., detail amended as follows: Passed Assistant Surgeon W. A. Korn, chairman; Passed Assistant Surgeon E. A. Sweet, recorder.

Milwaukee, Wis. Order convening board revoked.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending April 1, 1911:

BLANCHARD, R. M., Captain, Medical Corps. Left Fort Sheridan, Illinois, to inspect the Medical and Hospital Corps of the Organized Militia of the States of Ohio, Indiana, Illinois, Michigan, and Wisconsin.

BUNDESEN, H. N., Lieutenant, Medical Reserve Corps. Resignation accepted by the President, to take effect March 30, 1911.

DAVIDSON, WILSON T., Captain, Medical Corps. Relieved from further duty at Columbus Barracks, Ohio, and ordered to Fort McIntosh, Texas, for duty.

DAVIS, WILLIAM R., Captain, Medical Corps. Ordered to proceed from Fort Porter, N. Y., to Cleveland, Ohio, on official business pertaining to the Medical Department of the Army.

HARMON, DANIEL W., Lieutenant, Medical Corps. Granted two months' leave of absence to take effect upon arrival in the United States.

HETERICK, ROBERT H., Lieutenant, Medical Reserve Corps. Relieved from duty at the Army Medical School and ordered to Fort Brady, Michigan, for duty.

NEWTON, R. W., Lieutenant, Medical Reserve Corps. Ordered to proceed to San Antonio, Texas, and report to the commanding General, Department of Texas, for temporary duty.

SKELTON, ROBERT, Lieutenant, Medical Reserve Corps. Ordered to proceed to Fort Jay, N. Y., for duty.

TUTTLE, GEORGE B., Lieutenant, Medical Reserve Corps. Ordered to Fort Miley, California, for temporary duty.

WHITMORE, E. R., Major, Medical Corps. Upon expiration of his present leave of absence ordered to Fort Barrancas, Florida, for duty.

WILLIAMSON, L. P., Lieutenant, Medical Corps. Ordered with Co. I, Signal Corps, from Nogales, Arizona, to Hachita, New Mexico, for station.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending April 1, 1911:

MICHAELS, R. H., Acting Assistant Surgeon. Ordered to the Marine Recruiting Station, Chicago, Ill.

Births, Marriages, and Deaths.

Married

COMBE—FORDTRAN.—In San Antonio, Texas, on Tuesday, March 21st, Dr. Frederick J. Combe and Mrs. Carrie Moore Fordtran.

Died

ABBOTT.—In Hamburg, New York, on Monday, March 27th, Dr. George Abbott, aged eighty-four years.

BETTS.—In Red Bank, New Jersey, on Friday, March 24th, Dr. Joseph H. Betts, aged seventy-four years.

BRAININ.—In New York, on Friday, March 31st, Dr. Simon M. Brainin, aged fifty-six years.

BUCK.—On board the steamship *Köln* of the North German Lloyd line, on Wednesday, March 29th, Dr. Carl Buck.

CRAIG.—In Rock Island, Illinois, on Sunday, March 12th, Dr. George G. Craig, aged sixty-five years.

CUSHING.—In Cleveland, Ohio, on Thursday, March 23d, Dr. Edward Fitch Cushing, aged forty-eight years.

DIAMOND.—In Syracuse, New York, on Monday, March 27th, Dr. Russell J. Diamond, aged fifty-eight years.

ESREY.—In Philadelphia, on Friday, March 24th, Dr. Lewis K. Esrey, aged sixty-eight years.

GARDNER.—In New York, on Friday, March 31st, Dr. Charles F. Gardner, aged thirty-nine years.

HARDING.—In Wicomico Church, Virginia, on Friday, March 24th, Dr. Hiram W. Harding, aged seventy-two years.

HARE.—In Detroit, Michigan, on Thursday, March 23d, Dr. William John Hare, aged fifty-two years.

HASTINGS.—In Seattle, Washington, on Saturday, March 18th, Dr. William C. Hastings, aged fifty-eight years.

HOEN.—In Baltimore, Maryland, on Wednesday, March 29th, Dr. Adolph G. Hoen, aged sixty-one years.

KARSNER.—In Chesapeake City, Maryland, on Sunday, March 26th, Dr. William C. Karsner, aged eighty years.

LEIDICH.—In Harrisburg, Pennsylvania, on Friday, March 24th, Dr. Katharine B. Leidich.

LEWIS.—In New York, on Friday, March 31st, Dr. Charles H. Lewis, aged about fifty-four years.

LOWRY.—In Euniel, Texas, on Saturday, March 18th, Dr. J. O. Lowry, aged thirty-five years.

MASSEY.—In Chicago, Illinois, on Monday, March 20th, Dr. Columbus V. Massey, aged sixty-two years.

MILLER.—In Lebanon, Pennsylvania, on Sunday, March 26th, Dr. Charles L. Miller, aged fifty-six years.

RISQUE.—At Paynes Depot, Kentucky, on Friday, March 24th, Dr. W. T. Risque, aged about eighty years.

SPANGLER.—In York, Pennsylvania, on Tuesday, March 21st, Dr. Jacob R. Spangler, aged sixty years.

SPRECKELMEYER.—In St. Louis, Missouri, on Tuesday, March 21st, Dr. Gustave A. Spreckelmeyer, aged fifty-four years.

STEWART.—In Toronto, Canada, on Saturday, March 18th, Dr. Charles M. Stewart, aged thirty-eight years.

TOZIER.—In Batavia, New York, on Thursday, March 23d, Dr. Lemuel L. Tozier, aged seventy-two years.

VAN DEUSEN.—In Brooklyn, on Tuesday, March 28th, Dr. John W. Van Deusen, aged forty-nine years.

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Original Communications.

A BRIEF CONSIDERATION OF THE CAUSES AND TREATMENT OF RECTAL CONSTIPATION AND OBSTIPATION.*

BY SAMUEL GOODWIN GANT, M. D., LL. D.,
New York,

Professor of Diseases of the Rectum and Anus, New York Post-graduate Medical School and Hospital.

In considering this subject I will not discuss the ordinary anorectal ailments which occasionally induce constipation because their treatment has already been outlined elsewhere (*New York Medical Journal*, November 5, 1910, and March 25, 1911), nor will I touch upon the types of obstipation consequent upon strictures and benign and malignant tumors so frequently encountered in this region. Neither do I wish to consider abdominal obstipation wherein the fæcal current is interfered with or interrupted by angulations, adhesions, foreign bodies, colonic ptosis, invagination, twists, pressure of tumors or organs upon the gut, enterospasm, or other obstructing lesions which are of sufficient gravity to cause irregular and infrequent movements, because this part of the subject has received full consideration in my work on constipation.[1]

I do, however, desire to call your attention to the following types of constipation which are not generally recognized although they are fairly common and easily corrected: 1. Hypertrophied O'Beirne's sphincter. 2. Hypertrophied rectal (Houston's) valves. 3. Hypertrophied levatores ani muscles. 4. Hypertrophied sphincter muscle. 5. Coccygeal deviation. 6. Foreign bodies. 7. Atonic rectal constipation.

1. *Hypertrophied O'Beirne's Sphincter:* Constipation frequently arises from irritation and thickening of this band of muscular fibres, which is located at the rectosigmoidal juncture. When this condition is present the regularity of the stools is interrupted and the fæces accumulate in the sigmoid flexure, because they are prevented from reaching the rectum, owing to the frequent and persistent contraction of the sphincter as soon as the stimulus reaches it.

When the irritability of the muscle is due to ulceration or catarrhal inflammation, much can be done by the application of hot fomentations to the lower abdomen to soothe the bowel, and the daily injection of hot oil containing bismuth, or a solution of ichthyol, hydrastis, krameria, and soda, potassium permanganate, or boric acid, to reduce the inflammation and heal the ulcers.

When enterospasm is of frequent occurrence, it can be effectively controlled by the administration of small doses of belladonna alone or in combination with opium. In cases of obstipation induced by hypertrophy of O'Beirne's sphincter to such an extent that the bowel is considerably occluded, its divulsion is indicated. It can be easily and quickly dilated by introducing a large proctoscope up to the obstructed point and then passing a Wales bougie of proper size through it. Divulsion can also be satisfactorily accomplished by tamponing with a rubber bag distended with air or water left *in situ* as long as may be required.

The sphincter should be intelligently dilated daily or two or three times weekly, according to the exigencies of the case, but careless stretching with bougies and mechanical dilators is to be avoided owing to the danger of rupturing the gut and causing peritonitis.

When the treatment outlined fails, surgical intervention is imperative, and the obstruction should be relieved by colostomy, resection of the sphincter, or by making an anastomosis between the sigmoid above and the rectum below.

2. *Hypertrophied rectal (Houston's) valves:* (Fig. 1.) The rectal valves may become hypertrophied as the result of chronic colitis, ulceration, and other affections of the lower bowel, and when they are rigid may project into the lumen of the gut and prevent the fæces from reaching the anal outlet; under such circumstances, lumps of fæcal matter can often be seen or felt resting on the upper or concave surface of the valves.

Some writers state that the obstinate constipation occasionally induced in this way can be corrected by rectal bougie or massage of the valves. I have tried this plan of treatment many times, but have never known it to relieve constipation when used alone.

When the valves are markedly thickened and rigid, nothing short of division will effect a cure. Martin first suggested valvotomy and devised a method of performing the operation wherein he exposed the valves by means of the proctoscope, divided them with a bistoury, and closed the wound with catgut, using a long handled needle, or permitted the cut to heal by granulation. The Martin operation is unsatisfactory because it takes considerable time, is accompanied by profuse bleeding difficult to control, there is danger of infection, the patient complains bitterly of gas pains induced by blocking of the rectum with tampons, it has been

followed by peritonitis, and confines the patient to his bed for several days.

In order to overcome the disadvantages of Martin's operation, Pennington devised a clip, which divides the valves by pressure necrosis. This instrument has not given entire satisfaction in the writer's hands, because it does not sever the valves deeply enough, and further, because it is difficult or impossible to remove and replace once it has been improperly adjusted.

Shortly after the advent of the Pennington clip I devised a clamp with which the valves can be satisfactorily divided, and also applicator forceps, by means of which it can be easily and quickly applied. (Fig. 2.)

The technique of the writer's valvotomy is as follows: A clamp is placed in the applicator and its jaws opened by locking the handles of the instrument and the forceps laid aside. The patient is then placed in the knee chest posture, the rectum is inflated, and the valve exposed by means of an operating proctoscope and reflected light. The instrument is then picked up and the clamp is pushed well down over the centre of the valve and released by unlocking the handles of the forceps applicator. (Fig. 3.)

The entire procedure requires but a moment and rarely causes pain or discomfort. In order to prevent pain from the air which has entered the bowel during the inflation, the patient is placed upon the left side and told to strain, while the proctoscope is being removed in order to permit it to escape. I have performed more than one hundred valvotomies in this way, and the results have been very satisfactory. The principal advantages of the clamp operation are: It can be performed in the office, requires but a moment, causes but little if any pain or bleeding, there is no danger of infection, it does not interfere with the occupation of the patient, and effectively divides the valve, which drops downward, and no longer interferes with the movement.

Lynch has devised a cautery apparatus for dividing the valves but I have had no personal experience with it, but have treated one case of rectal carcinoma at the point where a valve had been divided in this way, and the patient thought the growth was referable to the valvotomy performed some months previously. Hirschmann has suggested division of the valves with a rubber ligature, and has invented a carrier for the purpose. I have tried this method on several occasions, but have discarded it for the reason that it is cumbersome, causes considerable pain when the ligature carrier is pushed through the valve, and has no advantage over the clamp which is voided in the fæces when it sloughs off.

In some instances valvotomy is followed by an immediate cure, but in the majority of cases I have found it advisable to regulate the diet or institute a postoperative course of massage, electric or vibratory treatment to stimulate and strengthen the rectum and colon, which are often atonic.

Increased frequency of the evacuations immediately following this operation may be partly attributable to stretching of the sphincter by the large proctoscope and partly to the ulcerated wound left, which serves to excite more frequent and effective peristalsis. I have never known a stricture to follow division of the valve in this way.

Valvotomy is a very useful procedure, but the necessity for it does not arise nearly so frequently as the writings of some authorities would indicate.

3. *Hypertrophied levatores ani muscles:* I have treated several patients who suffered from this type of constipation. When these muscles become irritable or hypertrophied they clamp the rectum laterally, and partially or completely block the passage. Many times they can be felt as thick, rigid bands at the sides of the rectum, about two inches above the anus; but in others they become irritable and spasmodically contract upon introduction of the finger. Under such circumstances, when hardened fæcal masses reach the lower rectum, they excite the levatores ani to shorten and I have known these muscles to remain rigidly contracted for a considerable time, and induce obstipation and the most excruciating pain in the sacrococcygeal region.

When this type of constipation is temporary and is induced by irritability of the muscle, applications of heat at the anus and inside the rectum do much to soothe and cause it to relax, but when ineffective, a suppository, containing belladonna or opium, often affords relief, but when these remedies fail and the muscle is markedly hypertrophied, surgical intervention is indicated.

Elsewhere[2] I have reported six cases of obstinate constipation induced by hypertrophied levatores ani muscles cured by operation. In three the coccygeal attachments of the muscles were severed under local anæsthesia by *subcutaneous tenotomy,* in two others the coccyx was reached through a two inch posterior median incision, and the muscular attachment completely severed from its bony attachment, after which the wound was closed by interrupted sutures of catgut. The sixth case was not relieved by detaching the muscle from the bone, and it became necessary later to amputate the coccyx and perform myotomy to destroy muscular activity about the rectum. The steps in the latter procedure are about the same as the first steps in perineal excision.

Since the publication of the series I have successfully treated several other similar cases by myotomy.

Hypertrophied sphincter muscle: Owing to the frequency of disease at the anal outlet the external sphincter is excited to frequent contractions, in consequence of which it often becomes irritable or hypertrophied and interferes with or prevents satisfactory defæcation. Regulation of the diet, cathartics to soften the stools, heat, and soothing lotions, and ointments which diminish anal soreness help to overcome the constipated state when the muscle spasmodically contracts upon the approach of the stool; but when the external sphincter is greatly hypertrophied or has undergone fibrous degeneration, and offers constant obstruction to fæcal passage, palliatives should be discarded for surgical measures to quickly put the muscle at rest and enlarge the anus. This type of mechanical constipation can always be improved and usually cured by divulsing or dividing the sphincter.

Divulsion may be accomplished gradually by the

[2] [illegible] Diseases of the Rectum and Anus, third edition, p. 102.

aid of anal dilators and bougies, or quickly (forcibly) by thoroughly stretching the sphincter with the thumbs or index fingers (Fig. 4). Forcible divulsion can be performed under either local or general anæsthesia. There is no objection to producing a temporary paralysis of the muscle by stretching,

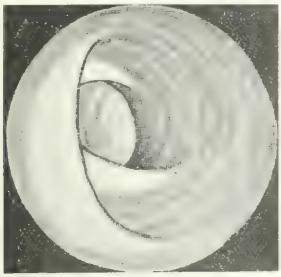


Fig. 1.—Showing the [illegible] opening into the [illegible] rectal inflation.

but in so doing care is needed to avoid rupture of the sphincter, an accident always followed by irreparable incontinence.

When the sphincter is very thick and has undergone fibrous degeneration, I prefer complete division to divulsion, because it permanently increases the calibre of the anal outlet, while the latter gives only temporary relief.

General anæsthesia is never employed when I divide an hypertrophied sphincter, because the operation can be painlessly performed under local anæsthesia, and requires but a moment. The operation is performed exactly in the same way as division of the sphincter for the relief of fissure.

Some writers advocate divulsion of the sphincter (Fig. 4) in practically all cases of constipation, but such a routine practice is absurd and pernicious, because it is not always indicated, is frequently ineffective, and further, because indiscriminate stretching of the muscle is often responsible for fæcal incontinence. It is well enough to increase the anal outlet when it is tightly contracted and small, but there is absolutely no use in divulsing the anus or dividing the sphincter when relaxed, as is

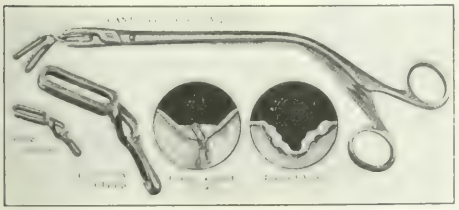


Fig. [illegible]

often inexcusably done as a routine measure by certain practitioners in the treatment of constipation.

5. *Coccygeal deviation:* When the lower segments of bone project inward they cause rectal irritability and constipation and should be removed.

Excision of the coccyx, as usually done, takes



Fig. 4.—Dilatation of the sphincter with the [illegible] rectal position of the hands.

twenty minutes or longer, is often accompanied by profuse bleeding and the leaving of a drain is frequently necessary. My way of operating is practically bloodless, never takes more than three minutes, and the only paraphernalia required are a heavy blunt scissors, coccygeal hook, a Hagedorn needle, and a strand of chromicized catgut.[3] The skin and underlying structures are grasped with the thumb and fingers of the left hand and thrown into a transverse fold at a right angle to and just below



Fig. [illegible]

the end of the coccyx; then, with one cut of the scissors made parallel with the long axis of the bone, the tip of the coccyx is reached; with a second, the end of the bone is freed; with a third and fourth the attachments of the right and left sides of the coccyx are divided, and with the fifth, which is made at a right angle (Fig. 5), the offending segments are detached and removed along with all spiculæ of bone which would, if left, cause independent trouble.

To avoid injury to the deeper vessels and those running along the posterior wall, the blunt ends of the scissors are directed outward at all times except while the first and second cuts are being made. Oozing, which is exceptional, is quickly arrested by momentarily packing the wound with boiling hot gauze pledgets. The wound is then closed by two or at most three interrupted chromicized catgut sutures, covered with a dry dressing, and retained in place by adhesive straps or a T binder.

I have cured four patients (three women and one

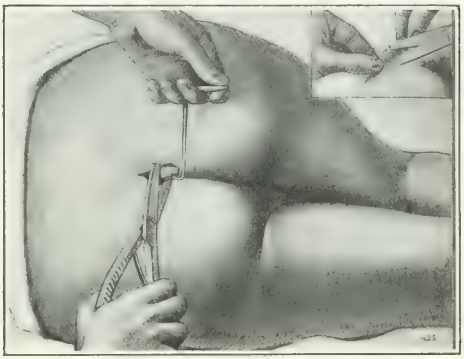


Fig. 5.—Showing steps of writer's coccygeal excision.

man) who suffered from this type of constipation for years, by this simple procedure.

6. *Foreign bodies:* On several occasions I have known fish bones and other foreign bodies to become lodged in the bowel or beneath the mucosa and cause constipation by obstructing the rectum or exciting sphincteric contraction. Large bodies are removed through the proctoscope with forceps while those which are small or short and imbedded are dissected out under local anæsthesia induced by infiltrating the lesions with a one eighth per cent. eucaine solution.

7. *Atonic rectal constipation:* This, like atonic colonic costiveness, is overcome by cold water injections, vibration, electrical currents known to strengthen the bowel musculature, by tamponing the rectum and repeatedly dilating it with a rubber compressed air dilator, procedures the technique of which have been fully described in the author's book *Constipation and Intestinal Obstruction.*

In closing, the writer would call your attention to the fact that many cases of constipation not now treated can be cured by the foregoing procedures if properly carried out.

15 East Fifty-fifth Street.

SYMPTOMATOLOGY OF LEPROSY.*

By Howard Fox, M. D.,
New York.

As the number of lepers in New York city appears to be slowly but steadily increasing, it would seem that a knowledge of the symptoms of the disease is becoming of practical as well as of theoretical interest to the profession of this city.

In briefly presenting the numerous and varied symptoms of leprosy it is most convenient to describe the two distinct and classical types of the disease, namely, tubercular leprosy, in which the skin and mucous membranes are chiefly affected, and anæsthetic leprosy, in which the nervous system is principally involved. Macular leprosy is described by some writers as a third type of the disease, and in a few cases the macules constitute practically the only symptom. In most cases, however, they are simply forerunners of either the tubercular or anæsthetic stages and need not be discussed as a separate type of the disease. In a large number of the cases there is a combination of symptoms constituting what is called the mixed type of leprosy. Practically all of the cases seen in New York are of the tubercular or mixed type, the cases of pure nerve leprosy being extremely rare. Indeed, among thirty cases which I have seen in New York city during the past year I can recall having seen but one case of pure anæsthetic leprosy presenting well marked deformities or mutilations.

The symptoms of leprosy do not evolve with as much regularity as they do in syphilis for instance, and an artificial description of the stages of the disease seems hardly warranted. We do not know in what manner the infection occurs, as there is no primary lesion in leprosy that is comparable to the chancre of syphilis. It is therefore difficult or impossible to judge of the exact time when a certain patient has become infected. This may be estimated in certain cases in which, for instance, a person has resided for a short time in a leprous country and then returned to a nonleprous region and later presented the symptoms of leprosy.

The period elapsing betwen the time of infection and the first manifestations of the disease, the so called period of incubation, has no parallel as regards length of time with any other infectious disease. Thus it may vary from three months to ten, twenty, or even thirty-two years, as in the case reported by Hallopeau.

The question as to whether the period of incubation represents a true germination of the bacilli, or only a long period of latency or hibernation, is one that need not be discussed at this point.

The general invasion of the body by the bacilli or their poisonous products may be marked by a group of symptoms or prodromata, that are not in themselves in any way diagnostic of leprosy. They include a rise of temperature, which may be mild and gradual, or sudden and severe, as in pneumonia. The fever may be accompanied by general malaise, headache, vertigo, drowsiness, severe sweating, and various rheumatoid pains. The patient himself is apt to ascribe such symptoms to a "bad cold" or an

*Read before the New York Academy of Medicine, December 20, 1900, in the "Symposium" on leprosy.

attack of malaria. These symptoms may be followed in a few days by characteristic signs of leprosy, or the latter may not appear for many months, or even a year or more. It is, therefore, not remarkable that after a considerable lapse of time these early symptoms should have been entirely forgotten, especially by the more ignorant class of patients. As a matter of fact, there are numerous cases, especially of the anæsthetic type, in which the prodromal symptoms are entirely lacking.

A very early symptom which is observed in many cases, especially of the tubercular type, is a persistent rhinitis, with repeated mild attacks of epistaxis. This is thought by some to be as valuable a diagnostic sign as the hæmoptysis of early pulmonary tuberculosis. If, in addition, the bacilli can be demonstrated in the nasal secretion an early positive diagnosis can of course be made.

The onset of leprosy may be characterized by various sensory, vasomotor, and trophic disturbances that may or may not be associated with the prodromal symptoms. They include intermittent neuralgias of the legs, pruritus, hyperæsthesia, profuse sweating, the symptoms of Raynaud's disease, etc. In a few cases a single isolated spot, comparable to an initial lesion, has been observed to have been the only symptoms of lepra for several years. In the great majority of cases the diagnosis of leprosy is not made or indeed the attention even directed to this disease until the appearance of the eruptive stage. This may occur within a few days, or perhaps years after the prodromata, or it may appear without any previous signs whatever.

The first eruption of leprosy may consist of congested erythematous patches that could hardly be considered as characteristic of the disease. On a recent visit to Cuba (where I had the opportunity of seeing 170 lepers), I saw a patient in the San Lazaro Hospital with an erythematous eruption that looked strikingly like an erythema multiforme. It certainly would never have suggested the diagnosis of leprosy to my mind. After a number of days or weeks the early erythematous eruption disappears and may reappear later, accompanied by fever and other general symptoms. After several repeated attacks in such a case the macules become permanent or "fixed," their color deepens, and does not tend to disappear on pressure. In many cases, especially of the anæsthetic type, the macules make their appearance insidiously, without any constitutional symptoms, and are fixed and pigmented from the outset. In the majority of the cases, certainly as we see them in New York, the macules have become permanent by the time medical aid is sought.

The macules vary in size from a pea to that of the palm of the hand, or may occupy large areas of the body, especially in the anæsthetic type. Their borders may be sharply or poorly defined. They may clear up in the centre and form circinate lesions, or gyrate figures from a coalescence of several such rings. The serpiginous tendency is chiefly noted on the lower extremities. The centres of

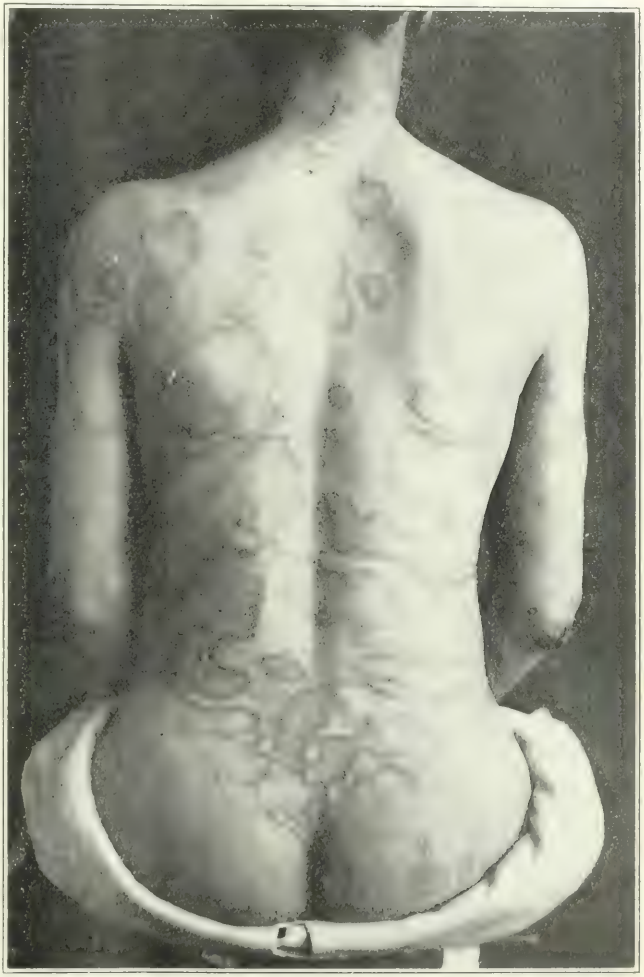


Fig. 1. [illegible] leprosy showing unusual [illegible]. Patient presented by Dr. M. B. [illegible] before the New York Academy of Medicine, December 17, 1903.

the macules may present a loss of pigmentation, while their borders are superpigmented, and sometimes upon the leprous patch a vitiligo develops in the shape of white and depressed discs. The macules may be hyperæsthetic or itchy at the outset. Sooner or later they become anæsthetic, the anæsthesia being most marked in the centre of the patches, while the superpigmented border is often, for a time at least, hyperæsthetic. The macules are roughly symmetrical, the symmetry being more marked in the anæsthetic type. The sites of predilection are the face, extensor aspects of the extremities, the buttocks, and the back. The lesions are very rare upon the palms and soles and are almost never seen upon the scalp. There is generally noticeable absence of sweating over the macules, and after considerable time there may be slight branny desquamation. While the macules may exist unchanged for many years they are usually followed sooner or later by the symptoms of tubercular or anæsthetic leprosy or a combination of both types.

The first appearance of tubercles and indeed the various crops of tubercles are often ushered in by febrile symptoms. In some cases they appear insidiously without such general manifestations. They may appear in the form of diffuse flat infiltrations or as circumscribed nodules, varying from a small pea to a cherry or pigeon's egg in size. They are generally situated within the skin, although at times they may be beneath the skin, as in the shotlike nodules that may occur in the lobule of the ear. The tubercles may be engrafted upon or appear between the already existing macules. Their color varies from a light red, violaceous, or yellowish hue to a dark brown or reddish brown color. The surface of the tubercles is generally greasy from an excessive sebaceous secretion; it may be hyperæsthetic or moderately anæsthetic, and shows as a rule an absence of hairs. Indeed the falling of the eyebrows due to tubercular infiltration constitutes one of the earliest symptoms of nodular leprosy. The tubercles are found in the greatest number upon the face and the extensor aspect of the extremities. Upon the face they are chiefly noted upon the forehead, nose, chin, and ears, and their presence imparts a peculiar frowning or leonine expression to this form of the disease, which when once seen, can never be forgotten. For some unknown reason the scalp seems to enjoy a remarkable immunity to the ravages of leprosy, as it is never invaded by tubercles, and only in the rarest instances by macules. The palms and the soles are also very rarely the seat of tubercular infiltration. The tubercles are abundant upon the backs of the hands, elbows, knees, and about the ankles. As the last phalanx of the hand is spared for a time the infiltration of the first two phalanges gives the fingers a peculiar fusiform appearance. Upon the feet and ankles it is impossible to distinguish individual nodules, as the skin of this region is often the seat of a diffuse, hard œdema, presenting the picture of true elephantiasis. The nails, especially of the fingers, are often spared for a considerable time.

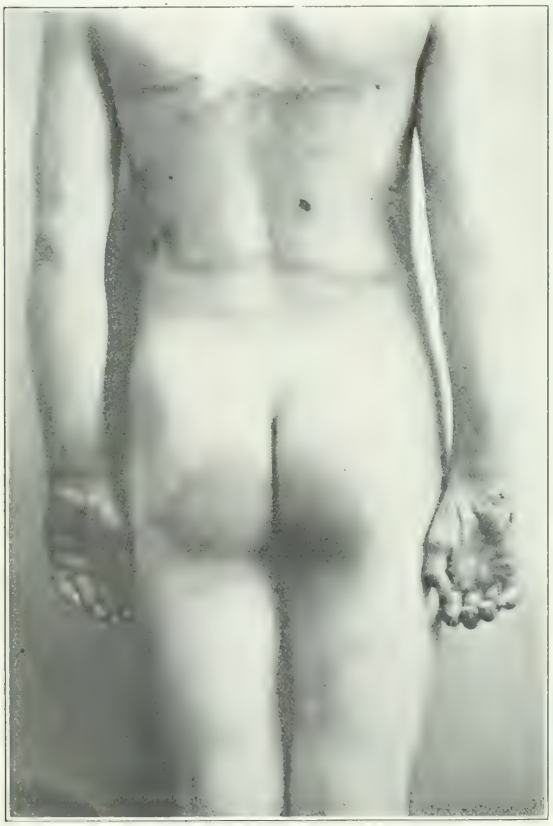


Fig. Macular leprosy showing large superpigmentous patch. Case of Dr George Henry Fox.

During the exacerbations of leprosy which are of frequent occurrence it is often noticed that the tubercles become reddened, swollen, and tender. At the end of these attacks some of the lesions are found to have decreased in size while new tubercles will have formed in other localities. The usual evolution of the tubercles is to slowly disappear by absorption, leaving a deep stain or a slight cicatrix, or to soften and ulcerate. In a few cases they undergo a fibrous transformation. Ulceration of the nodules occurs more frequently in tropical countries and among the more ignorant and uncleanly class of patients. The ulcerations cover large areas at times and encircle an entire limb. They eventually heal and leave apigmented scars that may be somewhat anæsthetic and are generally surrounded by a superpigmented border.

The pharynx, palate, uvula, epiglottis, dorsum of the tongue and less often the

mucous membrane of the mouth are sooner or later attacked by diffuse nodular infiltrations. These may persist for a time or become absorbed, ulcerate, or cicatrize. As a result of ulceration there is frequently distortion of the epiglottis or uvula. Perforation of the palate is very unusual. Later the interior of the larynx and even the trachea may be invaded by the leprous deposits. A peculiar pallor is shown by the mucous membrane of the larynx and pharynx. One of the earliest symptoms of leprosy is a change in the voice, which may at first be slightly hoarse and later becomes harsh, sibilant, or whispering, and often interrupted by attacks of dyspnœa.

The visual apparatus is frequently involved in tubercular leprosy. The lesions involve the anterior segment of the globe, especially the sclerocorneal junction and the ciliary region. There may be a keratitis which gradually invades the entire cornea, or a tubercle may form at the limbus and penetrate into the anterior chamber and destroy vision. Iritis is also common and is most frequently of plastic type.

The inguinal glands and less often the axillary and cervical glands are enlarged in tubercular leprosy and increase in size during the exacerbations of the disease. They are not as firm as the glands of syphilis and do not suppurate in the latest stages of the disease.

The urine often contains albumin and casts, but no lepra bacilli, the changes in the kidney being due to an ordinary nonleprous nephritis. While the bacilli are as a rule disseminated in the internal organs, especially the liver, spleen, and bone marrow, they do not produce any characteristic symptoms except at times an enlargement of the spleen or possibly of the liver. A double epididymoorchitis is fairly common and presents a compact mass with smooth or nodular surface, with or without any accompanying hydrocele. In the rare cases in which fistulæ form, there is probably a secondary infection from the tubercle bacillus. In the majority of cases the disease causes a diminution of sexual power and desire. In women the menses become irregular and finally cease. In the case of young girls this function is not established at all.

Among other symptoms of tubercular leprosy should be mentioned a general darkening of the skin, a dusky cyanosis of the fingers, the appearance of occasional flaccid bullæ, and enlargement of the ulnar nerve.

The course of tubercular leprosy is in most cases chronic, the average duration of life being about from eight to ten years. The most favorable termination of this form of the disease is a change to the anæsthetic type in which case the symptoms ameliorate and the patient's life is often considerably prolonged. The tubercular leper in the terminal stages of his affliction is indeed an object of pity. The face is distorted by a mass of tubercles, many of them are covered with crusts and ulcers. There is a foul discharge from the nose and general fœtid odor from the lungs and skin. The voice is lost, sight is destroyed, and of the special senses hearing alone remains. The patient is extremely cachectic and weak and suffers from continual diarrhœa, and is robbed of his sleep by intense neuralgic pains. In spite of such a terrible condition the mind of the leper remains practically unaffected up to the time of his death, which is generally due to marasmus, diarrhœa, stenosis of the larynx, or an intercurrent disease or complication such as pneumonia or pulmonary tuberculosis.

The onset of anæsthetic leprosy may be accompanied by febrile symptoms as in the tubercular type. It is, however, more apt to appear insidiously and make itself manifest by a macular or bullous eruption or by various disturbances of sensation.



Fig. 1.—[illegible] nodules upon the forehead and [illegible]



FIG. 4.—Nodular leprosy, showing lesions of a small and unusual type. Presented by Dr. J. McF. Winfield before the New York [illegible] Medicine, December 29, 1910.

The macules, according to Impey, are not due to the presence of bacilli in the skin but to vasomotor action on the terminal branches of the cutaneous nerves. The same is probably true of the bullous eruption in which the lesions are as a rule free from lepra bacilli. "While the cutaneous eruption in nerve leprosy," writes Morrow, "is not so essentially a part of the morbid process as in tubercular leprosy, the macules exhibit a greater variety of aspect, especially in their configuration and coloring." They are more apt to persist and to clear up in the centre and form vitiligoid patches, especially in the dark skinned races. The hairs upon the macules do not fall but are more apt to become white.

The bullous eruption is more often encountered in the early stage of the disease, the lesions varying in size from a split pea to a cherry. They may appear upon any part of the body except the scalp, but are seen upon the hands, elbows, knees, ankles, and also the palms and soles. The bullæ soon rupture, dry, and form crusts followed by cicatrices.

The symptoms in general of the anæsthetic type are those of a peripheral neuritis causing various sensory and trophic manifestations. In contrast with the tubercular type of the disease which is characterized as von Bergmann says by marked hyperplasia, the noticeable changes in anæsthetic leprosy are those of atrophy.

One of the most important and diagnostic symptoms is an increase in the size of some of the nerve trunks that occurs at a very early period of the disease. The greatest changes are observed in the nerves that are superficially situated such as the ulnar and median nerves. They are changed to cylindrical or fusiform or beaded cords and may at times attain the thickness of the little finger. The ulnar enlargement is especially characteristic and may at times be felt in its entire course from the elbow to the axilla. At the outset, the nerve trunks are painful upon pressure but later become completely insensible to pain.

The disturbances of sensation in leprosy may be confined to the macules or exist independently of them. The characteristic anæsthesia, which represents a complete disorganization of a nerve trunk, is invariably preceded by irritative symptoms. There is often hyperæsthesia which may be intense or there may be pruritus, neuralgic, or shooting pains or various forms of paræsthesia. There may be vasomotor symptoms such as cyanosis, or secretory disturbances such as interference with sweat secretion.

Sooner or later anæsthesia makes its appearance, and is especially marked in the extremities. It is first noticed in the fingers and toes, and then travels upward toward the trunk. It is often bandlike at first, but later involves the entire circumference of a limb. Part of the area of anæsthesia is fixed, while the rest, according to Jeanselme, varies in intensity from day to day. There is often dissociation of sensation, that of temperature and pain disappearing, for instance, while the sensation of touch remains. Sensation may also be delayed, as when the prick of a pin is felt after an interval of several seconds. The anæsthesia becomes complete at last, so that the patient may be able to cut off portions of the hands or feet without experiencing the slightest pain.

Muscular atrophy is one of the constant and striking symptoms of anæsthetic leprosy. There is a diminution in force in proportion to the waste of muscle tissue. At times there is a true paralysis.



FIG. 5.—Nodular leprosy showing ulceration of lesions. Patient [illegible] by Dr. Howard [illegible] the New York Academy of Medicine, December 29, 1910.

Atrophy is noted at an early stage in the thenar and hypothenar regions. From atrophy of the first dorsal interosseous a characteristic hollowing of the back of the hand is produced. One of the commonest deformities is the "leper claw" produced by tendinous retractions and muscular atrophy. It is formed by extension of the first and a flexion of the second and third phalanges. The palm is flattened and the thumb is on the same plane with the fingers. In spite of this deformity the use of the hands is far from being lost, especially if the sensation of touch remains.

The superficial muscles of the face are frequently atrophied and can give the patient an appearance that is as characteristic as the leonine face of the tubercular leper. The eyes have a peculiar stare and the lids cannot be closed. The lips are flaccid and pronunciation of labials is difficult. On account

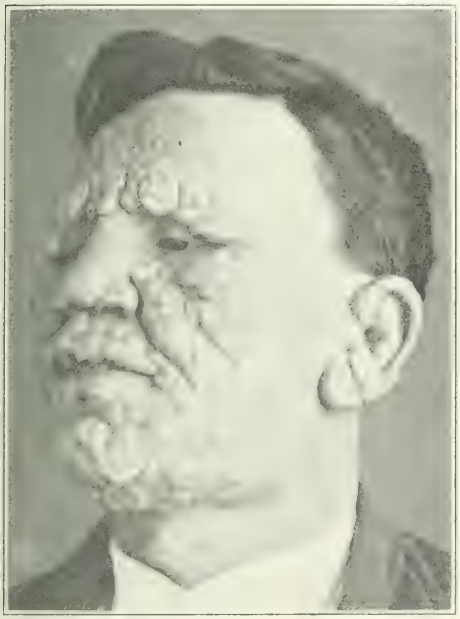


Fig. 6.—Nodular leprosy of three years' duration. Presented by

of eversion of the lower lip, saliva may flow from the mouth. The face becomes an expressionless mask, and the patient's appearance is stupid and doleful.

In some cases the process of anæsthetic leprosy does not go beyond the production of muscular atrophy and tendinous retraction. In other cases, where the disturbance of nutrition is very great, there are bone changes which give rise to frightful mutilations. The loss of bone may occur from necrosis or from a process of interstitial absorption. In the case of the fingers the second phalanx is apt to be the first to disappear, so that the fingers appear to have only two phalanges. In some cases



Patient presented by Dr. J. McF. Winfield before the New York Academy of Medicine, December 29, 1910.

the nails are preserved with remarkable tenacity in spite of extensive loss of bone. Finally, the hands and feet become veritable stumps, the shape of the feet being compared to that of a pestle or drum stick. Large trophic ulcers, among them the so called perforating ulcers, may add to the patient's distress.

The mucous membranes are much less often involved in the anæsthetic than in the tubercular type of leprosy. As the lower lid is everted the conjunctiva is unprotected and soon becomes inflamed. Corneal opacities may form and destroy the sight. Ulceration and destruction of the septum, with consequent sinking of the nose, is not uncommon. Due to loss of tactile sensation there is often difficulty in swallowing, the food being regurgitated into the nostrils.

The course of anæsthetic leprosy is decidedly chronic, the average duration of life being about fifteen years. In some cases the process appears to come to a standstill and the patient is apparently



cured. A number of such cases have been reported by Dyer, of New Orleans. In a few cases the anæsthetic type changes to the tubercular form of the disease.

The termination of a severe case of anæsthetic leprosy presents a totally different picture from that of the tubercular type, but one that may be equally pitiful and distressing. The anæsthetic leper is emaciated and cachectic. He is bedridden and has to be fed by attendants. The nose is sunken, the sight is extinguished, and saliva pours from the paralyzed lips. The patient suffers from a sense of cold, loss of appetite, insatiable thirst, and severe neuralgic pains. The numerous ulcerations add to the natural disagreeable odor of the leper and the deformities of the limbs make them scarcely recognizable as those of a human being. The patient's mind is dull, but by no means lost. Death is generally due to marasmus, amyloid degeneration of the viscera, diarrhœa, or to an intercurrent disease. It is rarely due to pulmonary tuberculosis.

EVIDENCES THAT THE SCHOOL NURSE PAYS.*

E. S. W. ...
Philadelphia.

When the secretary of this association assigned to me this subject, my first thought was how ridiculous to be asked to furnish proof of a self evident fundamental fact. One may as reasonably ask "should public schools exist"? Eight years' intimate association with the work of school nurses had made to me schools, medical inspection, and school nurses synonymous. I considered them the tripod of education. When I began to gather information to furnish you with a voluminous and convincing statistical report, I was reminded of Emerson's terse expression: "If you are struck by lightning, do not say anything about it." From the difficulty in obtaining reports about school nurses, one would surmise that the cities having them have been struck by lightning. They have been so stunned by the excellent results that they are speechless, or another case of exploiting our shortcomings but not our success. Few cities can give one a correct statistical report on anything pertaining to the physical conditions of the pupils, because the systems of keeping records are faulty. I believe, however, I can furnish sufficient convincing evidences in favor of school nurses, that you will agree with me that if medical inspection with nurses were placed on a scales counterbalanced by medical inspection only, the nurses' end would come down so hard that it would go through the floor.

To consider whether school nurses pay, we can consider it from the side of economy and from increased efficiency. One fifth of the entire population of the United States is enrolled in the public schools. Salaries paid to teachers are more than two hundred millions of dollars. The total expenditures for public education require a taxation of thirty cents on every one hundred dollars of valuation on all taxable property. Seven tenths of this taxation for schools are local taxes, a burden which the people place upon themselves, and the most cheerfully paid tax of any. This is presumptive evidence that the citizens are interested in the education of the child. Fourteen cities alone expend seventy-five millions. These enormous funds must be managed to yield the greatest possible returns to every child. Can such efficiency exist with a great waste of time from education due to absences caused by avoidable ill health and correctable physical defects? This gives an estimated financial loss to the taxpayer with a possible longer time necessary for schooling with its consequent loss of earning capacity. Are these economical and efficient business methods? The trained school nurse with her follow up system prevents absence for minor ailments, lessens the time absent for some of the contagions. She assures the correction of physical defects thereby increasing efficiency in the school room. She improves and maintains the health of the children by her practical teachings on hygiene. Her teachings are not confined to the school but extend to the homes. She studies home conditions and removes that from its environment which is apt to lower vitality.

The need and value of school nurses is clearly shown in a study of the origin of this institution. In hospitals and institutions or at the homes the physician diagnosticates the disease and prescribes treatment. When finances permit the trained nurse is employed to carry out the directions of the physician, and where the nurse can not be had, some member of the family tries to perform those duties. Medical inspectors have similar work outlined at the schools. He diagnosticates the diseases and defects and orders or urges parents to see a physician and have the ailment treated. Indifference and ignorance are stumbling blocks which are not so easily overcome. In most of the cases the instructions go unheeded. In private practice where the parent cannot give the necessary care and attention to the sick, the physician sends the patient to a hospital where trained nurses can supply this deficiency. Logically this condition exists at the schools, and the nurse should be employed to carry each case to a successful termination. This has been the order of events in sixty-five cities in the United States. Medical inspectors were employed and it was found necessary to supplement their work. Eleven cities or fourteen per cent. of those employing nurses in the schools employed them and no physicians. In many of these cases there were volunteer physicians to aid in the work, but the inspection and nursing are chiefly dependent upon the school nurses. I believe this exists for the same reason that we find an occasional attitude of the people toward the medical profession to be a desire to save money or get medical services free. When the doctor hands a patient a prescription, she may look at it and then ask if a mustard plaster would do instead. You ask for physicians or nurses for the schools, and they ask "if the teachers will do the same"? There is little wonder at such requests, for there is no more versatile, all accomplished profession than that of teacher. She can serve equally

as well as a teacher, doctor, nurse, clerk, policeman, minister, mother, and even father.

England which was one of the first countries to look after the physical needs of the school child had nurses before they appointed physicians, a reverse of the development in America. School nursing can be considered a form of visiting nursing, which originated in England fifty-two years ago. This early use of the nurses may account for this arrangement in England. Not until 1877 did the movement of the visiting nurse reach America, when a New York City Mission sent the first trained nurse into the homes of the poor. Here the work was sporadic until 1905, when it gained considerable headway. The school nurse, representing a new idea in visiting nursing, began in 1887 in Liverpool, when nurses visited daily a few schools for the purpose of attending to the minor injuries and complaints, also going to the homes of those having more serious ailments and urging the parents to obtain the services of a physician. The first school medical officer was appointed in London in 1891. His duties were to examine absentees from school who failed to furnish a doctor's certificate. In the following year Dr. Francis Warner first published a full report of the examination of 50,000 school children. The first school nurses were volunteers and not until 1901 did the London school board appoint salaried municipal school nurses with definite duties assigned. They examined for contagious skin diseases and excluded those cases found. She did not treat the cases and consulted with the school medical officer only occasionally. Later the nurse tested the vision and hearing, and kept a medical register of the physical condition of the pupils. In 1907 a superintendent of nurses was appointed, and recently assistant superintendents.

In America, the first medical inspector of schools, Dr. Moreau Morse, was appointed in New York in 1892. Ten years later, in December, 1902, the same city established a corps of school nurses. It was the development of the system of school medical inspection that showed the absolute need for nurses. The physician first devoted time to the detection of contagious diseases and the exclusion of all cases found. Attention was then turned to skin diseases, uncleanliness, and physical defects which might interfere with the progress of the child. The list of excludable diseases and the number of victims rapidly climbed up. The major contagious diseases like scarlet fever and diphtheria played no more havoc with the child's education than the minor contagious skin diseases such as impetigo and ringworm. Conjunctivitis was as detrimental as was trachoma. Schools would soon be safe and sound because everything was excluded awaiting treatment. The physician recommended treatment but the results were not forthcoming. Records and reports were plentiful but results were missing. The trained school nurse with her follow up system was the solution of the problem. She first attended to the minor ailments and gradually added to her list every disease which could be made by her safe enough to keep at school. She visited the homes and urged upon the parents the necessity of treatment for existing eye, ear, nose, and throat defects. She took children to dispensaries and did everything to urge a speedy termination of the case. Her work had broadened and spread so she later replaced some of her home visits by school consultations with the parents. The results of her work were felt immediately. Exclusions became fewer, and the length of time absent even when necessary was greatly lessened. Defects were not merely recorded but results obtained. There has been a steady decrease in incapacity and inefficiency due to the existing physical defects. Where conflict and misunderstanding existed between the physician, school, and the home, it was replaced by confidence, friendship and appreciation.

Previous to the employment of the school nurses and in those cities still without them, many methods have been employed to compel parents to take some action on the recommendations of the medical inspectors. England tried with little success segregation of the defective children, while in America exclusion and written notices seem to be generally practised. In England, even with laws making medical inspection compulsory, there was great difficulty in overcoming the parental indifference and neglect. The laws have no sections which require the parent to provide the necessary medical attention. There is a firm realization that the employment of trained nurses accomplishes that which the law fails to do, and yet no country or State makes it mandatory for the schools to employ nurses. Several advise or make it permissible to employ them. About 375 cities in the United States have some attempt at medical inspection; but one State in this country, Massachusetts, has mandatory laws on the subject. Few States have any legislation on the physical examination of school children, and these including New York have only permissive laws. The proposed new School Code for the State of Pennsylvania makes it mandatory for the Board of School Directors of Philadelphia and Pittsburgh to employ medical inspectors, and for all other cities it is permissive to employ them, but in case they do not see fit to do so, the commissioner of Health can appoint the County Medical inspector to perform such duties. Nurses may be employed by any Board of School Directors. This new code as well as the legislation of all other States makes no provisions compelling the parent to attend to the physical defects found. However, should such laws be enacted, it is questionable whether they would not be declared unconstitutional. Where an efficient system of school nurses has been established the results are equal to what could be expected under possible legislative enactment. History shows us that laws are not the "cure alls" to all of our shortcomings and needs. We should place less faith in the necessity of legal forms and more in practical common sense action. This is not surprising for we know that often persuasion and reasoning succeed in accomplishing things which laws cannot. I am firmly of the opinion that any legislature which will make it mandatory for cities to employ for the schools both physicians and nurses, will save itself the need of any further legislation on this and many other subjects pertaining to public health.

The following information gathered by the De-

partment of Child Hygiene of The Russell Sage Foundation of New York is as interesting as it is disappointing:

CITIES EMPLOYING SCHOOL NURSES AND NUMBER OF NURSES EMPLOYED.

Census.	Number of cities having nurses	Number of nurses
North Atlantic	30	242
South Atlantic	4	10
South Central	2	2
North Central	24	66
Western	10	21
United States—Total	70	371

This seems like a rather disappointing report, but previous to 1907 but eight cities in this country had school nurses, and about two thirds of those now possessing them have awakened to such needs and established them in the past year. You will note that seventy-eight per cent. of these cities and over ninety-one per cent. of the nurses are distributed in northern cities. This is not so strange when you consider that comparatively few of the southern cities have medical inspection.

The true and ultimate objects of medical inspection of schools are safeguarding the health of the pupils and improving their physical and mental condition by removing those defects that interfere with the child obtaining a normal education with comfort. Medical inspection without nurses is largely one of records and statistics, while with nurses it means action taken and results obtained. No amount of talk can give more convincing proof of the absolute need of school nurses than the following comparative study of the results obtained by medical inspectors with and without nurses.

The following is a report of the work of the school nurses of Philadelphia for the year ending December 31, 1910:

CITY OF PHILADELPHIA.

RESULTS OBTAINED BY A MEDICAL INSPECTOR WHEN NOT AIDED BY A NURSE.

Individual children reported upon	Cases needing treatment reported upon as terminated		Results reported				
			Action		No action		
Number	Kind	Number	Number	Percentage	Number	Percentage	
751							
	Defective vision	272	70	25.8	202	74.8	
	Hypertrophied tonsils	338	62	18.4	276	81.6	
	Adenoids	36	5	13.9	31	86.1	
	Defective teeth	152	31	20.4	121	79.6	
	Totals	798	168	21.1	630	78.9	

RESULTS OBTAINED DURING THE SAME PERIOD BY THE SAME MEDICAL INSPECTOR WHEN AIDED BY A SCHOOL NURSE.

Individual children reported upon	Cases needing treatment reported upon as terminated		Results reported				
			Action		No action		
Number	Kind	Number	Number	Percentage	Number	Percentage	
704							
	Defective vision	441	355	80.5	86	19.5	
	Hypertrophied tonsils	104	68	65.4	36	34.6	
	Adenoids	62	45	72.6	17	27.4	
	Defective teeth	150	138	92.0	12	8.0	
	Totals	757	606	80.0	151	20.0	

RESULTS OBTAINED BY MEDICAL INSPECTOR AIDED BY A NURSE.

School	Nurse	Number of recommendations	Recommendations acted upon	Recommendations not acted upon	Percentage acted upon
1.	Nurse	324	262	62	80.86
2.	Nurse	445	434	11	97.53
3.	Nurse	320	282	38	88.12
4.	Nurse	265	226	39	85.28
Total	Nurse	1,354	1,204	150	88.9

RESULTS OBTAINED BY MEDICAL INSPECTOR NOT AIDED BY A NURSE.

School	Nurse	Number of recommendations	Recommendations acted upon	Recommendations not acted upon	Percentage acted upon
5.	None	283	83	200	29.32
6.	None	582	152	430	26.12
7.	None	441	94	347	21.31
8.	None	474	91	383	19.2
Total	None	1,780	420	1,360	23.6

Number of schools	39	
Number of nurses	9	
Number of old cases	12,869	
Number of new cases	16,341	
Number of cases cured	10,969	
Number of visits to schools	5,108	
Number of visits to home (old)	3,096	
Number of visits to home (new)	1,928	
Total number of visits to homes		5,024
Number of visits to dispensary (old)	3,139	
Number of visits to dispensary (new)	2,007	
Total number of visits to dispensary		5,146
Number of school consultations (parents)	754	
Number of school consultations (pupils)	2,687	
Total number of school consultations		3,441
Number of examinations for uncleanliness	30,099	
Number of examinations for Bureau of Municipal Research	737	

DISEASES FOR WHICH PUPILS WERE TREATED, SCHOOL, HOME, AND DISPENSARY.

Diseases.	Number of patients cases.	Number of patients cured.	
Defective vision	1,656	1,217	glasses—1,028 pairs; number of examinations for glasses not required, 189.
Corneal ulcer	4	7	
Conjunctivitis	379	359	
Glass eye	...	1	
Cataract	...	1	(removed).
Other diseases of the eye	296	366	(5 operations)
Defective hearing	43	26	
Otorrhœa	64	67	
Other diseases of the ear	71	53	
Hypertrophied tonsils	768	443	(211 operations).
Adenoids	119	80	(28 operations)
Defective speech	29	13	
Other diseases of the nose and throat	385	401	
Pediculosis	6,376	3,108	
Eczema	899	578	
Pustular dermatitis	124	109	
Impetigo	193	150	
Ringworm	206	191	
Scabies	69	58	
Wounds	1,841	1,462	
Other diseases of the skin	1,[illegible]	931	
Scoliosis	5	7	
Heart disease	[illegible]	4	
Other orthopedic diseases	33	29	1 brace and shoes obtained; 13 sent to gymnasium, 1 operation
Teeth	828	479	
Malnutrition	142	120	(89 sent to country).
Nervous	30	22	1 sent to epileptic hospital, 2 sent to country; 1 sent to Spring City; 2 old cases admited to Oakbourne Home.
Mentally deficient	2	...	
Tuberculosis and suspected tuberculosis	1	1	(sent to country).
Tracheotomy	5	49	
Miscellaneous	760	541	
Total	16,341	10,969	

The school nurse has opened a path to the development of an ideal system of betterment of public health in our cities. The school nurse of the future will be the Municipal Nurse, whose duties will include not only protecting the health of the school children but also, caring for infants, teaching mothers their hygiene and proper feeding, thereby reducing this great and unnecessary mortality. By improving housing and living conditions she will reduce the mortality from tuberculosis. She will be the supervisor of health and sanitation in the factories, as well as a teacher of hygiene to the children at school and to their parents at home. She will be the connecting link between the destitute family and the numerous organizations dispensing aid. With a small district assigned to a nurse, and she being held responsible for the health of every person and sanitation of every house in that district, results will be obtained which would be impossible by any other system. The school nurses of the future are destined to be the guardians of our public health.

I desire to express my indebtedness to The Russell Sage Foundation, New York; Bureau of Municipal Research, Philadelphia; Miss A. L. Stanley; and Dr. C. A. Groff for aid in gathering statistics.

1306 Pine Street.

ANTERIOR POLIOENCEPHALITIS.*

By Irving David Steinhardt, M. D.,
New York,
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Acute polioencephalitis, ordinarily known as anterior poliomyelitis, infantile paralysis, atrophic spinal paralysis, and by several other names, is an intensely acute infectious disease of bacteric origin which for the past several years has been carrying death and helplessness into our homes, striking at our beloved little ones in a way ever to be remembered, and bringing terror to the hearts of parents wherever its dread name has been mentioned as the diagnosis of a sickness in any neighborhood. And well may this be so, for we have few diseases which can result so quickly fatally in what was an apparently healthy child before the onset of this scourge of the children of tender age, or which when life is spared can leave so helpless a cripple for the attention of the profession. Just think of it well. One minute a healthy, rosy cheeked, happy romping child, and the next a helpless cripple or a corpse. This is no dramatic exaggeration, but merely a statement of fact, a sort of condensed history of the very great majority of cases of our recent epidemics. I do not want to appear in your eyes as an alarmist, but I do want to make you realize the seriousness of this disease. Granted that its mortality is low, only about from five to ten per cent. on an average, what disease have we that leaves such terrible after effects in practically every case? After effects that ofttimes resist the most skilful treatment and last through life. Between 1890 and 1899 about twelve hundred cases were treated at the Hospital for the Ruptured and Crippled in New York, or about two hundred new cases a year at this hospital for a decade. In 1907 and 1908 the number of cases estimated for the greater New York alone in that epidemic year was about three thousand. In 1909 and 1910 the disease has been epidemic in several States. Your own State (Massachusetts) has suffered as well as Connecticut. Our national capital has been affected. States south of the Mason and Dixon line have reported epidemics. The middle West, the far West, and our neighbor, Canada, have numbered themselves among those who have been afflicted by this dread invader. Cuba, particularly in the province of Santa Clara, has had an epidemic of this disease. The countries of Europe have likewise been visited in the present widely spread visitation of this death dealing and maiming scourge. You see, therefore, the study of it and the devising of ways and means to check it, to treat it, and to overcome the disabilities it leaves is no local matter, but a question of international importance.

Ætiology: We have advanced far enough in our study of this disease to say that the actual cause is a bacillus. The exciting cause is anything that puts the normal resistant power of the body below par and makes it susceptible to the virus of the invader. Among these might be mentioned exposure to varying conditions of heat, cold, or dampness. Sudden change from heat to cold or dampness causing a chilling of the body and thereby a lowered vital resistance. Overfatigue might also be mentioned for the same reason, because this is a disease that occurs usually at a season of the year when exercise means also free perspiration. Chilling of the stomach by copious draughts of ice water, or worse yet, the chilling of the stomach by cooling mixtures which also cause indigestion, any and all of these things weaken the natural defenses of Nature against the poison of this disease. In some cases traumatism of various kinds seems to be the direct excitant factor. By some the various contagious diseases are considered factors. But in this regard I repeat what I said in 1908, when discussing this disease before the Practitioners' Society of Orange, N. J., that they are only to be considered in this light because they are diseases which, in running their respective courses, have taxed the bodily resistance most sorely and left it in a weakened state against further invasion.

Constipation with its accompanying putrefaction must be considered, as must also certain forms of diarrhœa. The poisons generated in these conditions are certainly, on absorption, very strong destroyers of bodily vitality. In many cases no exciting cause can be found. Children who are to all appearances perfectly healthy may be victims of the disease, and ofttimes in the worst form. The children both of the well to do and the poor are affected, and if the latter more than the former, it is because the former are the fewer in number. In my own private and clinical practice, I have known of only one case in the negro race and that child was

a mulatto. Inquiry among several of my colleagues seems to show also that the negro children are not as often attacked as the white children. By a very slight percentage the male sex seems to be the more susceptible to the poison of the disease. While ordinarily one attack seems to render the victim immune, still there are several seemingly well authenticated cases on record where a child has had a second attack at a sufficiently elapsed length of time from the first one to absolutely consider it as such. The disease may attack several in the same family with intensely fatal or serious results to all, or its virulence may vary with the different members, so that in one family light and also serious cases may be met with. As I mentioned before, children seem to be the most susceptible to the virus of this disease, even nurslings not being exempt. During the first three years of life the great majority of the cases occur, although in our recent epidemics older children have suffered greatly, and, also, many adults are to be numbered among the victims. One fatal case has been reported where the victim was an adult, sixty-six years old. The second year of life is the one that furnishes the greatest number of patients.

Season: The epidemics of this disease usually occur from May to October. This is not constant, however, endemic cases have been reported at all seasons of the year.

Pathology: The virus of the disease is very intense and seems to have a strong affinity for the brain and spinal cord. The latter, perhaps, more than the former, but, again, in recent epidemics, bulbar involvement has been very common, and it is these cases that have furnished the material on which our now fairly accurate pathology of this disease is based. The primary pathological changes are therefore in the central nervous system. Very fortunately, most of the changes are confined to the spinal cord, but in many cases the pathological process spreads to a higher plane and attacks the brain proper. Morse, of Boston, has, in a recent article, summed up the pathology in a few words which I will quote: "Wherever the virus enters it has a predilection for the nervous system. The first lesion is a leptomeningitis. Cellular infiltrative changes are set up which are most marked in the circumvascular lymph spaces of the arteries entering the nervous tissues. The vascular lesions constitute the primary causes of the lesions of the nervous tissue, the severity of which is determined by the particular vessels affected and the intensity of the involvement." Secondary lesions occur in the intima, which result in œdema and hæmorrhage. The anterior horns are the most affected because the arteries are larger; the lumbar and cervical enlargements because the blood is more abundant. All parts of the central nervous system may be involved, both the gray and the white matter. The peripheral nerves show parenchymatous degeneration. "In the severe or fatal cases the entire cord with its pia mater, the entire medulla oblongata and pons, the basal ganglia, and often the cortex of the brain are involved, the degree of the involvement varying in different instances. In the mild cases the process is much more extensive than was formerly supposed. All gradations between the mild, serious, and fatal cases are found pathologically."

Bacteriology: The disease is caused, according to our present knowledge, by an organism so small that it cannot be seen under the microscope and can pass through our finest and most delicate filters. It is very resistant apparently to many of the usual agents and conditions which destroy bacteria. However, heat, hydrogen peroxide in as low as a one per cent. solution, menthol, and other simple disinfectants have a destroying effect on it. It seemingly secures entrance to the body through the nasopharynx. At least so the studies of Flexner and Lewis would tend to show.

Onset and symptoms: The onset is very apt to be abrupt and without previous signs of disturbance. In some cases unaccountable diarrhœa or stubborn constipation may be noticed for a few days beforehand. Owing to this state of affairs we cannot say definitely as to what the incubation period is in human beings. Where the disease has been produced experimentally in monkeys, the incubation period has averaged about from eight to ten days, varying all the way from forty-eight hours to a month. In some patients the only noticeable symptom has been the discovery of a sudden paralysis, slight or severe in nature and varying in extent. In others some or all of the following symptoms may present—diarrhœa, constipation, fever, headache, chill followed by profuse sweating, vomiting, restlessness, delirium, or apathy. Hyperæsthesia over the entire body or any part of it is a most important symptom when present and an aid to early diagnosis. There may be also pain in both the muscles and joints, which is increased at night. In some severe cases the temperature goes very high and remains so; the prostration is extreme, unconsciousness may intervene, and convulsions may be present. In other cases we have any or all of these symptoms plus those which denote that the disease has also involved more than the spinal cord alone. The best classification of the various manifestations of this disease is Wickman's, which is as follows: a, Ordinary spinal paralysis or simple anterior poliomyelitis; b, progressive paralysis, usually ascending, less often descending; Landry's paralysis; c, bulbar paralysis; polioencephalitis of pons; d, acute encephalitis, giving spastic monoplegia or hemiplegia; e, ataxic form; f, polyneuritic; multiple neuritic type; g, meningitic form; h, abortive form.

Morse gives the following cases occurring in his practice as typical ones of these various divisions. Of division "a" it is hardly necessary to quote a case, as the majority of the cases occurring in any one's practice are of this kind.

Type of class "b": The following history is a good example of the progressive type:

Case I. A boy, ten years old, began to complain of pain in the legs August 18th and by night was unable to walk without help. Pain and loss of power were rather more marked on the 19th. A physician who was called found a temperature of 102° F. and made a diagnosis of rheumatism. The pain and fever continued. Pain and loss of power appeared in the arms on August 21st. The morning of the 22d he began to have difficulty in breathing and to have what were supposed to be convulsions. He rapidly became unconscious. Micturition and defæcation were

both involuntary. He was moderately cyanotic. Respiration was short and gasping, but not very rapid. Frothy mucus ran from the mouth occasionally or was spat up with considerable difficulty. He was entirely unconscious. There was occasional twitching of the face. There was no rigidity of the neck. The pupils were equal and reacted to light. The chest was fully expanded and immobile; it was tympanitic on percussion. The abdomen was moderately distended and tympanitic. The diaphragm moved, but the excursion was very slight. There was a complete flaccid paralysis of all the extremities. The knee jerks were absent. Kernig's and Babinski's signs were also absent. He died a few hours later.

Type of class "c": The following cases are good examples of this type. The first belongs in the class which has in the past been called polioencephalitis superior, and the second in the class which has been called polioencephalitis inferior:

Case II. A boy, five years old, seemed a little out of sorts on August 16th. The next day, while walking along the street, he felt weak, leaned against a fence, and vomited. He then walked a short distance, sat down in a chair on the piazza, and slept for half an hour. On waking he was unable to walk because of staggering. The eyes were turned upward and remained in this position until the next day. He talked and seemed rational. He had no paralysis of the face or extremities. He twitched a good deal for several days and had cold sweats. The staggering gait lasted about a week. He complained at times of double vision. Strabismus was noticed about September 1st. He was seen September 19th. Physical examination was entirely negative except for complete paralysis of the left external rectus and partial paralysis of the right. The pupils were equal and reacted to light. The optic discs were normal.

Case III. A boy of five was taken suddenly sick with fever and vomiting July 26th. The vomiting and fever continued. He began to have difficulty in swallowing the morning of the 28th, and his voice became a little hoarse. When seen at 4 p. m. he talked in a whisper and apparently had some trouble in swallowing. Examination of the mouth and throat, however, showed nothing abnormal. The neck was held rather stiffly. Nothing else was detected by a very careful general examination. The next day he was unable to swallow anything, even his saliva. When seen at 9 p. m. the whole of the right side of the face, including the forehead, was paralyzed. The tongue was protruded in the median line. The uvula could not be elevated. The pupils were equal and reacted to light. There was no strabismus and no stiffness of the neck. There was a complete paralysis of the extensor muscles of the right arm. The left arm and the legs were normal. The knee jerks were present.

Type of class "d": The following case is a good example of this type and shows how difficult the diagnosis is in this class of cases, which is more often than the others confounded with tuberculous meningitis:

Case IV. A boy, three years old, fell down stairs, striking his head, early in the morning of August 3d. He was apparently not hurt and appeared well all day. He began to vomit during the morning of August 4th and continued to vomit at intervals of about an hour until 3 a. m., August 5th. He did not vomit again. There had been no known indiscretion in diet, and the bowels were open. He was seen at 2 p. m., August 5th. He was restless and irrational, but when roused noticed a little. There was no rigidity of the neck and no neck sign. The pupils were equal and reacted to light. There was no spasm or paralysis. The knee jerks were equal and normal. The Kernig and Babinski signs were absent and there was no ankle clonus. The temperature was 99.8° F., the pulse 120, the respiration 36. The rest of the physical examination and the urine showed nothing abnormal.

The fluid obtained by lumbar puncture was under considerable pressure. It was at first clear and then somewhat blood stained. No fibrin clot formed in twenty-four hours. It contained 360 cells to the cubic millimetre, a part of which were undoubtedly due to the admixture of ninety per cent. of uninuclears and ten per cent. of multinuclears, shows that only a few of them came from the blood, because if many of them had come from the blood the number of multinuclear cells would have at least equalled that of the uninuclears. No tubercle bacilli or other organisms were seen in a routine examination, and cultures were sterile.

He passed a very restless night and at times was quite noisy, requiring morphine to keep him quiet. He was quiet and drowsy during the morning of August 6th. There was no rigidity of the neck or neck sign. The pupils were equal and reacted to light. The knee jerks were equal and lively, the abdominal and cremasteric reflexes normal. There was no Kernig's sign or clonus.

He was quiet August 7th. There was slight rigidity of the neck. The pupils were equal and reacted to light. The knee jerks were present but sluggish. There was a suggestion of Kernig's sign on the left, but none on the right. The Babinski phenomenon was absent.

Improvement was steady and uninterrupted from this time on.

Type of class "f": The polyneuritic type, understanding by this term the type in which there are pains in the extremities, is very common. The pains are sometimes in joints, more often along nerve trunks, or indefinite in their distribution. They are usually most marked in the paralyzed parts. In a few instances I have found tenderness over the nerve trunks. Pain and tenderness have in several instances been so severe as to cause the attending physician to make a diagnosis of rheumatism and to entirely overlook the paralysis. On account of the pain on motion the extremities are often held rigidly and all motions as vigorously resisted as possible. This combination of rigidity and resistance is possible, of course, only when the muscles are but partially paralyzed or when some of them are intact. The failure to appreciate the significance of this condition of combined flaccidity and spasticity has led, in my experience, to many errors in diagnosis during the acute stage.

Type of class "g": The following case is a good example of this type, which is often confounded with cerebrospinal meningitis. This patient was, in fact, shown by one of the instructors in the medical school as a case of cerebrospinal meningitis:

Case V. A girl, three and one half years old, was taken suddenly sick on September 5th with a high fever. She was very irritable, and complained of pains all over, but especially in the head and back. She cried out when touched and lay with her back arched and head drawn back. She had not vomited. The bowels were constipated. She passed urine normally. She was seen September 9th, when she was irrational and very irritable, crying out sharply when disturbed. The ears were normal. The pupils were equal and reacted to light. The eyes were kept closed and there was a moderate amount of photophobia. The neck was rigid and apparently tender. The spasm, however, seemed to be partly voluntary. The back was arched and rigid, but the spasm here also seemed to be partly voluntary. She did not use her right arm. The hand was clenched with the thumb inside. She did not move her left leg at all, but moved the right slightly at the hip. The extremities were somewhat rigid, and passive motions caused much pain. The knee jerks were absent. Kernig's and Babinski's signs were absent.

There was no disturbance of sensation.

Type of class "h": It is very difficult to give illustrative cases of the abortive type because, if there is no paralysis, it is impossible to prove that they are cases of polioencephalitis. Such instances as the following show how indefinite this type may be. There were eight children of about the same age in a small summer colony at the seashore. All of them had an acute gastrointestinal

disturbance with slight fever lasting four or five days. One of them was found, a week later, to have a slight paralysis of both legs and one arm. He undoubtedly had acute polioencephalitis. It is fair to assume that the others had it also in an abortive form which did not result in paralysis.

Diagnosis: The specialist is often asked by the general practitioner for a definite way of making a diagnosis of this disease at the start. I must confess I know of none which is absolutely correct. In 1908 I outlined the following:

1. Sudden attack of high fever with vomiting from no apparent cause (or even without vomiting), particularly after exposure to extreme heat or dampness or sudden change of temperature, in children whose daily diet was poor in judgment rather than quality, or in both, and particularly if this attack comes on in the season for this disease, and one or more cases are known to have occurred in the vicinity.

2. These symptoms, accompanied by or following either diarrhœa or constipation, where no actual food infection can be decided upon as the actual cause.

3. All of these symptoms plus apathy, restlessness, delirium, or convulsions, *and slight or marked hyperæsthesia* over the entire body, limbs, or muscles, this being very suspicious, indeed, if the disease is in the neighborhood.

4. These symptoms plus the early loss of reflexes wholly or in part.

Some cases, however, start in with purely catarrhal symptoms. The clinical pathologist tells us that in many cases there is a hypoleucocytosis with a relative lymphocytosis at the start. This has not as yet proved to be constant. Likewise several reported findings in the spinal fluid. Some authorities lay stress on the combination of irritability, sweating, and hyperæsthesia. This is also a combination that is far from constant. I believe the most important symptom is that of hyperæsthesia and it usually appears early. In suspicious cases be on the look out to start the treatment immediately on the appearance of anything that looks like beginning paralysis. It is the early treatment that counts for a great deal in the end result.

Differential diagnosis: The following conditions are to be borne in mind and excluded in making your diagnosis in any suspicious case:

1. Palsies of cerebral origin, the most common form of which is a hemiplegia. In this condition, however, you will find no flaccidity of the limbs, no loss of or change in the electrical reaction. The reflexes are increased. The intelligence may be impaired. It is not a very common condition in the young and when present may be ushered by convulsions.

2. Transverse myelitis—a rare condition in childhood, in fact practically unknown in the young: The distribution of the paralysis is equal; there are increased reflexes at first, and you will find that sensation is affected.

3. Pott's paraplegia: You would have an antecedent history of tuberculosis of the spine, the signs of the disease, etc.

4. Spastic spinal paraplegia: In this condition the reflexes are increased and the distribution of the paralysis is equal.

5. Rheumatism and other joint diseases: In these one would find all or some of the following: Redness, local heat, swelling, different mode of onset, tenderness, sweats, normal reflexes, one or more joints affected, rigidity instead of flaccidity, absence of paralysis.

6. Multiple neuritis: This is also a rare condition in children. It usually follows metallic poisoning or the infectious diseases. Its starting place is the extensors of the hands and feet, and the distribution of the paralysis is equal. There are also sensatory disturbances.

7. Diphtheritic paralysis: Previous history of diphtheria; general muscular weakness long before the paralysis intervenes, the peculiar selection of affecting at first the muscles of the neck and throat with a rather slow time of progression in contradistinction to the usual quick involvement in anterior poliomyelitis.

8. Scurvy: In which diagnosis, as a rule, the age of the patient is to be considered, the paralysis is only apparent and not actual, its cause being the disinclination to move the limbs for fear of the pain and tenderness in them. Look for the blue gum line. History of too much carbohydrate food, etc.

9. Erb's paralysis: This being a birth palsy it would probably have a history of being noticed a few hours or days after birth. There is local anæsthesia in the distribution of the circumflex nerve. The posture of the arm is also characteristic.

Prognosis: The prognosis as to life is usually very good in the simple spinal form of the disease. In the types where it extends up to the brain proper and involves the higher centres your patient will probably die. Recovery even then, however, may take place in a few cases. Therefore be guarded in what you have to say. So far as I can ascertain the mortality is about from five to ten per cent. The amount of permanent damage is usually very much less than the primary paralysis. The ultimate result will depend upon the amount of permanent injury sustained by the various nerve centres and their constituent parts, plus the amount of good care and proper treatment received during the long stage of convalescence. During the acute stage of the disease a halt in the advance of the paralysis, from twenty-four hours to thirty hours, usually indicates its maximum intensity or extent has been reached. Estimates as to permanence of the paralysis during the subacute stage is generally computed as follows: Loss of faradaic irritability at once in the affected parts usually means permanent paralysis. Gradual recovery up to a certain point may be expected when the faradaic irritability is lost later. The later it is lost the better the chance for recovery. The reaction of degeneration is another way of estimating the permanent damage. About a week after the initial paralysis, the faradaic current reaction in the muscles and nerves directly dependent upon the diseased area of the cord is lessened and soon lost. If the faradaic current is retained or merely diminished, the chances are good for ultimate recovery. The muscles which have lost their faradaic contractibility may still be made to act to

the galvanic current. In normal muscles the reaction is greatest at the closing of the negative pole. In paralyzed muscles the reaction is slower, requires greater stimulation, and the contraction is greater at the closing of the positive pole. This is the reaction of degeneration. The muscles showing this phenomena are those in which a permanent deficiency may be expected. Remember that while your treatment is not going to affect those parts of the nervous system which have been entirely destroyed, your prognosis can be made better or worse by the kind of care you are going to give your patient for the conservation of what is only partly destroyed or temporarily crippled. Also on your skill in not allowing contractures, deformities, and other disabilities to develop. Remember, also, that constant, steady, and untiring efforts extended over from two to three years may also work wonders in apparently hopeless cases.

Prophylaxis: Before discussing the treatment of this disease it would be advisable to say a few words regarding what can be done to prevent the spread of it. We cannot say much with certainty, but still there are a few things which seem sensible in view of our present limited knowledge. Every suspicious case should be quarantined the same as a suspected case of any other contagious disease. If proved a true case the quarantine should be maintained for from three weeks to six weeks. Certainly during the entire acute stage. To disinfect the urine hexamethylenamine should be given. It may also influence the course of the infection. The stools should be treated as in typhoid fever. The nasal passages and their secretions should be carefully treated with antiseptics. Paper handkerchiefs, which can be immediately burned, are to be recommended for use to receive the nasal secretions. The bedding and bed garments of the patient should be boiled as also his eating and drinking utensils. Toys, books, and other things handled by the patient should be antiseptically treated. The doctor in calling on the patient should wear a gown and cap, such as are worn when attending any other contagious disease. The hands and face should be thoroughly cleaned when the visit is over. These same rules apply to the attendant of the patient. Other families with children in the neighborhood should be warned of the presence of the disease and instructed to stay away from that particular house where the disease has made its appearance, and that house should be most thoroughly disinfected after the acute stage of the disease has passed. In the vicinity a régime of daily cleaning of the nasal passages with first a strong antiseptic solution and continuing with a milder one should be at once instituted. Children known to have been in intimate contact with the patient should be given in addition a mild course of hexamethylenamine for several days and also a thorough catharsis. General prophylactic measures would be to caution against injudicious exposure to the extreme heat of the summer sun during that time of the year, overfatigue, ice cold baths when overheated, and drinks of a like kind. Lying on the cold ground after a heating exertion is not advisable. All of these things assist in lowering the normal body resistance. We can also advise parents to see that their children are fed food suited to their age, need, and development, and that they get this food at proper times and are not allowed to eat "any old thing at any old time." Insist on proper regulation of the bowels—at least one good movement a day is an absolute necessity. Children in whose families the acute disease exists should be excluded from school.

Treatment: There being no specific early treatment of this disease so far as medication goes, the literature abounds with suggestions as to what should be used in the early stages. Perhaps with our better understanding of the pathology of this disease many of these proposed medications will be shown to be useless and maybe harmful. You have to fight the symptoms as they appear and as indications for treatment show themselves. The administration of hexamethylenamine to suspicious cases should certainly be an advisable measure and one calculated to limit probably the spread of the process if it is present. Also thorough cleansing of the nasal passages must be instituted in view of recent discoveries. An icebag to the head may help some in cases where the brain seems to be involved. It is very doubtful if counterirritations to the spinal column assist in any way to control or limit the course of the disease. Catharsis is certainly indicated—calomel or castor oil—as it is in almost any acute infection. A clean gastrointestinal tract always helps in the treatment of disease. The usual light diet given to a sick child confined to bed should be instituted at once. Nerve sedatives of a mild nature may also be given in an attempt to quiet the irritated nerve centres. In the past, various means of counterirritations to the spine, such as the Paquelin cautery, iodine, mustard, icebags, etc., have been recommended. I think at the present time most of us believe they are of no service whatever because of the fact that our new pathology of the disease emphasizes the fact that there is a stasis of blood in the cord rather than a hyperæmia. High temperatures may be reduced by hydrotherapeutic measures. While as to medication in the acute stage there is a wide divergence of opinion, there is a complete agreement that there must be perfect rest during this stage, some authorities even advocating the encasing of the entire body in a plaster of Paris cast during this stage so as to make sure there is a perfect rest of all the parts affected. I cannot agree with this, for the necessary handling of a supersensitive child to carry out this procedure will certainly do more harm at that time than the completed treatment of this kind will remedy while it is in force. The affected parts must be mapped out and measures taken to protect them. They should be carefully wrapped in cotton and artificial heat applied if necessary in an attempt to keep up their normal circulation and temperature. Care must be taken to prevent contractures and deformities even in the acute stage, therefore the affected parts should be put in positions of overcorrection in the direction which the affected or paralyzed muscles could have formerly put them, and held there by proper and competent apparatus strong enough to resist the counterpull of the unaffected opposing muscles. Nothing should be allowed to rest against the extremities, not even the bed coverings. Use a cradle over the bed to

prevent this. Have your patient handled as little as possible, but do not keep him in bed flat on his back. Have this posture changed from time to time to a lateral one. This will help some in preventing additional stasis in the cord and lungs.

After the acute stage comes the chronic one, during which recovery begins. The acute stage ends with the cessation of the spread of the paralysis, the disappearance of the pain, the tenderness, and the supersensitiveness. And until the cessation of the acute stage, which may last from one to three weeks, and even longer, no active curative measure is to be started. When you do start this latter treatment, however, be prepared to carry it out earnestly and faithfully for from two years to three years, and if you are getting results stick to it for a longer time, even though the process is slow, resolutely pushing aside any suggestions as to relief by surgical measures. It is wonderful what perseverance can accomplish in some of these cases which in the beginning looked positively hopeless; in which, even at the end of six or eight months, we felt we had made no progress toward a cure. The treatment in the chronic stage is mainly electricity, massage, and muscle education, combined with properly fitted and fitting braces, worn preferably both day and night, to guard against contractions and deformities. If the braces are too cumbersome or uncomfortable to wear at night their place should be taken by light, moulded plaster of Paris splints. Under no circumstances should the affected parts be left unguarded for any length of time. Remember, in your treatment, that it is not at all likely that all paralyzed parts are permanently affected—in other words, that their nerve cells have been destroyed. They may be only temporarily affected by the then prevailing conditions of inflammation in the vicinity of their nerve centres and with the recession of this disturbing element the nerve centres will attempt to resume their normal function. They can do this perfectly if the parts have been protected against contractures and deformity, and the muscles they supply with power kept in good condition by the proper care. In the early stage of this resumption of power they will still need the assistance of braces to help them maintain their proper function just as a convalescent patient needs tonics during the final stage of recovery and return to normal conditions.

The question as to how much good is obtained by the continuous use of electricity in this disease is a very mooted one. In the beginning all agree that it should be used, but after muscle action is not to be secured from the use of the galvanic current is it of any service? I do not believe it is, but because it may be I continue it indefinitely. I do not know of any harm that has ever come from its use. Of course for this continuous use the galvanic current is used. In the beginning one must be very careful in not frightening the patient by using too strong a current. To get any benefit at all from the use of electricity, either in the early or late treatment, you must understand something of electrotherapeutics.

Massage of the proper kind and given by a competent masseur working under the doctor's supervision, and given as often as can possibly be arranged for is of prime importance in the successful treatment of this disease. It keeps the muscles in good condition by exercising them and helping their nutrition along. It must be kept up continuously for from two years to three years to get the best results from it. In the beginning light, gentle massage gradually increasing to heavier deep massage with muscle kneading and beating. With this massage is instituted both active and passive motion, every part involved going through its normal movements, so far as is possible by the patient's own efforts and wherever necessary assisted in whole or in part by the physician or attendant. These active and passive movements must be gone through several times daily. To those who live near hospitals maintaining departments of mecanotherapeutics or who can afford to have the machines built and installed at home great benefit can be had in the exercise and muscle education given by these apparatus. Patients must be stimulated mentally to attempt to help themselves by offers of rewards of some kind for accomplishing certain movements. Children may be seated before large mirrors in which they can see every movement of a well part and encouraged to try and repeat these movements with the affected part. Various pastimes may be devised in which unconsciously the patient will be made to try to overcome the existing disability in the excitement of the game. A tendency to limp and a lateral curvature may ofttimes be overcome by building up the shoe on the affected side so as to make such a posture uncomfortable.

At all times must the affected parts be dressed more warmly than the normal parts, because only in this way can the impaired nutrition be partially overcome. Also, during the chronic stage of treatment the general health must be looked after. Strychnine is of value because of its stimulating effect on both the nervous and circulatory systems. Plenty of fresh air and good food are of course very much indicated. If they can get the proper treatment there, the country is better for these patients than the city.

On many of my younger patients I use the Bradford frame for the first six months, keeping the patient on it continuously. In cases of paralysis of the lower limbs I put on this frame, a device of my own, which keeps the limbs stretched out straight and the feet in an overcorrected position, favoring the weakened and paralyzed muscles. Even where it is impossible for patients to come for skilled massage and electrotherapeutics, daily treatments of a certain kind can be instituted by simple instruction to the parents regarding giving massage and electricity, and a brace may also be fitted. Where specialists are to be employed it is now generally conceded by all that these patients do better with the orthopædic surgeon than with the neurologist.

Just a few words about the operative treatment and then I am through. No case should be considered as a surgical proposition until at least eighteen months have elapsed, and better yet is it to wait two years. No case should have any surgical interference no matter how long after the original attack while any spontaneous recovery is going on. The surgical procedures are three, namely, tendon

transplantation and fixation, arthrodesis, and nerve grafting. The last named is the least desirable, as so far the results obtained in most cases leave much to be desired. However, it is worthy of trial if everything else has failed, or if the other two surgical procedures are found impracticable. Arthrodesis is preferred by many as better even than tendon manipulation. This view I do not share, preferring the latter where there is a chance of success. The operation of arthrodesis consists simply of removing the cartilaginous surfaces of articulating bones and holding them in the position desired by plaster of Paris bandages until firm ankylosis is secured. This operation, like any other surgical procedure, must be done under the strictest aseptic precautions. Arthrodesis is sometimes combined with tendon transplantation. The technique of tendon transplantation is too involved to go into a general paper as this is. A few pointers however about this procedure are these: It should be done under an Esmarch bandage when possible. It should only be done after all deformities and contractures have been corrected. Too much should not be attempted at once. Small normal muscles should not be expected to take up the work of larger paralyzed ones besides their own. After the operation, when the plaster of Paris bandage has been removed from the limb which, following the operation had been put up in an overcorrected position, a light brace should be worn for a while and massage and electricity continued for a variable while. Muscle education must also be commenced again.

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AN INSTRUCTIVE CASE OF SYPHILIS, FOLLOWED BY PARESIS.

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[illegible]

In the long retrospect of the practice of two decades, when one looks backward through the vista of experiences, certain cases are apt to stand out with startling clearness, to be impressed upon the memory indelibly. Doubtless every physician has to suffer, to suffer *intensely* for those real errors, for the sad mistakes he makes, to wish profoundly that things might have been otherwise, that his view might have been clearer, and his prophecy more prophetic. These mistakes are indeed the "slings and arrows of outrageous fortune" that gall and irritate, that serve to teach yet greater care, more thoughtfulness, and deeper study, but to suffer for what we reasonably know to be the truth, to know that we are maligned for our truthfulness, cursed for our knowledge, makes us realize of what strength must have been the courage, moral and physical, that uplifted the martyrs during the hours of their trial and tribulation. One would indeed be untruthful were he not to confess to a feeling of pride, a pleasant glow of satisfaction upon finding that he is correct after the lapse of many years, to see the fulfillment of his diagnosis, to *know* that he was correct. This would indeed transcend the justified feelings of professional satisfaction were it not for the sad terminations that marked the outcome of the diagnosis, to feel that after all a human being suffers, when things might (?) have been so different. One's recollection of his own indignation and what he underwent, tempers his feelings to the "shorn lamb's." But let us put aside our retrospective musings and come to the more interesting details of the case in hand. About a decade ago, I was asked to see a case by a brother practitioner. It was, alas, one of those instances where the family forced the consultation and selected the consultant; so much the worse for me. Totally unaware of the hidden and smoldering fires beneath the volcanic crust upon which I so cheerfully walked, I promptly complied. I was not enlightened by the medical advisor or family, with which explanation I record the case. The anamnesis ran as follows:

Case. A man of business, aged fifty-two years, had been complaining for a number of months of anomalous symptoms largely pointing toward the nervous system, especially the brain. He was married, his wife was living, and of the union five children had been born, one prematurely; one lived a few weeks, and the other three aged respectively eighteen, sixteen, and eleven years were living. The oldest, a girl, was nervous and had had "minor" hysterical attacks; the boy, aged sixteen, was strong, well built, intelligent, and healthy; the boy, aged eleven years had had acute articular rheumatism and an attack of chorea from both of which he had seemingly recovered, although his growth was hardly up to my idea of a boy of that age. The patient was about five feet, eight inches in height, weighed usually 150 pounds, but at present weighed 148 pounds, gross (unstripped). He was dark skinned, markedly so of face, the skin being rather dry and leathery looking. He had badly shaped ears, irregular eyebrows, widely set eyes, and a more active innervation of one side of his face, that gave him a peculiar expression when his face became mobile. He was able to give a very clear account of his life. He came of fairly good stock, though two maternal aunts had had tuberculosis. The pulmonary form was fatal to one, but the other made a complete recovery from the bone tuberculosis, which attacked the tibia; curetment and subsequent treatment proving efficient. On the paternal side one individual had died insane but he could not give details as the relative lived in a distant State. His father and mother had been both healthy; the mother having died of pneumonia, the father being yet alive, active, and in possession of all his faculties at the age of seventy-nine years. The patient himself was healthy as an infant, was breast fed and grew rapidly. He lived on the farm until his twelfth year when his parents removed to the city, where he had resided ever since. He had had little education; country school and a few years in the primary branches of the city school system. Had been ambitious and read a great deal so as to educate himself, taking especial pride in "keeping up with events." He had been rarely sick, measles, mumps, and chickenpox, he remembered. He started as a clerk when about sixteen or seventeen years of age. Was always industrious and sober, in fact drank practically nothing until ten or twelve years ago, when fortune smiled on him. He then began to seek more "relaxation," which included free indulgence at table, and gradually increasing consumption of alcohol in all its forms. Had always used tobacco excessively, both chewing and smoking. Denied any genitourinary infections, any specific disease or any opportunity for the contraction of same, claiming he came to the marital bed in a state of virginity, and had never lapsed subsequently. Had always gotten along well in his family. During his early married life there were no children, assigning "financial reasons" as the cause, although both he and his wife really wanted children "to bless the union." He had always been of a rather quiet religious type and fairly regular church attendant. About [illegible] health, first noticing some "indigestion" with an accompanying insomnia, the "result of the stomach trouble." Simple treatment seemed to help him from time to time

but he could now see that he really never was well. He became gradually more nervous. He was usually, as I have remarked, a quiet man, rather reserved, though pleasant and communicative with friends on occasion. He had an unusually retentive memory which he had used freely all his life, and was able to concentrate and "get rid" of work in a quick and satisfactory manner. About a year ago his disposition began to change. He became nervous and restless, did not know what he wanted to do, frequently went out to the club and theatre because "he could not stay at home." His employees found it harder to get along with him and the family noticed that "father was a changed man, so nervous, irritable, and peevish, nothing seemed to please, even what he ordered you to do." He became quarrelsome and abusive at times; would suddenly repent and try to overcompensate by the reverse treatment. He was now a marked insomniac, was very depressed, irritable, incapable of work consecutively, and greatly troubled with his stomach. With the diagnosis of neurasthenia (that garbage can) he was sent away with a companion for a month's stay in Florida, where he fished and rested. While there he seemed better, but in ten days after his return home he was worse than ever. It was at this stage of the disease that I saw him in consultation.

During the recital of this tale I noticed occasional "blurring" of words, a lack of clear enunciation as compared with other words of similar pronunciation. These changes were most noticeable when he attempted to speak rapidly. His family had not noticed any mental confusion; he seemed to be on the contrary too active mentally. He was, as the account will show, of apparently good intelligence, was normally oriented and his ideation seemed unimpaired. His memory was excellent for former events, that is, prior to six months of the time I saw him, but very erratic as to recent events, even of such a nature as should have made a sufficient impression upon him to remember. This was commented on by his family and seemed to irritate him a great deal. He himself realized that it was with difficulty that he concentrated his mental faculties upon any subject matter; that it was hard for him to learn anything new, and that the trouble he had in acquiring was a source of anxiety. Upon close questioning as to why he could not sleep it developed that his head became "tired and sore" and frequently ached so badly as to prevent sleep. It generally disappeared if he could sleep three or four hours, but during the day the dull, tired, sore feeling would prevail. At times it disappeared for a week or a day and returned when his "stomach was out of order." Asked as to vertigo, he stated that he had at times a dizziness or swimming of the head, usually at the times when his headache was worse or his stomach upset. He was emotional at times during the conversation.

Physical examination was carefully made. He was well nourished, tanned from his recent trip. The heart was slightly enlarged, the second sound was accentuated and the blood pressure (Riva-Rocci-small cuff) was systolic 180 m.m. (at that time I did not use large cuff). The pulse was 84, full, strong, regular. Lungs normal, respiration 19, sitting; 22 standing; expansion good. Temperature, 100° F. The sternum was tender to percussion. The examination of the abdomen was negative; the stomach line a little low. There were no glands enlarged, no scars, no exostoses. The tongue was tremulous, indented, and heavily coated, and upon the right side was a small scar. The motor activity as far as grip and use of the arms was good; he complained of nervous weakness; there was distinct weakness and just a suggestion of ataxia when walking slowly. Sensation was normal. The sexual power was weakened; the urinary viscus normal, but its sphincter weak at times. Romberg's symptom was slight. The eyelids presented no unusual appearance when open; when asked to close and open same, there was a distinct ptosis, more marked in the left. The pupils were sluggish, the right larger than the left. There was a slight weakness of the left external rectus and a tremor of the facial muscles on opening the mouth wide. Enunciation was fair although it was evident he was making an effort. The handwriting was legible and without tremor. The reflexes showed the right knee jerk excessive over the left, both Achilles reflexes were exaggerated; Babinski and Gordon's signs negative.

The opinion was expressed to the family physician that we had here to deal with a syphilis of the nervous system with a possible final outcome of paresis. *Impossible!* He was absolutely satisfied that the gentleman not only *dia* not, but *could not* have syphilis. Alas! my confidence in humanity was not of the type that would believe any man or woman was proof against the spirochæta. Not even the tabulation of the symptoms, somatic, objective would influence his decision. To my mind the following facts were sufficient when taken *as a whole:* 1, Mental symptoms referable to several catagories, neurasthenic in type, especially his changed disposition. 2, Ptosis (mild) with difference in degree in eyelids. 3, Pupillary changes (sluggish, irregular; weakness, external rectus). 4, Tremor (of tongue and facial muscles). 5, Reflexes (difference and exaggeration). 6, Motor weakness in lower limbs. 7, Loss of sexual power and weakness in vesical sphincter. 8, Heart (high blood pressure and accentuation of second sound).

Being unable to agree, I suggested that a third man be called in to act as arbiter of our differences. As this was declined there was nothing to do but retire with his and my fate in the hands of the family physician. And here is where I received the full force of my diagnosis. When the family heard of my diagnosis they proceeded to pick my bones and bleach them. The treatment they had received was outrageous and the diagnosis an insult. About six weeks later he began to make steady gains and at the end of four months was again at work. Two or three years later he again broke down in a similar manner, but returned in a short time to work. Six or seven years ago he began to have fainting attacks (apoplectiform?) with an increase of the mental symptoms. After one of his severest attacks he was taken by the wife and son to a well known neurologist in the East, who promptly diagnosticated a past syphilis of the nervous system, and a present paresis. Every energy was bent to eradicate, but alas! the time had passed and he finally closed the pages of his eventual history in a private sanatorium, a paretic, an apoplectiform attack kindly terminating his existence.

In the passage of time, things have come to light. His physician fearing I *might* be right gave him *small* doses of mercury under which he improved. As soon as he was able to resume work, all treatment was stopped and thus it went until the glorious opportunity was lost. Remember this was in the pre-Wassermann days.

Let us consider syphilis of the nervous system for a few minutes. Syphilis in this domain of the human economy is so regularly irregular, that *irregularity* of symptoms, the absence of system, constitutes a valuable diagnostic point. When we run across a strange mixture of psychic and somatic symptoms, a mélange of no type, bizarre, unsystematized, transient, appearing, disappearing, recurring, seemingly sudden changes, better now, worse again, this should lead the diagnostician to an inquiry and investigation, including a serodiagnosis. Remember that nervous syphilis follows no law, no rule, that it is as inconsistent and fickle as femininity itself. Especially does this apply to the mental symptoms, which are in these cases to be interpreted by the somatic state. A group of mental symptoms, in conjunction with well marked physical ones, reads differently than when they stand alone.

Syphilis is common; we meet it under many masks and in many unsuspected persons, but write this down as axiomatic, that if symptoms occur in a person you would least suspect, suspect that person until the diagnosis is certain. I am often struck with the great fear some family physicians feel when the diagnosis of syphilis is made; they wish at once to suppress the truth rather than realize that a frank knowledge leads to careful and persistent treatment. It may in fact be the ounce of precaution. I am sure I state the fact moderately

when I say that *no* neurologist of any experience in diagnosticating brain and cord diseases would pay the slightest heed to the statement that there was no history of infection, and this applies with double force to women, who often do not know of its presence, and if they do are apt to prevaricate even more than men. Remember that a negative Wassermann reaction does not eliminate the question; a positive test settles it in my opinion.

Syphilis of the nervous system does not involve the nerve tissue, but the bloodvessels, membranes, and connective tissue (mesoblastic tissues), the impairment of the nervous, being secondary. It is not *always* curable; does best under most careful, general, and antispecific treatment.

I am wedded to the hypodermic use of mercury and when necessary extremely large doses of the iodides, well diluted with water. Hydrotherapeutics and all forms of physiotherapeutics are valuable aids. Its treatment is a broad subject, too broad to stop and consider here.

115 West Chestnut Street.

ÆTIOLOGY OF THE FUNCTIONAL NERVOUS DISEASES.*

By G. E. Price, M. D.,
Philadelphia.

The three great functional neuroses, hysteria, neurasthenia, and hypochondria, differ radically in their nature and symptomatology, although they have in common many predisposing and exciting causes.

Neurasthenia, the fatigue neurosis, is characterized by exhaustion and imperfect nutrition of the nerve centres. Experimentally, it has been shown by Hodge, Lugaro, and others, that the exhausted ganglion cells of animals present definite changes. The nucleus is decreased in size, irregular in outline, and reacts abnormally to dark stains, while the cell protoplasm becomes shrunken and vacuolated. These changes are not destructive, the cells returning to the normal condition after rest, although their recovery is slow. Neurasthenia is not a condition which arises spontaneously, but can always be traced to an underlying cause. Either the individual has inherited a nervous system deficient in strength which readily succumbs to the stress of life's vicissitudes, or else we find that a sound nervous system has been greatly overtaxed. Inherent weakness of the nervous system is present in the majority of cases as the result of a neuropathic heredity. Direct heredity, the parents being neurasthenic, is in my experience, not as common as indirect heredity. Insanity or nervous disease of the parents, consanguinity, alcoholism, illness of the mother while carrying the child, or conception occurring when the parents were well advanced in years, are recognized predisposing factors.

Exciting causes are numerous and varied. Exhaustion may follow prolonged mental or physical overwork without sufficient sleep and nourishment. Long continued worry and anxiety are often combined with overwork and greatly reinforce the harmful effect of the latter. Alcoholic and sexual excesses contribute their quota of cases, and in many instances all of these factors are operative in a given case. Neurasthenia often follows a prolonged and exhausting illness or may accompany and be the result of a chronic kidney, pelvic, gastric, or other visceral disease ("neurasthenia symptomatica"). Trauma is responsible for a large group of cases, every physician being familiar with the so called "traumatic neurosis." Profound mental shock unaccompanied by physical injury may cause neurasthenic symptoms. Another group of cases are the result of some form of constant reflex irritation ("reflex neurosis"), of which eye strain may be given as a type. Autointoxication from the products of imperfect metabolism is assigned as a cause, but this condition, I believe, is more often the result of the exhaustion than a causative factor. The literature written upon the question and the arguments that have been advanced pro and con recall the query "Does the constitution follow the flag or the flag the constitution"?

Neurasthenia affects males more than females, and is a disorder of adult life, occurring at the full tide of life's struggles and responsibilities. It is rarely seen in old age and seldom occurs before the age of twenty, although one enthusiastic neurologist recently reported what he believed to be a case of neurasthenia in an infant of two years.

Americans are more prone to the disease than their phlegmatic cousins of England and Germany, although how any of the latter race escape the exhaustion psychosis while mastering the intricacies of their language is difficult of explanation. Hebrews, especially of Russian birth or descent, are also very liable to neurasthenia.

Neurasthenia must not be confounded with the prodromal symptoms of the various psychoses to which Dercum has applied the term "neurasthenoid." They are not the result of chronic fatigue, and have only a superficial resemblance to the symptoms of true neurasthenic states.

The term "psychasthenia" has of recent years been applied to cases of neurasthenia presenting marked cerebral symptoms. These patients invariably have a neuropathic or psychopathic heredity.

Hysteria. The nature of hysteria is still a debatable subject, and our understanding of the cause has not progressed as far as our knowledge of the symptoms. Thus Charcot, to whom we are indebted for an illuminating exposition of the manifestations of hysteria, says: "Hysterical are those physical and mental processes of extraordinary character and strength, which may be brought into being by ideas." Janet considers hysteria to be the result of a splitting off or separating of certain elements of consciousness from the total consciousness. At the present time, the ideas of Babinski and Freud are attracting the most attention; Babinski considers that the symptoms of hysteria are induced only by suggestion and autosuggestion and removable by persuasion, and therefore proposes to call the condition peithiatism (curable by persuasion). This writer accuses the physician of suggesting the various symptoms to the patient by the manner of his examination, and asserts that he has never found any of the so called stigmata of hysteria in a patient not

previously examined by another physician. Thus, the prevalence of hemianæsthesia on the left side is explained by him as being due to the fact that the examiner, being right handed, examines first the left side of the patient. But this theory does not account for the right hemianæsthesias, reversal of the ocular color fields, nor, as Janet has pointed out, the hysterical amnesia following somnambulism, which covers not only the somnambulistic attack, but the incidents which preceded and were the exciting cause of the same.

Freud asserts that "in every case of hysteria, the illness is traceable to an actual but forgotten occurrence," usually a painful emotional or mental shock. These "buried reminiscences" are supposed to carry on an independent existence with their own train of associations, not entering into the field of consciousness, yet finding an outlet by means of what Freud terms the "conversion of the sum of excitation" into more or less persistent symptoms which we recognize as hysterical. He then goes still further and states that not only in hysteria, but in neurasthenia and the obsessional and phobic psychoneuroses, the underlying factor is a disturbance of the sexual life dating back to childhood, and says "without repressed sexual events of early childhood, no hysteria." This, to the writer, appears like swinging around in a circle to the old belief that hysteria resulted from disease of the uterus, and I do not see how we can reconcile our traumatic cases to this theory, nor indeed, any others. Why indulge in what Dr. Lloyd has recently termed "subterranean psychology" in the search for a hidden cause, when we can find adequate exciting causes immediately preceding the development of the attack?

Of all the the theories advanced, that of Janet appeals to me as being the most probable. In the hysterical palsies, that part of the brain which exercises volitional control of the arm or leg affected is for the time being separated from the general field of consciousness, while in the case of the spasms, tremors, and convulsions, it would appear that volitional inhibition is cut off. Every departure from the normal must have a physiological, pathological, or anatomical basis, and the following theory has been advanced, based upon the idea that contact between dendrite and cell or dendrite and axone can be made and broken: The shock or other exciting cause of the hysterical attack, produces this severance of contact in the neurone somewhere between the cortex and the part of the body affected, thus separating it from the field of consciousness. This view would be in harmony with that of Janet.

Unlike neurasthenia, hysteria is more common in the female sex, and it also appears at an earlier age, children being frequently affected. It is uncommon after middle life. The Hebrew and Latin races are the most susceptible, yet all nationalities are affected. Heredity plays a very important rôle, Charcot believing that underlying every case of hysteria is a neuropathic heredity.

Among exciting causes, mental or emotional shock takes a prominent place. Hysteria following trauma is common in the experience of every physician, and we find the courts as well as our dispensaries filled with such patients. As in neurasthenia, long continued worry or disease and excessive sexual indulgence act as ætiological factors.

Hypochondria. Hypochondria is not as common as hysteria and neurasthenia, is not as well understood, and of recent years has attracted but little attention. There is even a tendency to discard hypochondria as a clinical entity and class it as a symptom of insanity. In one of our modern textbooks on nervous diseases, I was unable to find the term "hypochondria" in the index, and another volume containing both nervous and mental diseases, classified hypochondria under the head of depressive delusions in the chapter devoted to the general symptomatology of insanity. With this view I am not in sympathy, and I regard as unfortunate the position held regarding hypochondria by so many neurologists. I have seen many clear cut cases presenting the symptom complex of this condition, in which the patients were perfectly sane as judged by our standards of sanity. It is true that we have hypochondroid or hypochondrialike symptoms in certain mental states, but so do we also have fatigue and hysterical symptoms.

Hypochondria has been defined as "a morbid state of the nervous system in which there is mental depression due to erroneous ideas of such bodily ailments as might conceivably be present." These ideas however, are not insane delusions.

The neurosis may be acquired through long continued poor health, but a neuropathic inheritance is the most powerful predisposing factor. According to Gower, the most severe forms occur in persons with a family history of insanity. What appears to be the exciting cause is usually some bodily ailment, which, however, may be trivial. Gastrointestinal disorders, cardiac palpitation, and abnormities of the sexual apparatus are frequently observed. In addition to the three functional neuroses mentioned before, I will conclude my paper with a brief discussion of migraine.

In *migraine* the attacks appear to be the result of some form of autointoxication, the chemistry of which is not at present understood, and which may be the result of a congenital defect. Certainly heredity plays an important rôle, usually direct, less frequently indirect. Like epilepsy, migraine appears early in life, usually at or before puberty. Gower and many of his followers believe that migraine is a neurosis of the cerebral cortex and speak of the condition as a sensory epilepsy. In epilepsy, however, as we well know, the signs of arrested development are common and pronounced, and mental and moral abnormities are the rule. Migraine, on the other hand, while it may be an accompaniment of neuropathy, is often found in people otherwise perfectly normal. The writer believes that the cortical symptoms are the result of an autointoxication, acting through the vasomotor system. Three types of migraine are recognized, one with vasoconstriction, one with vasodilatation, and a third with vasoconstriction at the onset, followed by secondary dilatation. An indoor and sedentary life is a predisposing factor, and such conditions as indiscretions in diet, constipation, fatigue, excitement, and eye strain act as exciting causes of the individual attacks.

1700 Walnut Street

DUODENAL ULCER.

By J. M. Lynch, M. D.,
New York.

There can be no question as to the frequency of duodenal ulcer. The symptoms are known to every practitioner of medicine. To the surgeon, however, particularly such men as Moynihan, of Leeds, and the Mayos, of Rochester, belongs the credit of having elucidated it.

Moynihan, in his work on *Ulcer of the Duodenum*, gives such a lucid exposition of the subject that it would seem as though one needed only to read his book to make an accurate diagnosis in the first case that came before him. That was my own impression till my experience with the case given below.

We are all familiar with the fact that chronic appendicitis is frequently a factor in spasm of the pylorus, so that in a case of chronic dyspepsia we rarely accuse the stomach until after we have eliminated the appendix and gallbladder. But if the pain and other symptoms are entirely confined to the appendix, this organ is usually tried by drumhead court martial and found guilty.

Case. Mrs. M.; age, thirty; married; no children.

Family history: Father died at sixty-five, of apoplexy; mother living, healthy. Brothers and sisters all healthy.

Habits: Patient drank tea, coffee, and alcoholic liquors in moderation. Smoked six cigarettes daily.

Diseases of childhood: Measles and scarlet fever; no complications.

Past history: Patient had been perfectly well up to five years ago when she had what was evidently an acute inflammatory process of the uterine annexa. Since then she had suffered more or less from constipation. The present trouble dated back to February, 1909, and following a rather constipated movement, she had an acute pain in the anus; the pain was so severe that she was given morphine to relieve it. Following this, she was fairly comfortable until the next movement, when she began to have severe pain radiating down the legs and to the back; she continued in this condition for several weeks, having pain every time the bowels moved; but by means of suppositories and laxatives was fairly comfortable. Following this, her constipation became worse and owing to the pain that accompanied it she went to the toilet only once in two days. In May, 1909, she was referred to me.

She was a woman of thirty, rather stout, but anæmic. Examinations of the heart and lungs were negative. Abdominal examination revealed nothing unusual, except some tenderness over the appendix.

Vaginal examination: Uterus retroverted and retroflexed. A good deal of thickening over the left tube, which was bound with a mass of adhesions to the sigmoid. The right ovary was prolapsed, enlarged, and fixed in the posterior cul-de-sac.

Rectal examination: The sphincter spasmodically contracted. There was an anterior sentinel pile; above this could be seen a well developed fissure. Examination was so painful that no further effort was made to explore the rectum at this period. Local applications to the fissure gave the patient great relief and in a short time it was entirely healed. A proctoscopic examination revealed atrophic, catarrhal condition of the rectum and lower portion of the sigmoid. Above this it was impossible to pass the proctoscope on account of an acute angulation of the sigmoid, evidently due to an adhesion to the left tube. Three months afterward I was called to see this patient with a recurrence of the fissure, severe pain over the appendix, exquisite tenderness on pressure, and all the classical symptoms of appendicitis. A diagnosis of acute appendicitis was made and the patient advised to have an operation performed. That evening she passed a lot of dark clotted blood and fæcal matter; subsequently she had a number of movements, dark in color, and containing large quantities of digested blood. An examination of the [illegible] nitrous oxide gas [illegible] what has already been stated. Next morning the patient was given a Boas-Ewald test breakfast.

Macroscopical: Large quantity of liquid with very little solids.

Microscopical: Starch, yeast, and a few epithelial cells with fat globules.

Chemical: Free hydrochloric acid, 70; combined acids, 24; total acidity, 90; lactic acid, a trace; starch digestion, poor.

Here was a patient who until she was cross examined gave no history of any disturbance of digestion. Her pain was all referred to the region of the appendix, and the tenderness was confined to the same region. Later on, I elicited the fact that she suffered off and on from what she called indigestion; that she occasionally had pains coming on some four or five hours after eating; took something for relief, vomited, and felt better after it.

The case we have related proved very instructive, and in looking over the histories of a number of cases we can now recall several that were undoubtedly cases of duodenal ulcer. We have also seen several cases subsequently, but the symptoms were not confined to the appendix, and a diagnosis of ulcer could have been made from the history. A point worth mentioning is the fact that the pain seems to be most intense just previous to the hæmorrhage, subsiding, subsequently, by lysis. We publish this case in the hope that others will not be taken unawares, as we were, and that in cases of appendicitis a careful history of the patient's digestive apparatus will avoid the error into which we were led.

The two conditions which are most apt to be confounded are spasm of the pylorus, due to the chronic appendicitis, and duodenal ulcer, with all the symptoms referred to the appendix. A carefully taken history will clear up the diagnosis, as every case of duodenal ulcer has a clear cut history.

58 West Fifty-eighth Street.

THE IMPORTANCE OF NASAL BREATHING.

By A. Emil Schmitt, M. D.,
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For several years past much attention has been given to the importance of the removal of superabundant adenoid tissue, which is looked upon as the causative factor for all ills which really are due to defective nasal breathing and without a conception of the true relation of the various factors involved. I will here dwell particularly on the great importance and marked influence of air pressure upon the internal structures of the nose during normal breathing and the serious consequences which result when nasal breathing is not persisted in.

A person breathing constantly through the nose has nostrils of sufficient size to accommodate a volume of air to expand the lungs to their full capacity. Vibrissæ are present to keep out the gross particles of dust. The nasal fossæ within show a sufficient height with a low floor corresponding to the properly flattened palate, and the lateral walls are pushed sufficiently far out to give roomy fossæ on either side of the septum. Where a deviation of the septum exists the lateral wall of the corresponding side is made to encroach upon the maxillary antrum of that side in order to admit the

required volume of air, the parchmentlike bone of the lateral wall receding before this continuous pressure of air, thus contributing one of the various factors in the production of asymmetry in the sinuses. The current of air passing backward draws the warmed air from the sinuses and becomes moistened and purified (filtered) by passage over the ciliated epithelium of the nasal membrane. On expiration the air heated and moistened in the lungs passes out through the nose; part of it is forced into the sinuses as a reserve for the next inspired air, which should be warmed and moistened before entering the lungs. Hence, the sinuses are the reserve chambers to warm the respired air, besides helping to reduce the weight of the skull and giving resonance to the voice. The openings to these sinuses are placed high up in protected places ideally situated to prevent extraneous matter from entering them and thus preventing their infection. The lining membrane which contains the blood supply for their bony walls gives off only sufficient moisture to preserve this structure.

The volume of air passing through the nasal fossæ from infancy onward exerts marked pressure on all the structures within the nose, pushing the lateral wall outward and the floor downward sufficiently to give the space required for the growing capacity of the lungs. The low floor corresponds to the properly flattened roof of the mouth, the wide alveolar process allowing the teeth to develop without crowding. The air normally conducted through the nose and nasopharynx will produce sufficient pressure to support the vessels in the adenoid tissue normally present in the nasopharynx and hence keeps its growth within bounds. The nasopharynx is commodious, gives the palate a wider range of motion, and adds to its mobility.

To overcome the resistance offered by the comparatively small entrance which the anterior nares present for the large quantity of air to fill the lungs, the muscles of respiration are brought into play for the uniform expansion of the entire chest and lungs. A great quantity of blood is thereby drawn into the chest which bathes the lung tissue, thereby tending to preserve its healthfulness and also to increase the exchange of gases, and hence establish better metabolism throughout the body.

Against all this let us compare mouth breathing. The neglected nostrils are collapsed from disuse. The absence of air pressure within the nose has permitted the fossæ to remain narrow. If they are sufficiently roomy the mucous membrane covering the turbinals is swollen from nonsupport. From the same lack of pressure the floor of the nose has not been depressed, resulting in the high vaulted palate, the contracted alveolar process, and irregularity in the position of the teeth. The upper jaw and lip are pushed forward and the lower lip droops and is thickened.

At this point I desire to take exception to the accepted theory of Lombroso that the vaulted palate is a distinctive mark of degeneracy and substitute the above explanation as the true cause of that deformity.

In those in whom there is an abundance of adenoid tissue lining the nasopharyngeal wall, the vessels of this tissue being unsupported are continually in a congested state. Added to this is the negative pressure or suction resulting from the air sweeping through the mouth down the pharynx, constituting a second factor in the production of hyperæmia of the adenoid tissue, both factors resulting in the true cause for the superabundant growth of that tissue. The adenoid tissue which occludes the postnasal space interferes with the proper aeration of the middle ear through the Eustachian tube, producing defective hearing, and interferes with the proper function of the soft palate which so often is manifest in young children and frequently is the only cause for their defective speech. With the disturbed circulation in the nose and nasopharynx the circulation at the base of the brain is affected, influencing the mentality of the mouth breather who frequently is put down as a dullard at school.

The dust laden and infected air passes through the mouth, producing dryness, infecting, and inflaming the tonsils and pharynx, eventually permanently enlarging the tonsils through repeated insult and increasing the liability to circumtonsilar infections. On account of the large opening which the mouth presents, no extra effort is required during inspiration, as is the case when the resistance of the smaller aperture of the interior nares must be overcome; hence the muscles of the chest are not brought into play as in the former instance, the chest remains contracted, and the lungs incompletely expanded and aerated especially at the apices. The increased amount of blood which should normally enter the chest does not enter, leaving the lungs in an anæmic condition oftentimes unable to cope with the germs which enter with the dust laden air. The air passing into the lungs is cold, unfiltered and unmoistened, chilling the lung, affecting its lining membrane and circulation. The deposit of dust which might contain noxious germs in great numbers and too numerous to be taken care of by a reduced circulation, frequently results in inflammation and tuberculosis of the lungs.

At night the mouth breather is restless and suffers with disturbed sleep. His head is thrown back, due to the relaxation and shortening of the lower jaw muscles and the tension of the extensors at the nape of the neck. For this reason the mouth remains open in spite of cloth or leather jaw supports which are frequently used to overcome mouth breathing at night. Besides the increased drag on the lower jaw, there is also added the disturbed circulation of the head due to its retroflexed condition.

Mouth breathing is due to several causes, but in most instances it is purely a habit. In the case of a nasal obstruction the amount of air possible to be drawn through the nose may be entirely inadequate, and mouth breathing becomes a necessity until the obstruction is removed. In other cases it occurs in constitutions in which the muscle tonus has been lowered in various parts of the body, resulting in relaxed and flabby muscles and ligaments. When this occurs in muscles supporting the lower jaw (the temporals, masseters, and pterygoids), the jaw drops and mouth breathing occurs and becomes a habit. The relaxed lower jaw muscles remain shortened, the reduced traction on the bone itself producing the small mandible and receding chin.

The drawn skin of the cheeks, produced by the dropping of the jaw, presses on the superior alveolar process, and this, added to the vaulted palate, is a second factor, producing the contracted alveolar process and irregularity of the teeth.

Hence, the immense importance of unrelaxed effort on the part of physician, and especially parents, to induce children from infancy up to keep the mouth closed and make every effort to breathe through the nose, even if obstruction exists in the form of temporary swelling of the nasal membrane or permanent obstruction.

Breathe through the nose, and the air pressure will prevent the excessive growth of adenoid tissue. Remove adenoid growths if they form an obstruction, but if nasal breathing is not persisted in after their removal the excess of adenoid growth will again take place.

Besides repeated remonstrance on the part of physician, teacher, and parents, or others in the home, nasal breathing can be enforced during sleep by closing the lips by means of skin plaster. When this is done sleep is more peaceful and the head rests in its normal position. The child accustomed to the sensation of nasal breathing at night can be so much more readily prevailed upon to persist in nasal breathing throughout the day. So, also, much of the harm done by neglect during the waking hours can be mitigated by the normal breathing during sleep.

Not only can all the ill effects of mouth breathing be prevented, but after they have existed a number of years they can be corrected by the changed mode of breathing, i. e., normal nasal breathing. The oftentimes hideous physiognomy of the former can be remodeled and changed into a normal, sometimes even a handsome type, if the error is corrected before the firmer bones have hardened to too great a degree.

123 East Sixtieth Street.

THE RÔLE OF ACUTE BRONCHITIS, EXACERBATIONS, AND REMISSIONS IN PULMONARY TUBERCULOSIS.*

By H. J. Hartz, M. D.,
Philadelphia.

College Hospital.)

The frequency with which patients present themselves at the medical dispensaries for the treatment of self diagnosticated colds, bronchitides, pleurisies, stomach troubles, and muscular pains when in reality they are suffering from tuberculosis of the lungs is well known. It is not as well known, however, that a large percentage of these same patients have been under the care of physicians before coming to the dispensaries and that the physicians have concurred in the self made diagnosis of the patient without having made a sufficiently thorough examination of the patient.

To a physician who attends a medical dispensary there soon comes the knowledge that the greatest difficulty in making a diagnosis of lung disease lies in having the patient properly prepared for the examination, that is, stripped to the waist in a warm room and facing the light.

It is one thing, however, to make a correct diagnosis of the disease present and quite another to be equally sure of the extent and chronicity of the lesion.

When one takes the time necessary to elicit a satisfactory recital of the past medical history of such individuals as have been found to have lung lesions, one is immediately impressed with the knowledge that for weeks, months, and often for years the patient, being questioned, has suffered the inconvenience of more or less frequent colds with an occasional "touch of fever." When such a history has been elicited subsequently to having made a diagnosis of incipient tuberculosis, the diagnostician is quite likely to change his mind regarding the considered incipiency of the disease. Even in children and young adults this holds true, and the lesions that at first we are inclined to believe are incipient have actually existed for a much longer time.

This is borne out time and again in the dispensary when a physician who has not previously seen the patient makes an examination and states that the condition is incipient tuberculosis, and is much surprised to learn that the patient has been under observation for months and often for years and that the condition was diagnosticated incipient tuberculosis months or years before. The interesting question naturally arises, "How long did the lesion exist before it was first discovered?"

This is of course very difficult to answer, but the more experience one has with pulmonary tuberculosis the more one is inclined to feel that the implantation and incipient changes occurred years before the patient sought aid at the dispensary.

The cases studied in this series were from a clinical point of view, the observations having been made in the outpatient medical department of the Jefferson Medical College Hospital. That possibly preexisting chronic lung affections might influence the present conditions for which the patient is seeking relief led me to select only the cases of older children and those of adults under twenty years of age. For in this class of cases chronic lung affections other than tuberculosis are met with less frequently than in older persons. A careful history was elicited from each patient as to the chief complaint, family history, personal history, and onset and duration of the present illness. The patient was then directed to remove all clothing down to the waist, thus facilitating a more accurate physical examination of the chest.

By having the patient fold the arms on his chest and place the hands on the opposite shoulders and lean forward, thereby widening the interscapular area, a greater amount of lung surface becomes available for examination.

The most frequent sites for manifestations of localized lung involvement are the supraclavicular and infraclavicular fossæ, the interscapular region, and at times the axillary spaces. The examiner is standing in front of the patient, who is facing the light, and notes any difference in the expansion of the two sides. With the patient in the sitting posi-

tion, while the examiner is looking over his shoulders from behind, the latter will often notice differences in the expansibility of the apices, the apex involved being greatly restricted in expansion.

Palpation will also elicit restricted expansions of either side and detect increased tactile fremitus, suggesting an infiltration or consolidation. Occasionally a pleural friction rub is thus detected. Percussion aids us in determining impaired resonance in a given area, and where infiltration or consolidation is present an increased resistance to the palpating finger is felt. Auscultation greatly aids us in the recognition of any irregularity of breath sounds, as roughened breathing, granular, or cog-wheel respiration, and prolonged expiration. Mucous and submucous râles further confirm the suspicion of an existing tuberculous focus, if the râles are limited to a definite area.

It is not always possible to demonstrate all of these signs and sounds, but the presence of several of these with a suggestive history justifies a tentative diagnosis of tuberculosis. It is only after repeated examinations from time to time that the constancy of the physical signs in the chest, indicative of a pathological process, helps to establish a final diagnosis.

The von Pirquet tuberculin skin reaction was performed in all cases in which tuberculosis was suspected, and never proved negative in any of the cases in which a diagnosis of pulmonary involvement was made. A positive von Pirquet reaction does not always mean tuberculosis when the reaction occurs in children and young adults, but a negative von Pirquet practically excludes the presence of the infection. The appearance of the reaction from the time of vaccination varied from six to twenty-four hours, the severity of the reaction varying with different individuals.

The general nutritional condition of most of the patients did not seem to be seriously affected, while others were so acutely ill that it became necessary to have them admitted to the hospital wards. Most of the patients showed a slight variation in the temperature, which varied from 0.2° to 0.8° F., either above or below normal, rarely exceeding 1.5° F.

Under treatment, rest, hygiene, diet, and medication all of the patients improved to such a degree that they were able to return to their vocations without further annoyance of the subjective symptoms. But the local signs in the chest persisted, assuring us that the lesion in the lungs, though lessened in its activity, was the underlying cause of the frequent recurrence of symptoms.

Catarrhal affections of the upper respiratory tract, such as nasal, pharyngeal, and bronchial catarrh, demand their respective consideration and should not be mistaken for an incipient tuberculous lesion.

It is not within the scope of this paper to rehearse in detail the symptomatology and differential diagnosis of these conditions, for these can be found depicted with great accuracy in any textbook on practice of medicine or in a treatise on physical diagnosis. It is intended merely to call attention to those cases of colds which persist beyond a reasonable time or recur at frequent intervals. In such cases it is only after repeated examinations that the true ætiological factor becomes ascertainable. In these, particularly, the tuberculin skin reaction and routine examination of the sputum for tubercle bacilli are means of incalculable assistance in aiding one to arrive at a positive early diagnosis.

The following cases well illustrate the facts dwelt upon in this paper:

Case I. M. R.; female; fifteen years; seamstress; appeared at the dispensary March 28, 1910, complaining of cough, expectoration, headache, lassitude, and anorexia of four weeks' duration. Close questioning elicited a history of several similar attacks for past two years. Patient is a well developed female of short stature, with tendency to obesity. Temperature, 99.8° F.; pulse, 108. Physical examination revealed restricted expansion of right apex with impairment of resonance over right upper lobe anteriorly.

April 12, 1910. Temperature, 99.6° F.; cough and expectoration improved.

April 22, 1910. Few mucous râles heard over right upper lobe posteriorly.

June 16, 1910. Slight exacerbation of all symptoms.

July 8, 1910. Von Pirquet reaction positive.

September 1, 1910. Patient had a slight hæmoptysis.

October 4, 1910. Patient felt herself in good condition, is employed at her occupation daily. Few râles heard in upper right lobe.

October 17, 1910. Patient complained of weakness, no cough, physical signs unchanged.

January 20, 1911. Patient returned to the dispensary complaining of cough, expectoration. Temperature, 99.3° F.; râles under right scapula.

Case II. S. R.; female; fifteen years; white; cash girl in a department store.

March 30, 1910. Appeared at dispensary complaining of nausea, vomiting, headaches, flushes of heat, dyspnœa, and pain in entire body. Temperature, 100.4° F.; pulse, 110. Admitted to hospital wards, remaining there for two weeks. Physical signs revealed an acute bronchitis over entire chest with greatest intensity in the right upper lobe.

April 28, 1910. Two weeks after leaving hospital, all signs in chest disappeared, except for few moist râles in the upper right lobe with moderate amount of granular breathing.

May 5, 1910. Returned to her occupation, gained eleven pounds in weight since she first came under observation. Complained of occasional night sweats.

May 26, 1910. Von Pirquet reaction positive, physical signs in chest unchanged.

July 18, 1910. Felt herself in excellent condition.

December 19, 1910. Had gained twenty-five pounds in weight since leaving hospital. Physical signs in chest showed few râles—prolonged expiration and slight impairment in resonance. Complained of night sweats.

Case III. J. T.; age, eighteen; white; male; grocery clerk.

April 15, 1910. Presented himself at dispensary complaining of a "cold" of three weeks' duration, felt nervous and weak. Temperature, 99.3° F.; pulse, 96. Patient was a well developed, muscular young adult in good state of nutrition. Physical examination revealed slight impairment in resonance over the left upper lobe, increased tactile and vocal fremitus, granular breathing, and few mucous and submucous râles. Two weeks later cough and expectoration had improved and patient resumed his occupation.

May 27, 1910. Complained of having contracted another "cold." Physical signs revealed the same condition as six weeks previously, but in addition patient had blood tinged expectorations and night sweats.

June 8, 1910. Von Pirquet tuberculin test positive.

June 28, 1910. Felt himself to be in good condition. Physical signs in left upper lobe persisting.

Case IV. S. F.; female; twelve years; white school girl; came under observation April 8, 1910, complaining of cough, night sweats, headache, weakness of three weeks' duration. Temperature, 99.1° F.; pulse, 112. Physical signs show a generalized bronchitis.

posteriorly showing impaired resonance, increased tactile and vocal fremitus, granular and cog wheel respiration, numerous mucous and submucous râles over right apex on deep inspiration.

May 16, 1910. Von Pirquet reaction positive, physical signs limited to upper right lobe. Had improved in her general condition, was attending to her studies at school daily.

June 3, 1910. Felt herself in good condition with absence of subjective symptoms. Physical signs in chest unchanged.

July 18, 1910. Slight recurrence of symptoms with cough, expectoration and night sweats.

December 5, 1910. Physical signs in right apex present, felt herself to be in good condition.

From a series of fifteen cases, presenting themselves with vague symptoms of colds, bronchitides, pleurisies, stomach trouble, or muscular pains, six proved to be cases of tuberculosis in the incipient stage, while four patients were tuberculous for months prior to their coming under observation. In the latter the progress of the disease was extremely slow and the exacerbations and remissions were so mild and infrequent as to give the patient no cause for alarm. The symptoms in most cases were transient in character, incapacitating the patient but for a brief duration of time, yet were frequent enough to oblige the patient to seek medical relief.

These transient exacerbations are of great importance both to the physician and patient, since they give the patient a false sense of security upon being told that he or she is suffering only from a cold when in fact the underlying lesion is tuberculous in character. It behooves the physician therefore to study the cases carefully and to determine the presence or absence of an insidious onset of a malady which requires the earliest recognition possible. It is in the early cases particularly that the greatest amount of good can be accomplished, for it is in the beginning stages that this dreaded disease is most amenable to treatment.

I am indebted to Dr. E. J. G. Beardsley for many suggestions offered in the preparation of this paper.

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Correspondence.

LETTER FROM LONDON.

Proposed New Dentists' Act.—A Discussion on Colitis. The British Medical Association.

London, [illegible]

The problem of the unqualified dentist is arousing considerable attention in this country. At the present time there are nearly 40,000 unqualified dentists in Great Britain and Ireland, while the qualified dentists number less than 5,000. The British Dental Association intends to promote a bill in Parliament with the object of checking unqualified practice. The chief provisions of this bill are the following: 1. Penalty on unqualified person practising dentistry. Every person who (not being a registered dentist or a registered medical practitioner or a person certified under this act to be exempt from the provisions of this section), either by himself or in conjunction with others, applies any dental treatment for or in expectation of fee or gain or holds himself out as competent to practise dentistry shall be guilty of an offense against this section and shall be liable on summary conviction to a fine not exceeding £50.

2. Exemption of existing unregistered practitioners from provisions of last section: Any person above the age of twenty-one who is at the time of passing of this act and for a period of not less than five years immediately before the passing of this act has been bona fide engaged in the practice of dentistry (such practice not being combined with any other occupation or calling), and is not a registered dentist or registered medical practitioner may at any time before the expiration of six months from the passing of this act apply for a certificate that he is exempt from the provisions of this act, which inflict a penalty. If the authority is satisfied of the truth of the declaration he shall give to the applicant a certificate of exemption.

Another section of the act provides that every person practising dentistry, whether registered dentist or person exempted from the penalty for unqualified practice, shall in each year take out from the Commissioners of Inland Revenue a duly stamped certificate; the first certificate taken out by any person is to cost £1, and any subsequent certificate £5.

Another section deals with direct dental representation on the General Medical Council, and a dental board providing three such representatives, who are to be registered dentists elected by registered dentists.

The last Dentists' Act was passed in 1878, and this provided for registration of qualified dentists with the object of protecting the public by enabling it to distinguish between the educated and the uneducated. To this register were admitted not only qualified dentists, but all who could make good a claim to be at the date of the passing of the act engaged in dental practice.

By this act the use of the title "dentist" was restricted to those on the Dentists' Register, but actual practice of dentistry by unqualified or unregistered persons was not prohibited. It now is and always has been legal for any person, qualified or not, to practise dentistry provided he does not assume the title of "dentist."

The London and County Medical Protection Society strongly object to this bill. They point out that the act will not prevent unqualified practice, and there is nothing in it to prevent any individual, though not registered or certified, or any company, from charging for dental materials or goods sold and supplied.

Another means of dealing with the question suggested is to ask the legislature to insist on the spirit of the existing act of 1878 being followed—insuring that only qualified persons could practise, and at the same time providing that the unqualified now in practice shall be admitted sine curriculo to any final dental examination of the United Kingdom till the expiration of two years from date.

Another means of dealing with the question is to leave it alone and let the unqualified multiply until they destroy themselves by their own competition, while raising continually the standard of medical education essential to the dentist till the public

in time appreciates the value of the educated dentist.

At a meeting of the Harveian Society of London Dr Sydney Phillips opened a discussion on colitis. He said that so called membranous colitis included inflammatory or true colitis and noninflammatory cases incorrectly termed colitis. As to ætiology, he did not think that lead poisoning was a cause, but was convinced that acute colitis might result from articles of food or from water and quoted cases. He thought that asylum dysentery was true dysentery, but in London colitis rarely gave bacteriological evidence of identity with amœbic dysentery.

As to treatment, drugs were of little use, though calomel and opium were of value. The worst cases might end in recovery, and appendicostomy was sometimes useful.

Mr. D'Arcy Power said that chronic colitis might be due to simple irritation, protozoal infection, or bacterial infection, and that two classes were recognizable: one in which the cause could be found and one in which there was a toxæmia from ulceration of unknown cause.

Thorough examination was required for diagnosis, the bowel being washed out and examination made by the finger and the sigmoidoscope. Gross causes thus recognized were scybala in sacculi of the intestine; polypi or cancer, and certain bacterial infections. Ulcerative colitis, however, occurred apart from these causes, the lesions being chronic, destructive, and extensive, producing toxæmia. He described the case of a man who suffered from chronic constipation which became worse and blood appeared in the stools. Fissures and ulcers appeared about the anus and the patient lost appetite and vigor. The pulse became rapid and the temperature high and irregular. Blood and mucus persisted in the motions, which were very irregular, sometimes being passed at short intervals. After simple treatment for a long period appendicostomy was performed and the bowel washed out daily through the appendix with local improvement, though the patient remained very ill.

A vaccine prepared from the pus was now employed; the patient continued to improve, but convalescence was extremely slow and slight relapses were frequent.

Dr. Hale White said he thought the main cause of membranous colitis was constipation. Ulcerative colitis might be secondary to disease of the appendix. In mild cases castor oil with rectal irrigations should be used, failing this appendicostomy should be performed. Vaccine therapeutics was a useful addition.

The programme of the seventy-ninth annual meeting of the British Medical Association has now been issued. The meeting will be held at Birmingham under the presidency of Professor Robert Saundby, physician to the Birmingham General Hospital.

The presidential address will be delivered on Tuesday, July 25, and the sections will meet on the three following days. The address in medicine will be delivered by Dr. Byrom Bramwell, of Edinburgh, and the address in surgery by Professor Jordan Lloyd, of Birmingham. The scientific business of the meeting will be conducted in sixteen sections.

Therapeutical Notes.

Inhalation Treatment of Chronic Bronchitis with Profuse Expectoration. — Bulling (*Bulletin médical*, March 15, 1911) recommends the soaking of six or eight pieces of blotting paper with the following solution, and placing them in different parts of the room. The inhalation of the vapors given off is said to exercise a favorable influence on the bronchial secretion, diminishing and finally drying it up. The formula reads:

℞ Menthol, ... ℥xv;
Eucalyptol, ... ℥xv;
Oil of turpentine, ... ℥lxxv;
Oil of juniper, ... ℥lxxv.
M.

The Treatment of Acne.—Quoting from the *Medical Summary, Southern Medicine and Surgery* for January, 1911, says the scalding treatment of acne is the best local treatment. This scrubbing with the hot towel must be thorough and to the extent of making the pustules bleed if not completely obliterating them. Epsom salt in the water is a good thing. If the face becomes tender after this operation an emollient should be used before exposing the face to the wind. A sulphur ointment is good; so is compound zinc stearate. Calcium sulphide is a useful remedy internally in very stubborn cases. The sufferer should eat nitrogenous foods sparingly and fruits and vegetables freely. Salines and occasional doses of calomel are perhaps our most dependable internal remedies. Arsenic is serviceable as a tonic, especially in anæmic states. A prescription that is very popular in the treatment of acne is the following:

℞ Magnesium sulphate, ... ℥j;
Ferrous sulphate, ... gr. xvi;
Diluted sulphuric acid, ... ♏iij;
Water ..... q. s. ad ℥viii.
M. et Sig.: Tablespoonful in water every morning before breakfast.

The Local Treatment of Chronic Inflammation of the Prostate Gland.—In the *Bulletin général de thérapeutique* for March 23, 1911, Finger is cited as the author of the following method of treating chronic inflammation of the prostate gland. In the first place attention should be paid to the condition of the bowels and the local treatment of any urethritis that may exist, the use of enemas of very hot water being strongly recommended. It is also advised to apply iodine, dissolved in glycerin or as a suppository as follows:

℞ Potassium iodide, ... gr. xxx;
Iodine, ... gr. viiss;
Extract of belladonna, ... gr. iiss.

Incorporate thoroughly with sufficient oil of theobroma to make ten suppositories. Sig.: One to be introduced morning and evening.

For an enema the following may be prescribed:

℞ Potassium iodide, ... gr. lxxv to ℥iiss;
Potassium bromide, ... gr. lxxv to ℥iiss;
Extract of belladonna, ... gr. iiss;
Distilled water, ... ℥vi to ℥x.
M. et Sig.: For ten enemas; one to be administered twice daily.

Another suppository recommended is the following:

℞ Ichthyol, ... gr. xv to gr. xxx;
Extract of belladonna, ... gr. iiss;
Oil of theobroma, ... gr. xxx.
M. et fiat suppositorium.

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SUPERSENSITIVENESS TO SALVARSAN.

During the past few months the intravenous method of administering salvarsan has been rapidly gaining adherents in the profession, both here and abroad. First employed by Iversen and Schreiber, this method is highly endorsed by Ehrlich himself in his more recent communications. Its advantages over the intramuscular method are very marked when one considers the almost absolute freedom from any untoward effects which is characteristic of the intravenous method in most cases. Nausea, vomiting, a slight rise of temperature, chills, and diarrhœa have, it is true, been noted in a considerable number of cases after intravenous injections of salvarsan, but on the whole the method is much less trying to the patient than the intramuscular, especially as the intravenous administration does not give rise to local infiltrations or necroses.

In spite of its advantages the intravenous injection of salvarsan does not seem to be devoid of danger in all cases. Early in the trials of salvarsan Fraenkel and Grouven reported a fatal case of collapse three hours and a half after the intravenous injection of a solution of 0.4 gramme of salvarsan. According to Hering, this death was due to the fact that the solution used was too concentrated (salvarsan, 0.4; water, 15 c.c.; decinormal, NaOH, 1.5 c.c.), and not sufficiently alkaline. Ehrlich, however, believes that there was a condition of supersensitiveness to arsenic in that case. Another case of collapse, with syncope and loss of vision for ten minutes, was reported by von Notthafft (*Deutsche medicinische Wochenschrift*, February 2d), in which there seemed also to be a condition of supersensibility to arsenic.

On April 5th, Dr. Victor C. Pedersen, of New York, reported before the New York branch of the American Urological Association a case of nearly fatal collapse following the intravenous injection of 0.6 gramme of salvarsan. The patient recovered after several hours' hard work by the attending surgeon and consultants. In this case the patient had undergone very careful physical examination before the injection and no signs of cardiac or arterial disease were noted. The collapse may have been due to a myocarditis which had given no evidences of its presence previously, or possibly to a supersensitiveness, as was believed in the other cases reported.

Unreported cases of collapse, one case terminating fatally, have also been related to us by physicians and surgeons in New York. We would urge all those who have had such cases to report them as soon as possible, giving all details of the method of administration, the dose, and the physical condition of the patient before and after injections. While such cases seem to be exceptional, the very fact that a number of them have been reported within a short time urges us to exercise the utmost caution in undertaking the intravenous use of salvarsan.

The greatest care must be employed in examining patients before such injections are given. It is a question whether or not the intravenous dose should not be made as a rule smaller than the intramuscular dose. Some workers have been making it a practice not to give more than 0.4 gramme intravenously. A suggestion of some value perhaps is one made by von Notthafft. He believes that some patients go into collapse from the fright attendant upon the procedure. This is especially the case when the injections are given in hospital operating rooms, with all the panoply of a surgical operation, and when the vein is exposed by incision. The few minutes consumed in making the incision, isolating the vein, and tying the cannula into place, are moments of agony to the patient. Perhaps this may contribute something to the patient's readiness to faint. The cases in which all precautions have been used, in which the dose is small, the solution correctly prepared, the operation quickly and simply performed, and collapse or death follows, must for want of a better explanation be classed as cases of supersensitiveness.

THE LATE DR. JANEWAY.

In the death of Dr. Janeway New York has suffered the loss of one of her greatest physicians and her most valued and public spirited citizens. It is but fit that those who had the good fortune to be closely attached to him through bonds of personal friendship and ties of medical fraternity should

gather to do honor to his great name. In thus mourning the death of such a brother and paying tribute to his memory the members of the profession do themselves honor equally with that shown him who has passed away. To this end a memorial meeting was held at the Academy of Medicine on the sixth of this month at which four of Dr. Janeway's most intimate friends and colleagues eulogized him, each speaking from the point of view of his own relations with him.

Dr. Delafield spoke of Dr. Janeway as a physician, prefacing his remarks by the statement that while in any profession there were many competent men few were great. Not only in his estimation was Dr. Janeway one of the few but he was a leader of these few. He was equipped with those natural endowments that are prerequisite to medical eminence—an unusually tough constitution; a wonderful ability to see, hear, and feel with extreme accuracy and refinement; a memory unfailing alike in matters great and small; a judgment that ever rang true; and withal an intellectual capacity of rare magnitude. Upon these natural gifts was he to build and for the building opportunity lent him a wealth of material both in his service in the wards of Bellevue and in a large private practice. Here his indefatigable zeal and boundless enthusiasm in his search after that knowledge which would best equip him to mitigate the sufferings of his fellow man stimulated him to the exercise of his abundant faculties.

As a pathologist he was characterized by Dr. Welch as, "A true seeker after truth; loyal to truth and zealous in its pursuit." In this field he was a strikingly original worker. Without European experience, he kept abreast of foreign progress by reading in the original the work of both French and German investigators. He did not slavishly follow their methods, but, having mastered them, put them to his own uses. He was an excellent pathological anatomist and whenever the opportunity arose he followed to the autopsy table cases he had observed during life. But here he did not alone seek enlightenment on a few aspects in which he had been most interested, but sought for whatever aberration from the normal he could find. He stored away the knowledge thus won, that he might use it in the help of others should occasion arise.

On behalf of Dr. Chandler, who was unable to be present to pay his tribute in person, Dr. Welch recalled many of the wise measures of reform in public sanitation of which Dr. Janeway as health commissioner was author. And he showed how his loyalty as a citizen ever led him to exercise his ablest judgment in all matters of public weal.

When he was called upon in the capacity of consultant all the rich fruits of his earlier labors tempered by experience and a warm sympathy for his fellow men were brought into service in the giving of wise counsel. Dr. Jacobi, who spoke of this phase of Dr. Janeway's life, referred to him as "A great teacher never conscious of his greatness." Brevity, dignity, and influence were ever manifest in his unselfish nature. He was possessed of practical tact and wisdom and looked for results, not renown.

To Dr. Bryant fell the privilege of recalling that warm and affectionate side of Dr. Janeway's character which made of him a friend. He was modest and charitable and, while reserved and reticent in bearing, he would warm with enthusiasm in the company of his intimates. By those most ruthless critics—the members of his hospital staff—he was looked up to with confidence and trust and love. While not born to command, Dr. Janeway controlled through respect and discipline by virtuous example. During his life he was a great stimulus and inspiration to his pupils and associates.

His memory will long have a similar influence on those who knew him.

ANAPHYLAXIS AND SERUM THERAPY.

Extremely interesting as a general biological reaction, the phenomenon of anaphylactic shock is particularly impressive when studied in guineapigs. A few minutes after the second injection the animal moves about restlessly, breathes rapidly, and often coughs. Its hair stands on end, the dyspnœa becomes more marked, and the animal plucks at its mouth as though attempting to dislodge an obstruction. It staggers or falls on its side, makes convulsive movements, and often dies in convulsions within from five to thirty minutes after the injection. Following the first reports on this phenomenon a number of observers suggested that the occasional occurrence of serious symptoms and even of death in human subjects following serum injections were probably instances of anaphylactic shock. It was natural that such suggestions should have a disquieting influence on the practice of serum therapeutics. As a matter of fact, however, recent investigations have shown how groundless are such fears. In the first place the phenomenon of anaphylactic shock is produced in sensitized animals only when they are injected with relatively large amounts of the serum. In man an amount of serum comparable to that necessary to produce serious symptoms in a sensitized guineapig would approximate 200 c.c. or more. Moreover, the cases reported in literature as characterized by severe symptoms or death were almost all instances of

primary injections, and often the condition of status lymphaticus was found to have been responsible for the untoward result. Finally attention may be called to the excellent studies of Auer and Lewis and of Schultz and Jordan. As a result of this work we know that the condition of anaphylaxis is primarily largely a supersensitization of smooth muscle tissue generally, that the dyspnœa and fatal asphyxia seen in guineapigs in anaphylactic shock are due to the tetanic contraction of the smooth muscle tissue surrounding the smaller bronchi, and that in the guineapig the mucous membrane at this point is especially thick and folded so that the tetanic muscular contraction causes sufficient constriction to block the lumen of the bronchi entirely. Such an arrangement appears to be peculiar to guineapigs, and this fact accounts for the absence of the fatal asphyxia in anaphylaxis in other animals. Practically all the evidence concerning the relation of anaphylaxis to serum therapy shows that a repetition of serum injections in the human subject should not be feared.

FALSE VEGETARIANISM.

We know of an ardent vegetarian who keeps a supply of cheese in a desk in his business office, from which he helps himself liberally and frequently during the day; thus Nature replenishes the supply of protein supposed to be denied her. Many Americans seem to think that the value of cheese has just been disclosed to the world by the Department of Agriculture, with its protein content almost twice that of meat and its uncommon absorbability. For ages, the Italians, the Iberians, and other peoples who are largely vegetarian, not from choice, but from dire necessity, have been scattering grated cheese over their macaroni and in their *maigre* soups, and have thus cheaply met the craving for the highly nitrogenized foods. The egg is another permitted indulgence to many vegetarians from sentiment; it is also largely proteid, over eleven per cent. It is whispered that sometimes dishes of the vegetarian menu are flavored with meat extract, which supplies a savory element not otherwise to be obtained. Nature may not have a sense of humor, but she is strong for her rights.

THE PATHOLOGY OF THE THYMUS.

In a recent paper by Marfan (*Archives de médecine des enfants*, November, 1910) it is shown that simple hyperplasia of the thymus is by far the commonest lesion of this gland, and is the causative factor of hypertrophy of the organ in most instances. This is more frequently observed in early childhood, but when occurring later in life it is due to a defective involution of the thymus. Sclerous atrophy is particularly encountered in athreptic subjects, while other lesions, such as abscess, syphilis, and neoplasms are much less frequently met with.

The symptomatology of the various lesions of the thymus has given rise to much discussion, and all precise knowledge possessed at present relates to the local changes produced by hypertrophy of the organ. Hypertrophy of the thymus is the only lesion that can be diagnosticated, while the diagnostic elements vary according to the clinical types, such as the latent and dyspnœic forms. It is also hypertrophy that may be cured. Besides the general treatment employed in all instances of lymphoid hyperplasia in early infancy, thymectomy has given excellent results when accidents arising from compression occur. The operation is relatively easy of execution and offers few dangers.

THE HABITS OF COLLEGE BOYS.

Attention has often been drawn to the fact that college students who smoke do not, as a rule, attain a high scholastic rank. Smoking is undoubtedly among other things a luxury, and those who are single minded enough to bend all their energies upon their studies will forego that distraction as well as theatre going and other relaxations less harmful, and thus inevitably surpass the young men who find other things in college life than lectures and books. The average college boy is satisfied to take an average place in his classes and fails to see why more should be demanded of him, just as the ordinary adult is satisfied with a place in the ranks. Smoking is a symptom rather than a cause of the contemplative, so called lazy, habit of mind. It is, however, an ugly habit in youth; a huge pipe hanging from the lips of a young man in the street looks weak, absurd, and out of place. Drinking, too, is more than unnecessary to a boy. Tobacco belongs with alcohol to middle age, with its beginning impairment of the nervous system, at which period the milder narcotics have their value in conserving energy and preventing waste. Even if there was no direct soothing effect, these agents, by compelling, for their indulgence, a certain amount of rest from concentrated work, relax the strain upon brain and body that might otherwise lead to a quicker breakdown. A young man, however, indulging in alcohol and tobacco is unconsciously confessing to a premature degeneration, and the college ideal should be such as to frown down ab-

Obituary.

JAMES EVELYN PILCHER, M. D.,
of Adrian, Mich.

Captain Pilcher, surgeon, author, and lecturer, died at St. Joseph's Hospital, Savannah, Ga., on April 9th. In 1890, when stationed at Fort Ringgold, Tex., Dr. Pilcher, as captain in the medical corps of the army, fought an epidemic of dengué; he was attacked with the disease and never fully recovered from the effects, which finally forced him to resign from the army. During the Spanish war, Captain Pilcher acted as executive officer of the chief surgeon's office in the South. He was connected with several medical and military journals. Captain Pilcher was fifty-four years of age and was born at Adrian, Mich.

CHARLES A. OLIVER, M. D.,
of Philadelphia.

Dr. Oliver, the well known ophthalmologist of Philadelphia, died on April 8th, of uræmia. He was born in Cincinnati, O., in 1854, and graduated in medicine at the University of Pennsylvania in 1876. He was associate clinical professor of ophthalmology at the Women's Medical College, secretary of the board of surgeons of the Wills Eye Hospital, and lecturer on diseases of the eye at the Presbyterian Hospital School for Nurses. Dr. Oliver was a frequent contributor to the *Journal* on ophthalmological subjects, as well as to other medical publications in this country and in Europe.

News Items.

The Medical Society of the State of New York will meet in annual session in Albany on Monday, Tuesday, and Wednesday, under the presidency of Dr. C. Stover, of Amsterdam.

The Medical Association of Georgia will hold its annual meeting in Rome, on April 19th, 20th, and 21st, under the presidency of Dr. E. C. Davis, of Atlanta. The headquarters of the association will be at the Cherokee Hotel.

Addition to the Sloane Maternity Hospital.—Plans have been filed for building four additional stories on the Sloane Maternity Hospital, to cost about $60,000. These additional stories will be used for private patients, and will have a pavilion on the roof.

The Date of the Annual Meeting of the Medical Society of New Jersey has been changed to June 13th, 14th, and 15th. It has also been decided to hold the meeting at the new Monmouth Hotel at Spring Lake, instead of at the Coleman House, Asbury Park, as originally planned.

Plans of the New Postgraduate Buildings to be Exhibited at Dresden.—Plans and full descriptions of the new buildings of the New York Postgraduate Medical School and Hospital will be shown at the International Hygiene Exhibit, which is to be held in Dresden from May to October, 1911.

A Vacancy in the Clinic of the Washington Heights Hospital.—There is a vacancy in the medical and surgical clinic of the Washington Heights Hospital, which is held on Tuesdays, Thursdays, and Fridays, from 2 to 4 p. m. Applications should be sent to Dr. L. Neuwelt, 2424 Seventh Avenue, New York.

Personal.—Dr. Llewellys F. Barker, of Baltimore, surgeon in chief at Johns Hopkins Hospital, and professor of medicine in Johns Hopkins University, was operated upon for appendicitis on April 10th by Dr. J. M. T. Finney. The operation was successful, and it is thought that Dr. Barker will make a good recovery.

Civil Service Examinations.—Among the positions for which the New York State Civil Service Commission will hold examinations on April 29th, will be one for the position of physician, both regular and homœopathic. Applications must be filed on or before April 21st. For detailed circular and application blank address the State Civil Service Commission, Albany, N. Y.

"Medical Institute" Case Held for General Sessions.—The adjourned case of the "Medical Institute," operating under the name of "606 Laboratories," concerning which an item was printed in the preceding issue, came up for hearing in the Jefferson Market City Magistrate's Court last Tuesday and at the close the defendants were held for appearance before the Court of General Sessions.

The Interurban Clinical Association held its thirteenth annual meeting in Baltimore on April 7th and 8th. Prominent physicians, surgeons, and pathologists were present from New York, Philadelphia, Boston, and other Eastern cities. It is the purpose of the association to study capital operations and epidemics, the causes and the results, and the benefit and advancement of the medical, surgical, and pathological sciences.

The Semicentennial of the Massachusetts Institute of Technology was celebrated in Boston during the past week with a congress of technology, which was attended by famous scientists and educators and leading men in the world of commerce and industry. Among those who were present and made addresses were Thomas A. Edison, Alexander Graham Bell, George Westinghouse, Governor Foss, Mayor Fitzgerald, President Lowell, of Harvard, James M. Crafts and Henry S. Pritchett, former presidents of the institute.

Changes in the Faculty of the University of Pennsylvania.—Dr. Alfred Stengel, professor of clinical medicine at the University of Pennsylvania, was appointed professor of medicine, at a recent meeting of the board of trustees, to take the place of Dr. David L. Edsall, who resigned the chair to go to St. Louis at the end of the present year, to accept the chair of preventive medicine in the Washington University. A chair of Röntgenology was established, Dr. Henry K. Pancoast being elected to fill it. Another appointment was that of Dr. T. Turner Thomas, an associate in surgery, to be associate professor of applied anatomy.

A Two Million Dollar Tuberculosis Fund has been established by James A. Patten, of Chicago, who has made money and fame as a speculator in grain and cotton. Mr. Patten has given half a million dollars to the Northwestern University to be expended for medical research into the question of the prevention and cure of tuberculosis, and it is reported that he is to increase this fund to two million dollars, and that he will himself devote personal attention to the administration of this fund. Mr. Patten's interest in this particular field of work is said to be due to the fact that his brother died of tuberculosis after suffering for many years.

The American Society for the Study of Alcohol and Other Narcotics will hold its fortieth anniversary meeting at the Hotel Belvedere, Baltimore, on April 19th and 20th. It is said that this society was the first organization formed in the United States for the study of alcohol and its problems, and its official organ is the *Journal of Inebriety*. The programme includes over thirty papers, which cover a wide range of subjects, all of interest to the general practitioner. A cordial invitation is extended to the medical profession to attend. For programmes and further information regarding the meeting address the secretary of the society, Dr. T. D. Crothers, Hartford, Conn.

The Williamsburgh Medical Society.—At a meeting of this society, held in the Willoughby Mansion, Brooklyn, on Monday evening, April 10th, the programme consisted of a "symposium" on abortion. Dr. O. Paul Humpstone read a paper on the Ætiology of and Indications for Abortion. Inevitable and Incomplete Abortion was the title of a paper presented by Dr. A. M. Judd. The Legal Status of Criminal Abortion was the subject of an address by the Hon. Hugo Hirsch. Dr. John O. Polak read a paper on the Treatment of Sepsis, and Dr. William J. Robinson, of Manhattan, read a paper entitled Is Abortion Justifiable? Its Social Aspects. An interesting discussion of the subject followed the reading of the papers, which was opened by Dr. George McNaughton, and Dr. Hermann J. Boldt and Dr. Simon Marx, of Manhattan.

University of Pennsylvania Psysicians Dine.—The Society of Resident and Ex-Resident Physicians of the University of Pennsylvania held its annual banquet at the Hotel Walton, Philadelphia, on the evening of Saturday, April 1st. Dr. Charles H. Frazier presided. There were about forty members in attendance, and several guests from out of town. Among those present were Dr. George E. de Schweinitz, Dr. Edward Martin, Dr. G. M. Piersol, Dr. Brooke M. Anspach, Dr. T. Turner Thomas, Dr. Barton Cooke Hirst, Dr. J. H. Girvin, and Dr. H. C. Wood.

Rabies in Yonkers.—According to newspaper reports, residents of Yonkers are becoming alarmed over the large number of cases of rabies in that place, and this uneasiness was increased when information came from the New York Board of Health that thirteen persons from Yonkers had received treatment for rabies during the past two months. The most drastic measures will be adopted in an effort to stamp out the trouble. The Mayor has already issued a proclamation barring all dogs from the streets unless muzzled or on a leash, and two additional dog catchers have been appointed.

Medical Society May Try Dr. Ewald.—The Appellate Division of the Supreme Court of the State of New York has rendered a decision to the effect that the Medical Society of the County of New York may proceed to try Dr. Louis Anton Ewald, if it so desires, reversing the decision rendered by Justice Goff who, in a lower court, had decided that the society could not try Dr. Ewald. The particular point of law raised by Dr. Ewald was that he was not a member of the society, having tendered his resignation. The bylaws, however, provide that no resignation may be accepted while the member is under charges and the judgment of the Appellate Division confirmed this view of the case.

The Late Dr. Charles H. Lewis.—The medical board of Columbus Hospital, New York, assembled at its monthly meeting, record with deep regret the death of their colleague Dr. Charles H. Lewis.

He [illegible] chief member of the medical board, and it was largely through his efforts, in connection with the work of the Sisters, that the hospital developed into a large institution. We feel that his loss to the hospital is irreparable.

Throughout his professional career of twenty-seven years much of his time and energy were devoted to the relief of the suffering poor. His death has been a great blow to his friends, to the medical profession of this city, and to the various medical institutions of learning.

Resolved, That a copy of this minute be sent to the various medical journals of this city and to the family of Dr. Lewis.

FREDERICK C. KELLER, M.D.,
Secretary of the Board

Action of the Board of Health in Planning to Control Venereal Diseases Endorsed by Physicians.—At a meeting of the New York Society, of the American Urological Association, held on April 5th at the New York Academy of Medicine, the following resolution was adopted endorsing the action of the Board of Health in passing a resolution declaring the need of the sanitary control of venereal diseases for the protection of public health:

WHEREAS, The Board of Health of the City of New York at its meeting on April 4, 1911, has declared the sanitary control of venereal diseases to be necessary for the protection of the public health, and has directed its medical advisory board to formulate a definite and comprehensive plan for the control of these diseases, and

WHEREAS, Said board also has asked the Board of Estimate for an appropriation for a hospital for the treatment of venereal diseases.

Resolved, That this society endorses the action of the New York City Board of Health as cited above, and congratulates the board upon this first step towards placing venereal diseases upon the same basis as other communicable diseases.

The Use of Drugs Decreasing.—Statistics have been compiled by the director of the Boston Dispensary which show that the use of drugs by physicians has decreased in proportion to the number of patients treated until to-day the percentage of prescriptions for each patient is less than half what it was fifty years ago. The dispensary is more than one hundred years old and its pharmacy records run back over two generations. Between 1856 and 1868, there were 233,830 treatments given to patients by the dispensary and for these 495,530 prescriptions were filled, an average of 2.1 prescriptions for each visit of each patient. By 1870 the average number of prescriptions for each visit had decreased to 1.32. Ten years later it was down to 1.06. In 1890 it was only .82. It rose again in 1900 to .89, but fell last year to .81 when there were 113,300 visits and only 92,367 prescriptions issued. The decrease is accounted for by the increasing use of electricity, massage, fresh air, and general hygiene to restore and maintain health.

The American Urological Association.—At the annual meeting of the New York Society, held on Wednesday, April 5th, at the New York Academy of Medicine, the programme consisted principally of a consideration of the lactic ferments. Dr. Frédéric S. Mason read a paper on the Use of Lactic Ferments in the Treatment of Gonorrhœa in the Male, which was followed by a general discussion of the subject of lactic ferment treatment. Among those who participated in the discussion were Dr. Victor C. Pedersen, Dr. H. R. A. Graeser, Dr. Herbert B. Reece, Dr. Conrad Meyer, and Dr. De Santos Saxe. Officers for the ensuing year were elected and the reports of the various officers and committees received, after which there was a social session.

International Congress for Thalassotherapy.—Programmes have been issued for the Fifth International Congress for Thalassotherapy, which is to be held in Kolzerg, Germany, on June 5th, 6th, 7th, and 8th. One of the subjects to be discussed at this congress is the treatment of tuberculous bones and joints at seaside resorts. Previous congresses, which have been held in France, Belgium, and other countries, have resulted in supplying scientific data in support of the theories relating to the effect of ocean climates and sea bathing on the human system. The German Ambassador at Washington, D. C., has supplied the programme, and he desires that this congress be brought to the attention of American physicians, in order that national committees may be organized for the development of thalassic therapeutics.

The Medical Club of Philadelphia.—At the annual reception of the Medical Club, of Philadelphia, to be held at the Bellevue-Stratford Hotel on the evening of April 21st, President Taft will be the guest of honor! Final arrangements for the reception, which will be held in the Clover Room, have been made. The officers of the club are: Dr. William L. Rodman, president; Dr. F. Lewis Zeigler, first vice-president; Dr. Gwilym G. Davis, second vice-president; Dr. Lewis H. Adler, Jr., treasurer; Dr. J. Gurney Taylor, secretary. The governors are Dr. E. E. Montgomery, Dr. Oscar H. Allis, Dr. L. W. Fox, Dr. G. A. Knowles, and Dr. Edward L. Duer. The Board of Directors includes Dr. McCluney Radcliffe, Dr. C. A. E. Codman, Dr. Judson Daland, Dr. John W. West, and Dr. William E. Darnall.

The Milk Stations of the New York Health Department.—Commissioner Lederle announces the completion of the preliminary work in establishing the fifteen Infants' Milk Stations for which the Board of Estimate and Apportionment recently made an appropriation of $40,000. Five of these municipal stations are to be situated in Manhattan, nine in Brooklyn, and one in the Bronx. The premises are leased by the city and the stations will be administered by the Board of Health, physicians, nurses, and other assistants being assigned to this duty from the staff of the department. The city and the Department of Health will not sell or even handle the milk to be provided for the use of infants and nursing mothers at these stations but this milk will be sold by private concerns under an agreement with the department.

American Proctologic Society.—Preliminary programmes have been issued for the thirteenth annual meeting of the American Proctologic Society, to be held in Los Angeles, California, on Monday and Tuesday, June 26th and 27th. Hotel Alexandria has been chosen as headquarters and place of meeting. The annual address of the president will be delivered on Monday afternoon, at the first regular session, by Dr. George J. Cook, of Indianapolis, Ind., his subject being Proctological Recommendations. Seventeen papers are listed on the programme, and the authors are physicians prominent in the field of proctology. One interesting feature of the programme is a "symposium" on constipation. Eight papers on the subject will be presented by the following authors: Dr. Dwight H. Murray, of Syracuse; Dr. Horace Heath, of Denver; Dr. S. T. Earle, of Baltimore; Dr. John L. Jelks, of Memphis; Dr. William M. Beach, of Pittsburgh; Dr. A. J. Zobel, of San Francisco; Dr. James A. MacMillan, of Detroit, and Dr. Louis J. Hirschmann, of Detroit. The officers of the society are: President, Dr. George J. Cook, of Indianapolis; vice-president, Dr. Jerome M. Lynch, of New York; secretary and treasurer, Dr. Lewis H. Adler, Jr., of Philadelphia. Dr. Dwight H. Murray, of Syracuse, is chairman of the Executive Council.

The Medical Association of the Greater City of New York will hold a stated meeting in Du Bois Hall, New York Academy of Medicine, on Monday evening, April 17th, at 8:30 o'clock. The programme arranged for this meeting includes the following papers: A New Operation for the Cure of Tuberculous Peritonitis, by Dr. Aspinwall Judd; A Review of Methods of Examination in Heart and Bloodvessel Disease, with Special Reference to the Discovery of Therapeutic Indications, by Dr. Louis Faugeres Bishop; Opening of the Discussion, with a paper on Sphygmomanometry, by Dr. Oliver T. Osborne, professor of materia medica and therapeutics and clinical professor of medicine in Yale University; The Polygraph, by Dr. Thomas E. Satterthwaite; Sphygmographic Methods, by Dr. Richard Van Santvoord; The Electrocardiograph, by Dr. T. Stuart Hart; Examination of the Urine and Fæces, by Dr. John J. Connellan; The History of the Patient as Influencing Treatment, by Dr. James J. Walsh; Special Reference to the Work of Mackenzie, by Dr. V. E. Sorapure.

The Health of Chicago.—During the week ending April 1, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 9 cases, 0 deaths; measles, 345 cases, 6 deaths; whooping cough, 26 cases, 1 death; scarlet fever, 204 cases, 10 deaths; diphtheria, 131 cases, 17 deaths; chickenpox, 63 cases, 0 deaths; tuberculosis, 110 cases, 87 deaths; pneumonia, 32 cases, 145 deaths; cerebrospinal meningitis, 5 cases, 1 death. There were reported 5 cases of German measles, 1 of influenza, and 68 of contagious diseases of minor importance, making a total of 999 cases, as compared with 974 for the preceding week and 1,130 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 29, and there were 33 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 181, of whom 108 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 659, corresponding to an annual death rate of 16.2 in a thousand of population, as compared with a rate of 17.1 for the preceding week, and 16.1 for the corresponding week last year.

Vital Statistics of New York.—During the week ending April 1, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,833, corresponding to an annual death rate of 19.19 in a thousand of population, as compared with a rate of 18.10 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 22.67; the Bronx, 16.95; Brooklyn, 15.74; Queens, 15.91; Richmond, 15.73. There were 154 stillbirths. The deaths of children under five years of age numbered 525, of whom 308 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 66; over five years of age, 66. There were 177 deaths from pulmonary tuberculosis, 28 from bronchitis, 164 from pneumonia, 145 from bronchopneumonia, 129 from Bright's disease, 185 from organic heart diseases, and 75 from congenital debility and malformations. There were 17 deaths from suicide, 5 from homicide, and 187 due to accidents. Five hundred and forty marriages and 2,539 births were reported during the week.

To Control Venereal Diseases in New York.—At a recent meeting of the Board of Health of New York, Commissioner Lederle introduced a resolution by the adoption of which the board took the first step toward the public control of venereal diseases in New York. This resolution expressed the sense of the Board of Health, that the early adoption of a comprehensive plan for the sanitary control of such diseases is necessary for the protection of public health and called upon the Medical Advisory Board to submit recommendations looking toward an appropriate administrative plan for such control. Dr. Lederle, in commenting upon the resolution, stated that the department had given a great deal of consideration, during the past year, to the question of the effective control of venereal diseases and said that he considered the adoption of this resolution one of the most important steps that has ever been taken by a Board of Health, marking as it does a new departure in the development of sanitary administration in New York. The commissioner also called attention to the fact that there is a great lack of hospital facilities for the care of patients suffering from these diseases, and said that the Board of Health had included in its programme of requests for the issue of corporate stock, an item for the establishment of a public hospital for venereal diseases. The resolution, as adopted, accordingly committed the Board of Health to the making of a definite request to the Board of Estimate and Apportionment for the inclusion in the next corporate stock budget of a provision for the erection of such a hospital.

Society Meetings for the Coming Week:

MONDAY, *April 17th.*—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Medical Society of the County of Erie, N. Y.; Elmira Clinical Society; Hartford, Conn., Medical Society.

TUESDAY, *April 18th.*—New York Academy of Medicine (Section in Medicine); Buffalo Academy of Medicine (Section in Pathology); Tri-Professional Medical Society of New York; Medical Society of the County of Kings, N. Y.; Psychiatric Society of Ward's Island, New York; Syracuse Academy of Medicine; Binghamton Academy of Medicine; Clinical Society of Elizabeth, N. J., General Hospital; Ogdensburgh Medical Association.

WEDNESDAY, *April 19th.*—New York Academy of Medicine (Section in Genitourinary Diseases); Women's Medical Association of New York City (Academy of Medicine); Medicolegal Society, New York; Northwestern Medical and Surgical Society of New York; New York Society of Internal Medicine; New Haven, Conn., Medical Association; Buffalo Medical Club; New Jersey Academy of Medicine (Jersey City).

THURSDAY, *April 20th.*—New York Academy of Medicine; German Medical Society, Brooklyn; Newark, N. J., Medical and Surgical Society; Æsculapian Club of Buffalo, N. Y.

FRIDAY, *April 21st.*—New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Postgraduate Medical School and Hospital; New York Microscopical Society; Brooklyn Medical Society; Alumni Association of Roosevelt Hospital (annual); Saratoga Springs Medical Society.

SATURDAY, *April 22d.*—West End Medical Society; New York Medical and Surgical Society; Harvard Medical Society; Lenox Medical and Surgical Society.

Medical Interne Wanted at the Government Hospital for the Insane.—The United States Civil Service Commission announces an examination on June 7, 1911, to secure eligibles from which to make certification to fill a vacancy in the position of medical interne, Government Hospital for the Insane, Washington, D. C., at $600 per annum, with maintenance, and vacancies requiring similar qualifications as they may occur in that hospital, unless it shall be decided in the interest of the service to fill the vacancy by reinstatement, transfer, or promotion. The positions are tenable for one year, and pay $50 a month and maintenance. At the end of six months, however, during which time a postgraduate course in mental and neurological diagnostic methods, etc., is given, an examination is held, and promotions to the next grade, assistant physician, at $75 a month and maintenance, are made. Beyond this there is regular advancement for men whose services are satisfactory. The Government Hospital for the Insane has over 2,900 patients and about 750 employees to care for. In addition to the general medical practice offered, the scientific opportunities are excellent and the clinical opportunities in neurology and psychiatry are unsurpassed. As considerable difficulty has been experienced in filling vacancies in the position of medical interne in the Hospital Service during the past several years owing to the limited number of eligibles available, qualified persons are urged to enter this examination. Applications will be accepted only from persons who have been graduated from reputable medical colleges. Applicants must not have been graduated more than two years prior to the date of the examination unless they have been continuously engaged in hospital, laboratory, or research work along the lines of neurology or psychiatry since graduation, which fact must be specifically shown in the application. Both men and women will be admitted to this examination, although there are no vacancies for women at present. Applicants must be unmarried. Age limit, twenty years or over on the date of the examination. Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., for application and examination, Form 1312, or for further information regarding the examination

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

1. Disorders of the Stomach and Duodenum with Especial Reference to Ulcers, By William J. Mayo.
2. Duodenal Ulcer, By [illegible] White.
3. Gastric and Duodenal Ulcer: Review of the Recent Literature, By Channing Frothingham, Jr.
4. Indications from a Medical Standpoint for Operative Procedures in the Presence of Chronic Gastric Symptoms, By Maurice Vejux Tyrode.

1. Ulcers of Stomach and Duodenum.—Mayo has, for purposes of comparison, taken 1,000 cases operated upon at St. Mary's Hospital for gastric and duodenal ulcers, which includes all of the cases operated upon up to January 17, 1911. Of these, 745, or 74½ per cent., were males, and 255, or 25½ per cent., were females. Previous to June 1, 1906, the differentiation between gastric and duodenal ulcers was not well established and many ulcers which were duodenal in origin, but which extended up to the pylorus, were supposed to be gastric. However, since June 1, 1906, 621 authentic cases of gastric and duodenal ulcers have been operated upon (January 17, 1911), of which 201 (32½ per cent.) were gastric and 401 (64½ per cent.) were duodenal, and 19 (3 per cent.) had one or more ulcers of both the stomach and duodenum. Including all the types of operations,—resections, excisions, gastrojejunostomies, etc.,—there was an operative mortality of 15, 2 4-10 per cent. The mortality figures include all the cases operated. More than 90 per cent. of ulcers are situated along the lesser curvature; those not so situated are more frequent on the posterior than the anterior wall of the stomach. Less than 6 per cent. are multiple; the diagnosis is usually not difficult; in the early stages, superacidity and supersecretion are prominent features; not over 30 per cent. of cases give a clear history of hæmorrhage; it is always advisable to examine the gross specimen brought up from the fasting stomach by the stomach tube; laboratory diagnosis must be corroborated by other signs and symptoms; in the later stages of the disease obstruction supervenes; in excising an ulcer of the stomach, gastrojejunostomy is usually necessary in addition.

2. Duodenal Ulcer.—White says we must revise our ideas about chronic duodenal ulcer on the basis of recent surgical reports which show that it is much more common than formerly supposed. Many cases have previously been confused with gastric ulcer, hyperacidity, gallstones or appendicitis. Two thirds of the chronic peptic ulcers which come to operation are duodenal. Three fourths of chronic ulcer cases are in men. The early symptoms, according to Moynihan, are more definite than formerly supposed; the most striking is regular, recurrent hunger pain in the epigastrium. We need a clear picture of early symptoms to aid us in an early diagnosis. In his cases hunger pain was less regular and definite and many atypical cases were found. The pain is essentially the same in both gastric and duodenal ulcer, but more regular in duodenal ulcer because of its more uniform position. High acidity of gastric juice is present in gastric ulcer. The symptom hunger pain or superacidity in duodenal ulcer is usually due to the action of a moderate amount of free acid on an oversensitive membrane. Simple superacidity is the largest class of stomach cases in men; most cases recover under medical treatment. The severe cases closely resemble ordinary duodenal ulcer. Occult bleeding is very common in duodenal ulcer and a valuable aid in diagnosis. Examinations must be repeated. Negative results do not rule out ulcer absolutely. The diagnosis of duodenal from gastric ulcer is usually difficult. We must distinguish sharply the treatment of *acute* from *chronic* ulcer. The first is chiefly medical; the second, chiefly surgical. Medical treatment should be tried first in all but perforation cases, but many chronic ulcers are kept too long in medical hands. The medical treatment of gastric and duodenal ulcer is the same. The surgical treatment is much the same.—gastroenterostomy, with excision of gastric ulcers whenever possible. The physician and surgeon are *equally* responsible for the present results of operation in chronic duodenal ulcer. They can only be improved by hearty cooperation. The duty of the physician is earlier and better diagnosis and much earlier transfer of obstinate cases to the surgeon. The duty of the surgeon is to improve his technic.

3. Literature of Gastric and Duodenal Ulcer—Frothingham recapitulates the treatment, as gathered from recent literature, as follows: Acute uncomplicated ulcer; medical means. Acute ulcer complicated with hæmorrhage; medical means. Acute ulcer complicated with perforation; surgical intervention. Chronic uncomplicated ulcer; medical means soon to be followed by surgical if former are unsuccessful. Chronic ulcer complicated with hæmorrhage, chronic ulcer complicated with perforation, and chronic ulcer complicated with real stenosis, surgical treatment.

4. Operative Procedure in Gastric Symptoms. Tyrode divides his cases as follows: 1. Cases in which he orders immediate operation and refuses medical treatment after the test diet, those suffering considerable pain and having shown no marked improvement within two weeks; 2. Cases for which he recommends operation and treats only conditionally, explaining risks, those improved but not wholly cured by test treatment of few weeks' duration, showing some pain and local sensitiveness at either upper quadrant or at McBurney's point; 3. Cases where, to his mind, question of operation does not enter; those when first attack is rapidly and completely cured in two weeks' test treatment; or in others where constitutional diseases form a contraindication to surgical procedures.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

April 8, 1911.

1. The Evolutionary Spirit for Betterment in Medical Ed[illegible]
2. A Safe and Rapid Method for the Administration of Antityphoid Vaccine, By John P. Fletcher.
3. The Prevention of Industrial Phosphorus Poisoning.
4. An Efficient and Time Saving Method of Tying the Square Knot.

5. [illegible] Gallstones a Myth. By William J. Mayo
6. Hookworm Disease. Prevalence, Harmful Results, and Treatment, By C. F. Strosnider.
7. Sanitary Consideration of Health Resorts, By Harold B. Wood.
8. Trichiniasis in Italians Following the Eating of Raw Ham, By Malcolm Seymour.
9. Treatment of the Paralysis Following Acute Poliomyelitis, By John McWilliams Berry.
10. Two Cases of Cæsarean Section with Unusual Complications. By Collin Fourknod.

1. Medical Education.—Ferguson states that the profession is overcrowded and by the unfit. He believes free medical education would be a great boon; teachers should be well paid; the laboratory and clinic are replacing books; personal contact between professor and pupil should be encouraged; too few medical men think for themselves and await the opinions of certain leaders.

2. Antityphoid Vaccine.—Fletcher tells how this is carried out in the army. The needle used is freshly sterilized. The men enter by organizations in as nearly alphabetical order as possible, each with his left arm bare, exposing the lower two thirds of the arm. The necessary data are given to the sergeant as each man enters the line. Here at the first table the arm is scrubbed with green soap and warm water, rinsed, and the subject passes on to the second table where a second man washes the previously scrubbed area with a 1 to 1,000 solution of mercuric chloride; he then advances to a third table where the field is rubbed with 95 per cent. alcohol, after which he comes to the officer who is to vaccinate him. When the subject reaches the medical officer, the arm is grasped between the thumb and forefinger of the left hand to steady it and pinch the skin taut, while the needle is plunged downward and slightly forward, nearly parallel with the surface of the arm, into the subcutaneous fat. The injection is given with moderate rapidity and the needle quickly withdrawn. The needle puncture is then touched with a glass rod moistened in pure trikresol and the man leaves by another door. The use of trikresol in this manner has been very valuable, not only in cauterizing the needle tract, but the slight burn it leaves marks the site of a previous inoculation and prevents the administration of two doses the same day; for in spite of all directions, some men, knowing they must take three doses, will get back in line for another dose. Thus no difficulty is experienced, even with the short lived memory of colored troopers; for trikresol leaves a white spot for several weeks, and it is impossible to mistake the number of doses received. The cleaning up process is conducted in a line and may be as rapid as desirable. The needle holder is sterilized and the needles as they are boiled are removed from the water with the boiled clamp and dropped point down in the holes; the bases, projecting above the surface, are readily accessible without the necessity of handling. The vaccine ampoules are kept in a 1 to 500 mercuric chloride solution, removed, and dried as needed, and, after shaking, scratched with a file and broken at the neck; the sterile needle is then inserted into the ampoule and the syringe filled; the use of the vaccine from the original container eliminates one source of infection, while the small opening minimizes dust contamination, which is a factor where so many persons are constantly moving. By means of this equipment, two medical officers, assisted by four men, and one noncommissioned officer in charge of records, have been able to maintain an average of between four and five doses to the minute for an hour or more; it has made the vaccination of from 150 to 300 men (a not unusual daily occurrence) a mere incident instead of a rather formidable task.

3. Industrial Phosphorus Poisoning.—Ivy states, as a result of his investigations, that the facts all point to a local infection of the jaw bone by the phosphorus through diseased teeth as the essential factor in necrosis. In view of the results of observations on 177 persons for periods ranging from six months to two and a half years, it is justifiable to conclude that the measures of inspection and prophylaxis in operation at the present time are effectual in the prevention of necrosis in persons employed in the manufacture of matches from white phosphorus, and that the substitution of other less satisfactory materials is unnecessary.

5. Gallstones.—Mayo recalls the fact that ten years ago we heard a great deal about "innocent gallstones," which meant that gallstones existed without symptoms and that their presence was not suspected until post mortem examination brought them to light. We cannot now escape the conviction that the gallstones did cause symptoms and that we as diagnosticians, and not the gallstones, were "innocent." In the early history of our knowledge concerning gallstone disease, the diagnosis was not often made until secondary complications and infections had brought about marked local signs and symptoms, or until Nature hung out the yellow flag of jaundice. The mysteries of the disease have, however, been gradually dispelled by operative interference, which has given us pathological information of the early stages. It has been stated by good authorities, Naunyn, and others, that gallstones are present in 10 per cent. of the human race, and this conclusion has apparently been substantiated by the post mortem material obtained from large hospitals, old ladies' homes, almshouses, etc. As regards the presence of gallstones without symptoms: The symptoms may not be recognized as coming from gallstones, but if gallstones are accidentally found during the course of operation for other causes, and the history is retaken in the light of these findings, it will usually be found that symptoms were present but were not differentiated from the symptoms of the disease for which the original operation was undertaken. Mayo has been impressed with this fact on finding undiagnosticated gallstones in operating on women for pelvic trouble. After the recovery of the patient he has nearly always been able to elicit a satisfactory history. Gallstones are originally formed in the gallbladder, although later in the disease, because of obstruction and infection in the common and hepatic ducts, secondary stones may form in the liver ducts; but Mayo has never seen hepatic duct stones without evidence that the original disease had its source in an infection of the gallbladder or common duct, and the common duct involvement was almost always secondary to the gallbladder disease. The symptoms of gallstones depend on the

location of the stones, and here the anatomy of the gallbladder plays an important part. The cystic duct is not continuous with the neck of the gallbladder, but is elevated on its inner side; the neck forms a little pouch which overlaps the duct on its outer surface. It is in this situation, the socalled "pelvis" of the gallbladder, that stones are so often impacted. Eighty-six per cent. of all cases of pancreatic disease are complicated with gallstones. The disease is more frequent in women. Ninety per cent. of married women who have gallstones have borne children, and 90 per cent. of these women identify the beginning of the symptoms with some particular pregnancy. Quiescent gallstones often become active during pregnancy, and in a number of instances Mayo has been obliged to operate for the relief of rapidly recurring colics, obstruction with infection, or to remove stones which had been forced down into the common duct during the pregnant state. Recovery was always speedy, and in no cases did the operation cause the spontaneous termination of the pregnancy. In direct opposition to the opinions of Continental surgeons, Mayo maintains that: 1. In operating before gross changes are manifest the danger is minimized and the mortality is small. 2. In operating early an incision longer than is necessary to introduce the hand for exploration is not often required, and prolonged convalescence and the danger of hernia are avoided. 3. In early operations it is not necessary to remove the gallbladder, and this valuable organ is saved. 4. Early operation relieves the patient before deeply seated infections occur which necessitate drainage of the liver ducts.

6. **Hookworm Disease.**—Strosnider asks the following questions, before giving details concerning the thymol treatment: 1. May not many cases of neurasthenia and hysteria be attributable to hookworm disease? 2. Could not such perversions, among hookworm patients, as disobedience, profanity, lying, stealing, drinking, forging, and sexual perversions be attributable to hookworm disease, provided recovery followed cure of the hookworms? 3. Is not chlorosis in many cases a result of uncinariasis? 4. Is it not probable that a number of cases of defective eyes and ears, and diseased tonsils and adenoids could be attributed to the same cause? 5. Is it not true that many abortions and miscarriages can be attributed to anæmia resulting from hookworm disease? 6. Does not observation show that, as Dr. Nicholson of Onslow County says, whereas the average eclampsia with first child in the United States is 1 to 250, in women suffering with hookworm disease the average is 1 to 50? 7. Is it not probable that many women die from shock during labor as a result of hookworm disease? 8. Is it not a fact that, as a result of this disease, many women cannot furnish sufficient milk to nourish their babies? 9. Is it not a fact that hookworm disease is the cause of more amenorrhœa, dysmenorrhœa, and scanty and irregular menstruations, than any other disease in our South? 10. Is it not a fact that a hookworm patient, pregnant, quite often suffers with a severe dropsy, and often after delivery may run an irregular temperature for some time and fail to react to tonics or quinine?

MEDICAL RECORD

April 25, 1903

1. Posture as an Aid in the Diagnosis and Treatment of Cardiac Affections and Dropsical Conditions of Various Origin, By HENRY W. BERG.
2. The Chemotherapy of Ehrlich, with Special Reference to the Trypanosome Infections, By B. T. TERRY.
3. Death Rates in the Japanese War, By CHARLES E. WOODRUFF.
4. A Case of Erythræmia with Unusual Features, By N. E. BRILL.
5. Psychoses of Child Bearing, By JAMES DUDLEY MORGAN.
6. Acute Urethritis of Chemical Origin, with Report of Three Cases, By WILLIAM J. ROBINSON.
7. Removal of the Septal Plate in Submucous Resections, By ALFRED KAHN.

1. **Posture in Cardiac Affections.**—Berg recalls the value of posture in many medical conditions, as, for examples, the use of the Trendelenburg position for patients fainting from cerebral anæmia; the reversed Trendelenburg for patients suffering from pneumonia and pleurisy with effusion; the treatment of pelvic and lower abdominal peritonitis by the Fowler position to prevent infection of the upper general peritoneal cavity, etc. Cooper says that he has cut short an attack of biliary colic by causing the patient rapidly and suddenly to assume the knee chest position, and suggests the relief of right sided renal colic by having the patient lie on his right side with the head elevated, thus causing the stone to fall back into the pelvis of the kidney. Cooper also suggests the relief of simple dilatation of the stomach by the patient lying on his right side with the foot of the bed raised to encourage the gas to pass through the cardiac orifice and the fluids through the pylorus. The use of postural treatment, that is, the frequent changing of the position from one side to the other, is a frequent resort to prevent hypostatic congestion of the healthy pulmonary areas in pneumonia and to prevent pulmonary hypostasis in typhoid, measles, and other inflammatory conditions involving weakness of the right heart. P. C. Franze, of Bad Nauheim, in studying the influence of posture on the normal cardiac area found by applying the orthodiagraph to the studies of the shadows (fluoroscopic) of hearts, that "in the erect posture the shadow of the heart is narrower in width and at a lower level in the thorax. The longitudinal axis of the heart assumes a position nearer to the vertical. In the recumbent posture the reverse takes place, the heart is seen higher up in the thorax, broader in width, and lying more horizontally. Inspiration brings about analogous conditions to those present in the erect posture and expiration to those in the recumbent." These observations are confirmed by Groedel. Rudolf says the force of gravity is an important factor in the relative loudness with which murmurs are heard in the erect as compared with recumbent postures. In cases of extreme cardiac failure due to dilatation secondary to severe valvular disease Berg places his patients in bed with the head of the bed raised as in the Fowler position, but with the patient in what he prefers to call the reversed Trendelenburg position. The Fowler position includes flexion at the knees with the pelvis forming the point of a V, the sides of which are

formed by the legs and body. His patients lie on an inclined plane, body and legs extended, with the head and shoulders at the top and the feet at the bottom of the inclined plane. This greatly facilitates the accumulation of serous effusions in the legs, whence they can be drained by Southey's tubes to the extent, as in one case, of 12,000 c.c. in 48 hours.

3. **Death Rates in the Japanese War.**—Woodruff thinks it likely that a carnival of Japanophobia will succeed the equally ridiculous Japanophilia from which we have been suffering. As a matter of fact it has been ascertained that the death rate among the Japanese in their war with Russia was much higher than had been supposed, particularly from beri beri, their *bête noire* as typhoid fever is ours; their troops were not conspicuously temperate, and, what is worse, competent observers have reported that the sanitary arrangements of the Japanese army were far from what they should have been. The percentage of killed to wounded was about one to four, the same as in other wars. The Japanese are now said to have sacrificed men in the most reckless manner. War in Japan is hell, the same as elsewhere; we have been misled by the ability of the Japanese to conceal the details of their management of troops. Woodruff believes still in the conquering power of the Aryan race.

6. **Urethritis of Chemical Origin.**—Robinson desires to emphasize the following points of his paper: 1. Urethritis of chemical origin is more common than is generally supposed; 2. While most cases are caused from self administered injections prescribed by barbers, friends, and others, some cases owe their origin to the over zealousness of physicians; 3. The unscientific and unjustifiable silver nitrate test, which should be forever discarded, has been responsible for very many cases of chemical urethritis; 4. The diagnosis of chemical urethritis is made by the history of the case, the freedom of discharge from gonococci and, generally, its improvement on being let alone; 5. One of the most useful agents in the treatment of chemical urethritis is warm sterilized olive or almond oil, or a one half to one per cent. solution of some organic iodine derivative (iodoform, dithymoliodide, isobutylorthocresoliodide) in one of the above oils. Tendency to stricture should be prevented by dilators or by sounds dipped in the solutions.

BRITISH MEDICAL JOURNAL

2. Hour Glass Contraction of the Stomach,
By R. P. Rowlands.
3. Acute Dilatation of the Stomach,
By George G. Farquhar.
4. The Treatment of Appendical Abscess with Pure Carbolic Acid and Iodoform,
5. Idiopathic Dilatation of the Colon,
6. Some Experiments on Cold Chamber Treatment,
By John Gordon Thompson and Ronald Ross.
7. Analysis of Three Hundred and Twenty-six Cases of Asiatic Cholera, By Henry Stevens.
8. The After History of Thirty Cases of Movable Kidney Treated by Operation,
By A. Rendle Short.
9. The Cardiosplanchnic Phenomenon of Abrams,
By W. Gordon.

1. **Indigestion.**—Rankin divides this malady into sthenic, asthenic, and fermentative, the first type found in men who eat and drink heartily, the second in young and badly nourished individuals, the third, rare primarily, generally added on to one of the other forms, and due to microorganisms. Treatment of sthenic indigestion should be sedative both as regards medicine and food. The patient should have as much rest as he can conveniently command; the diet should be milk and vichy at first, then plain with an entire absence of sugar. A sedative mixture is given, 10 minims each of tinctures of belladonna and opium, 15 drops of fluid extract of ergot, enough peppermint water to make one drachm, taken in two tablespoonfuls of water a quarter of an hour before each meal. Asthenic indigestion is treated with hot sauces and similar stimulants, and a mixture of potassium bicarbonate, tincture of nux vomica, tincture of capsicum, and compound infusion of gentian. Later, papain is given with strychnine, hydrochloric acid, cannabis indica, and taraxacum. Lactic acid preparations are recommended in fermentative dyspepsia, with carbolic acid or sodium sulphocarbolate, as indicated, and free use of purgatives.

4. **Appendical Abscess.**—Maylard uses carbolic acid and iodoform as follows: 1. The abdomen is opened in the right iliac region by the usual gridiron incision. Should more room be required the incision must be carried either upward or downward, dividing the fibres crossways of the internal oblique and transversalis muscles. This extension of the wound should always be avoided, if possible, as rendering the subsequent formation of a hernial protrusion much more likely. 2. If there are no adhesions encountered between the viscera and parietal peritonæum sufficient effectually to cut off the general peritoneal cavity, gauze plugs are inserted so as to afford complete protection of the cavity when the abscess is opened. 3. The abscess is now sought for by carefully breaking down the adhesions, and when once pus begins to well up it is rapidly swabbed away until the cavity has been freely exposed and practically dried. 4. The appendix is then sought for, and, if reasonably possible, removed; the cæcal stump is touched with pure carbolic acid, and invaginated by a purse string gut suture. 5. The abscess cavity is freely wiped with a small gauze swab soaked in pure carbolic acid. An effort is made to reach every part of the cavity. A dry swab is then introduced to soak up any of the remaining acid, and immediately thereafter any amount up to half a teaspoonful of iodoform is put into the cavity, and with a blunt instrument smeared over its walls. 6. A rubber drainage tube about a quarter of an inch in diameter is conducted to the lowest part of the cavity, and on one side of the tube a narrow strip of iodoform gauze is packed in zigzag fashion, just sufficient to fill the cavity; this, with the tube, is conducted out of the abdomen about the centre of the wound. 7. The protective gauze plugs encircling the involved area are withdrawn, the edges of the wound dusted with iodoform, and closed by continuous silkworm gut sutures. The after treatment is as follows: On the second day after the operation the iodoform gauze packing is partially re-

moved: on the third day it is completely removed; and, however fetid may have been the pus at the time of operating, the plug will be found to be perfectly "sweet." On the fifth or sixth day the drainage tube is taken away, and on the tenth day the stitches are removed. At the end of four weeks the patient is allowed up. Maylard concludes: 1. That, where proper precautions are taken to protect the general peritoneal cavity, this method of operating admits of every abscess being opened and every appendix sought for and removed with perfect safety. 2. That this method prevents any subsequent septic complications, such as subdiaphragmatic abscess, pyelophlebitis, pneumonia, thrombosis, and other septic manifestations connected either with the wound locally or with deeper and more distant parts. 3. That, as drainage is considered advisable in every instance, the probabilities are in favor of a weakened cicatrix at the seat of exit of the tube and gauze, with, later, hernial protrusion; but, provided the incision is of the gridiron variety, with no cross division of muscle or aponeurotic fibres, and neither the tube too large nor the packing excessive, the bulging may be only slight. 4. That abscess formation in appendicitis must be considered a serious complication, whether regarded in its immediate or in its remote effects; and inasmuch as we can never forecast the possible formation of pus in any given acute attack of appendicitis, we should proceed to remove the appendix before such a complication could take place—that is to say, within, at the latest, forty-eight hours of the initial seizure.

6. Cold Chamber Treatment.—Thompson and Ross conducted their experimental work in the Liverpool School of Tropical Medicine, in a chamber 12 feet long by 7 feet wide by 6¾ feet high, which can be kept at any temperature between about 15° F. (= 9.4° C.) and 150° F. (65.5° C.). The temperature is reduced by an ammonia compressor worked by a 6 h.p. motor and a fan which drives in air through a chamber in which a saturated solution of calcium chloride is kept constantly trickling over corrugated iron plates. The chamber receives light through a window, and is also fitted with an electric lamp. The motor is stopped during the night, and the temperature usually rises during that time to 36° or 38° F., or thereabouts, but this of course varies with the external temperature. The animals treated were subjected to a temperature of 20° F. during the day, and in no way suffered discomfort. They were well fed and allowed plenty of straw. It is of great importance also to note that the atmosphere of this chamber was of low humidity (40 per cent. to 60 per cent.). The writers emphasize that: 1. We must distinguish carefully between cold and exposure, only the former being likely to be beneficial. 2. Animals in the cold chamber were livelier than those in the animal house, and the fact that the majority of these gained weight shows a favorable influence on nutrition. 3. Experiments in rats and guineapigs inoculated with *T. gambiense* and *T. rhodesiense* show: (*a*) Delayed incubation in the cold. (*b*) Prolongation of life in the cold. (*c*) Tendency for fewer parasites to occur in the peripheral blood of animals kept in the cold. 4. Incubation period of *T. lewisi* and *T. brucei* was delayed in the cold. 5. There was prolongation of life of animals infected with Caderas and Nagana. 6. It was noted in two guineapigs after inoculation with tubercle that the superficial abscess which formed at the site of inoculation developed much more slowly in the cold (a month later). 7. In rats infected with *Spirochæta duttoni* the numbers of parasites circulating in the peripheral blood were fewer in the animals treated in the cold chamber, and this was also observed in guineapigs infected with *T. brucei*. 8. A patient said he felt better after his sojourn in the cold chamber.

9. The Alleged Cardiosplanchnic Phenomenon.—Gordon notes that in the *American Journal of Medical Sciences* of January, 1904, p. 125, would be found a paper by Dr. Albert Abrams, of San Francisco, on what he termed the "cardiosplanchnic phenomenon," and defined as follows: "If the lower sternal region—that is, the sternum contiguous to the heart—is first percussed in the standing and then again in the recumbent posture, one may appreciate a decided alteration in the percussion tone; in the former attitude it is resonant or even hyperresonant; in the latter it is dull or flat. This is the cardiosplanchnic phenomenon." Now this description is absolutely contrary to fact, avers Gordon, and, thus defined, there is no such thing as the "cardiosplanchnic phenomenon." Dr. Abrams has evidently approached the subject with a biased mind. Dr. Abrams has confused percussion *sounds* with percussion *sensations of resistance*—two very different things, which must especially be kept apart in this investigation, seeing that in recumbency the anterior chest wall itself usually falls slightly toward the spine, a change which may possibly affect the sensation of resistance in percussion. He expressly states that "in the elicitation of the cardiosplanchnic phenomenon palpatory percussion must be our chief mentor," explaining this term thus: "The skilled clinicist in his interpretation of percussional phenomena is guided not so much by the ear as by the *tactus eruditus;* thus, palpatory percussion will often yield results which would wholly escape the observer who is influenced only by what he hears and not by what he feels." In his definition, however, of the "cardiosplanchnic phenomena" above quoted he uses terms which are well understood to describe sounds and sounds only. Resonance, hyperresonance, flatness, and dullness are not descriptive of resistances. As his definition stands, his description of the effect of change of position is absolutely contrary to fact.

LANCET

1. Ankylostoma Infection; Lecture II.
2. Myositis Ossificans Traumatica.
3. On Traumatic Myositis Ossificans, By G. H. Makins
4. The Formation of Bone in Periosteum Separated by
5. A Case of Poisoning by Tragopogon Pratense, or Goat's Beard,
   By Fred J. Smith and Hugh Candy.
6. A Record of 90 Diphtheria Carriers,
   By Angus G. Macdonald.

7. Grave and Prolonged Cardiac Failure Following the Use of Cocaine in Dental Surgery,
By Frederick W. Price and A. B. Leakey.
8. Two Uncommon Forms of Deformity of the Female Generative Organs, One Causing Symptoms Simulating Intestinal Obstruction,
By John A. C. Macewen.
9. Nuchal Lipomata in the Lower Animals,
By Sir Jonathan Hutchinson.
10. Clinical Aspects of Some Varieties of Excitement,
By W. T. Munro.
11. Meeting Notes. By C. T. V. Hirsch.

1. **Ankylostoma Infection.**—Boycott continues his lectures on ankylostomiasis by discussing the diagnosis; the eggs are entirely different from those of any other human parasite; the peculiar skin eruption is a fairly good diagnostic point; eosinophilia is perceptible in the third week of infection; these points have lately assumed great importance as the disease has been prevalent in Cornwall for many years, but has only just been recognized; it might have got into pathology as Dolcoath anæmia, for all that was formerly noted about it was that it attacked men working underground and was absolutely resistant to iron and arsenic. Oxygen, moisture, and moderate temperature are necessary to development of the hookworm. The only places in Northwestern Europe where the disease can flourish are the underground mines. The miners are particularly susceptible to infection from their careless habits. Good shoes are a protection, but not if the hands and bodies are liable to become smeared with filth. Boycott is shocked at the reports of uncleanliness among the farming population of the southern United States, not realizing apparently that they are largely negroes.

6. **Diphtheria Carriers.**—Macdonald summarizes his investigations as follows: 1. Carriers are found at all ages and of either sex. 2. The previous carrier period cannot be ascertained, but may in some cases be inferred. 3. Nor can it be said in many cases that one case was derived from another—that is, the carrier found may have given the disease to those around, or may only have just received it. 4. The presence or absence of an obvious pathological condition is no criterion of the fact of a carrier, of the length of carrier life, or of virulence. 5. The length of carrier life seems to have no effect on virulence: bacilli have been demonstrated to be virulent after four and eight months in the ear and nose of different individuals. 6. Carriers are found amongst those most intimately associated with other carriers or cases; at home between mother (nurse) and child, and child and child who play together; at school the carriers found are few and always closely associated (in play and not necessarily in schoolroom proximity) with some other carrier or case. 7. The control of diphtheria depends (assuming control of the case) on the control of the carrier. 8. The carrier should be notified as a case of diphtheria, no matter of what age or sex, and due quarantine and observation should be maintained until satisfactory demonstration of the disappearance of the bacillus diphtheriæ. 9. As everything points to the conclusion that the bacillus diphtheriæ is essentially a human parasite (a saprophytic existence is not evident; the transference from animal to human is at any rate rare, and many cases of apparent transport by milk and other agencies are manifestly from human contact), a determined attack on the lines of thorough bacteriological investigation should have no difficulty in stamping out diphtheria altogether from the land. 10. Evidence points also to the slow, inevitable, mechanical distribution of the disease which persists endemic in the undiscovered carriers. Epidemicity depends entirely upon the number and nature of the carriers; the headway that has been attained before preventive measures have been effectively used, and upon various sociological factors more or less under the control of the authorities. The invocation of miracle, of meteorological factors local and universal, of special intensity of the virus, *et omne ignotum*, which is the commonplace of authority today, might surely give way to the recognition of simple, natural, open eye causation.

7. **Cardiac Failure Following Cocaine.**—Price and Leakey report a case of serious poisoning following an injection into the gums of a mixture of cocaine, carbolic acid, and tincture of iodine, prior to the extraction of five teeth. Notwithstanding symptoms of collapse, the operator repeated the injection the next day, when eleven more teeth were extracted. The patient was seriously ill for nearly five months, being unable to walk and suffering from profound general debility. A fatal termination was narrowly escaped. The writers believe the heart muscle was severely damaged by the poison and that the English law is defective in allowing the administration of such anæsthetics by unauthorized persons.

10. **Some Varieties of Excitement.**—Munro points out that excitement is of various kinds and may be pathognomonic. He distinguishes (1) mental exaltation of mania proper; (2) alcoholic excitement or delirium tremens with vivid hallucinations of sight, loss of ideas of time and space, increased pulse, exaggerated knee jerk; (3) excitement in general paresis, with delusions of grandeur, divertibility, rapid change from one subject to another, tremor, unequal pupils, abnormal condition of the reflexes; (4) catatonic excitement, with abrupt alternation between senseless excitement and rigid tension, the taking up of peculiar attitudes, the confusion of talk with complete comprehension, the meaningless repetition of the same words; (5) semiconscious epileptic states, with history of fits, irritability, bad temper, alternating with piety; (6) excitement in dementia præcox, which is temporary; recklessness and restlessness, ability to understand unimpaired, but answers given in monosyllables; great want of emotion, or, as Kraepelin puts it, a want of strong feeling of the impressions of life.

PRESSE MÉDICALE

February 1, 1911

1. Emotion Shock, By Séglas and Collin.
2. Oxygen in the Treatment of Peritonitis. By Banzet

February 4, 1911

3. Hepatoptosis, By Chilaiditi.
4. Cystoscopes for Ureteral Sounds. By Garceau.

February 8, 1911

5. Reasons for Antityphoid Vaccination, By Landouzy.

February 11, 1911

6. Autoobservation of an Autooperation for Hernia under Spinal Anæsthesia, By Fzaicou.
7. Ependymitis with Hydrocephalus,
By Claude, Vincent, and Lévy Valensi

5. Reasons for Antityphoid Vaccination.—Landouzy answers the arguments of those who oppose this sort of vaccination. The physician's motto should be *Primum non nocere, deinde servire;* there is no doubt of the harmlessness of antityphoid inoculation, and it protects, in some cases, for as long a period as two years. In France, conditions do not equal those of Germany in South Africa, or of England in India, but the mortality from typhoid in Paris and the rest of France is much too high, and the economic loss is enormous. The writer begs the Academy to accede to the plan of general antityphoid inoculation for the benefit of the army, the navy, asylums, hospitals, and depopulated France in general.

6. Autooperation for Hernia.—Fzaicou gives an interesting and handsomely illustrated account of an operation upon him for hernia, in which he gave his personal assistance in making the incision, holding hæmostatic forceps, separating with his fingers the lips of the wound, etc. He says the preliminary puncture in the spinal canal is painful, but less disagreeable than the first effects of chloroform; anæsthesia is quick and agreeable; there is some slight cerebral intoxication, but the intellectual powers remain intact; there was no anæsthesia from the iliac spines upward; there was no unpleasant sensation, except vertigo upon sudden movements; the writer took the anæsthetic and helped in the operation while sitting up, but he advises the horizontal posture for operations in general; any physician can operate for hernia upon his own person; a brisk purgative should be given the evening preceding anæsthesia, to avoid toxæmia from the resorption of enterotoxines from post-anæsthetic paralysis of the bowels; the method of spinal anæsthesia will certainly remain a precious resource of surgery till something yet more wonderful is discovered.

SEMAINE MÉDICALE

February 15, 1911.

1. Catarrh of Mammary Gland, By Mintz.

February 22, 1911

2. D'Espine's Sign in Tracheobronchial Adenopathy in the Adult, By Roch.

1. Catarrh of the Mammary Gland.—Mintz reported to the tenth congress of Russian surgeons at Moscow a condition observed by him seven times in the past six years that apparently has never been described; it consists of a chronic discharge of yellow, serous matter from one of the breasts without any subjective symptom. One case described is of a woman, forty years old, who had the symptom eleven years after the birth of her last child; it did not increase at the menstrual epoch, but was once bloody at that time; the nipple was umbilicated, which had prevented nursing. In another case a purulent mastitis developed after the discharge had lasted six years. In another case Mintz caused cessation of the discharge by administering the iodides. The condition is not to be confounded with Paget's disease, where there is severe inflammation. Perhaps it is due to an abortive effort of the gland to secrete milk. Mintz believes, in the absence of a microscopical examination, that a condition would be found similar to that in chronic cystic mastitis.

2. D'Espine's Sign.—Roch says this sign consists in an exaggerated resonance and bronchophonic quality of the voice when auscultation is done over the vertebral column, especially of the whispered voice; it has hitherto been of service only in diseases of children, but Roch states that it is a precious diagnostic sign in the mediastinal adenopathies of adults, and is destined to be of especial value in diagnosticating malignant disease of these glands, now a very difficult matter. If auscultation is direct, close the free ear; have the patient whisper "ninety-nine"; one must differentiate induration of the apex and also cavities, which give a similar sound; also pleurisy with effusion.

BERLINER KLINISCHE WOCHENSCHRIFT

March 6, 1911

1. The Accelerated Absorption from the Lumbar Muscles and the Suitability of These Muscles for the Injection of Salvarsan, By S. J. Meltzer.
2. The Action of Poisons and Drugs, By J. Traube.
3. The Effect of Santonin upon the Excretion of Sugar in Diabetes Mellitus, By George Walterhoefer.
4. The Iodine Treatment of Basedow's Disease, By S. Goldflam
5. The Diagnostic Value of v. Pirquet's Reaction and the Treatment of Tuberculosis with Cutaneous Inoculations of Tuberculin, By Wallerstein.
6. Congenital Adhesion of the Radius and Ulna (Synostosis Radioulnaris), By Pollnow and Levy-Dorn.
7. Repeated Extrauterine Pregnancies in the Same Woman, By Alfred Frank.
8. The Cerebral Localization of the Sexual Instinct, By A. Muenzer.
9. A New Extension Apparatus "Multiplex," By Fleisi
10. Serological Studies in Regard to Gout (*Concluded*), By Falkenstein.
11. The Need of Private Institutions for Infectious Diseases, By Meyer.

3. Santonin in Diabetes.—Walterhoefer finds that santonin produces no therapeutic effect of importance upon the excretion of sugar in diabetes.

5. Cutaneous Inoculations of Tuberculin.—Wallerstein reports half a dozen cases of tuberculosis in which he obtained excellent results by treatment with tuberculin in the form of cutaneous inoculations and calls attention to the ease, simplicity, and harmlessness of this method of using tuberculin.

6. Synostosis Radioulnaris. — Pollnow and Levy-Dorn describe a case in which there was a congenital synostosis 5½ cm. long between the proximal ends of the radius and ulna. The article is illustrated by several x ray pictures which show the condition clearly.

8. Cerebral Localization of the Sexual Instinct.—Muenzer concludes that the normal pineal gland appears to be endowed with a more or less marked power of inhibition of the sexual instinct. The hypophysis rules the normal sexual activity to a certain degree. This function belongs possibly to the posterior lobes. It has not been positively determined whether the secretion of the hypophysis excites or promotes the sexual ability. Perhaps the influence of the hypophysis is exerted in opposite directions, promoting and inhibiting the sexual instinct. The question whether other portions of the brain take part in the regulation of the sexual activity has not yet been determined.

MEDIZINISCHE KLINIK.

March 12, 1911.

1. Treatment by Forced Nutrition and Passive Exercise, By A. BICKEL.
2. [illegible] By J. SCHNITZLER.
3. Of What Importance Are the Nodes of the Sinus? By WALTER KOCH.
4. Experiences with Salvarsan in the Treatment of Syphilis, By FORT.
5. A New Colorless Protection against Undesired Effects of Sunlight upon the Skin, By P. G. UNNA.
6. Extract of Malt, By EUGEN SEEL.
7. The Effect of Thyreoid Extract upon Cancer of the Stomach and Intestines, By DIESING.
8. Chronic Bronchial Diseases, Tuberculosis being Excluded; IX, Bronchial Concrements, By POSSELT.
9. Poisoning with the Odorous Material of Tubercle Bacilli, By LESCHKE.

2. Intestinal Stenosis.—Schnitzler states that it is not easy even for the expert to determine the nature of the obstruction before operation very frequently and that, therefore, many hours or days should not be lost in the attempt to make an accurate diagnosis. The fact that the intestine is obstructed is sufficient to call for a laparotomy. He says in conclusion "I would rather operate under a wrong diagnosis at the right moment than under a correct diagnosis at the wrong time."

4. Salvarsan.—Port submits the following propositions: The subcutaneous injection of the neutral emulsion is objectionable for many reasons. The technic of the intravenous injection is not fitted for general practice. The injection itself must be performed absolutely correctly on account of the dangers of thrombosis and embolism. Salvarsan is an advance in the chemical treatment of syphilis. It is particularly suited to cases of the so called malignant syphilis and those which are refractory to mercury and the iodides. A single intravenous injection appears too usually insufficient. The final effects produced by repeated intravenous injections still appear to be insufficient. Since the introduction of the salvarsan therapeutics symptoms referable to the cranial nerves have been observed more frequently and are to be looked upon as toxic injuries produced not only by the endotoxine, but also by salvarsan. The most suitable treatment of syphilis appears to be at the present time a combination of salvarsan with mercury.

MUNCHENER MEDIZINISCHE WOCHENSCHRIFT.

March 14, 1911

1. Displacement of Abdominal Organs for Röntgen Treatment, By WERNER and CAAN.
2. Ætiology of Febris Puerperalis and Febris in Puerperio, By SCHOTTMÜLLER.
3. Paratyphus Infections, By ROLLY.
4. The Ubiquity of Paratyphus Bacilli, By SCHMIDT.
5. Pharmacology and Clinical Dignity of Uterine Tonics with Especial Reference to the Extract of the Hypophysis (Pituitrin), By NEU.
6. The Use of X Ray in the Diagnosis of Pregnancy, By EDLING.
7. The Behavior of the Blood Pressure after Intravenous Injections of Salvarsan, By SIESKIND.
8. Icterus after Salvarsan, By KLAUSNER.
9. The Torsion of the Bones of the Leg in Congenital Clubfoot and Its Cure, By PUERCKHAUER.
10. The Value of the Fresh Leaves of Digitalis and Their Preservation, By WINCKEL.
11. A New Preparation of Digitalis (*Digitalis Winckel*), By EHLERS.
12. The Bolus Dressing, a New, Sterile Dressing for Wounds, By STUMPF.
13. Exchange of the Bones of the Fingers and Toes, By WOLFF.
14. Eclampsia, By HANNES.
15. A New Four Cell Bath Indicator, By KOWARSCHIK.
16. The Clinical Picture of the Plague Given by Thucydides, By SCHRÖDER.
17. Obituary of Edward Gamaliel Janeway, By OERTEL.

1. Displacement of Abdominal Organs for Röntgen Treatment.—Werner and Caan describe several cases in which inoperable carcinomas of the abdominal organs were brought to the surface and then treated with the x rays, the method of treatment called by Carl Beck eventration treatment. They conclude that this mode of treatment is feasible and possesses certain advantages. They recommend that the organs be left sutured in position for a long time, perhaps permanently, because this causes the patients no real trouble and a prolonged after treatment seems to be valuable, while the further development of the disease can be watched better. They think that this procedure should take the place of simple exploratory operations and gastroenterostomies in inoperable carcinomas of the stomach.

2. Puerperal Fever.—Schottmüller says that in his former researches he found the agent of puerperal fever to be the hæmolytic streptococcus erysipelatosus, but that his more recent studies have convinced him that the anaerobic streptococcus putridus is an even more important agent. In comparison with these two kinds of bacteria the staphylococcus aureus, the bacterium coli, and the bacterium phlegmones emphysematosæ are of much less importance.

6. Use of the X Rays in the Diagnosis of Pregnancy.—Edling says that at the beginning of the third month of pregnancy, and sometimes before, it is possible to obtain x ray pictures of the fœtus that are perfectly satisfactory for the purpose of diagnosis. In the later months pregnancy can be diagnosticated without difficulty. The diagnosis of multiple pregnancy can be made thus in the first half of pregnancy and abnormal positions, as well as probably hydrocephalus and certain malformations can be made out. Extrauterine pregnancies give as good pictures of the fœtus as the normal, but the differential diagnosis depends chiefly on its asymmetrical position in the pelvis of the mother.

7. The Behavior of the Blood Pressure after Intravenous Injections of Salvarsan.—Sieskind concludes 1, it is beyond doubt that in the majority of cases salvarsan, like the other preparations of arsenic, when injected into the veins produces a depression of the blood pressure similar to that found by Nicolai after subcutaneous injections. In small doses this depression of the blood pressure may be absent in some cases. 2. The depression of the blood pressure is never so great as to endanger life. The dangers for a healthy circulatory apparatus are not greater than those met with after an intravenous injection of salt solution. The quantity of fluid injected plays a part only in so far

as it seems to reduce the toxicity of the remedy by its greater dilution. Whether the circle of the indications in diseases of the circulatory apparatus, especially when of syphilitic nature, is still questionable. 5. The intravenous injection of salvarsan is contraindicated in cases with primarily very low blood pressure.

8. Icterus after Salvarsan.—Klausner reports four cases in which the intramuscular injection of salvarsan was followed by febrile symptoms and an attack of icterus which could not be accounted for by any clinically recognizable condition of the abdominal organs.

10. Fresh Leaves of Digitalis.—Winckel calls attention to the difference in efficiency of preparations made from the fresh leaves of digitalis as compared with those made from the dried leaves and urges the conservation of the original efficiency of the leaves. He proposes no new remedy, no new extract or preparation, but only a return to the old drug in its original strength.

11. A New Preparation of Digitalis.—Ehlers, despite the foregoing article, lauds the preparation made as he recommended under the name of *digitalis Winckel*.

13. Exchange of the Fingers and Toes.—Wolff reports a case in which a phalanx was excised from a toe and successfully engrafted to take the place of a phalanx of a finger which had to be excised because of disease. A Röntgenograph showing the final result accompanies the article.

INTERSTATE MEDICAL JOURNAL.

April, 1911.

Lobar Pneumonia, By Charles G. Stockton.

4. Congenital Pyloric Stricture,
By Charles G. Cumston.

1. Treatment of Malaria.—Meara advises as complete rest as can be obtained, a bed of the hospital type, typical fever diet, hot drinks and blankets during the chill, ice and removal of covers for fever stage, cold cloths for the headache, or small doses of morphine, but not coal tar products. Keep patient dry when sweating sets in. Quinine in solution is the best drug, given a few hours before the expected paroxysm, at the decline of the fever, or divided throughout the attack, the object being to have enough quinine in the blood to kill the organism when it is free. In tertian or quartan type, 15 grains should be the daily dose, in the æstivoautumnal form, 30 grains. In the pernicious forms, quinine must be given hypodermically or intravenously; the hydrochloride should be used, dissolved in physiological salt solution for intravenous administration. Look out for mental aberration following an attack. For the malarial cachexia, remove patient from infected district, use quinine, arsenic, and iron, fresh air and sunshine, and strychnine for nervousness. Where quinine is absolutely contraindicated, use methylene blue, a very poor substitute, however. As to prophylaxis, if mosquito cannot be destroyed, oils of pennyroyal and citronella will keep it away from the body; quinine in small doses should be taken by those who must go into malarial districts. The restoration of good health may elaborate protective substances in the body. Never prescribe alcohol to a malarial patient.

AMERICAN MEDICINE

1. A Morning at Bier's Clinic in Berlin,
By Harry G. Watson.
2. Quinine; Its History and the Preparation of Its Alkaloids, By John J. Sheridan.
3. The Oral Laboratory, By C. Everett Field.
4. An Appeal to All Men of Honor of the Medical Profession of America, By A. Rose.
5. Posttyphoid Bone Abscess, By Howard Lilienthal.
6. Colds and Catarrhs, By Isaac M. Heller.
7. Dosage to Effect, By William F. Waugh.
8. Action of Animal Extracts upon Intestinal Movements,
By Isaac Ott and John C. Scott.
9. The Dispensary Evil and Its Consequences,
By William G. Wulfahrt.
10. A Tonsillotome Improvement, By T. H. Shastid.
11. Sir Walter Raleigh's Royal Cordial. By John Knott.

3. The Oral Laboratory.—Field recalls that the mouth presents all the features necessary for the propagation of microorganisms, soil, proper temperature, and moisture. Tooth cavities, diseased root canals, loose and spongy gums, ill fitting crowns and bridges serve only too well for the culture media for the germs furnished by starchy foods. The pneumococcus has been isolated in the mouths of fifty out of eighty individuals. A goodly majority of diseases are contracted through the oronasal passages. During epidemics, alkaline solutions should be used as mouth washes, the trained nurse should carefully cleanse the mouths of her charges, and physicians should examine carefully the mouth of every patient presenting himself for examination.

8. Animal Extracts.—Ott and Scott experimented on an etherized rabbit to study the effect of these extracts on intestinal movements. The animal extracts used were rubbed up with distilled water, filtered through absorbent cotton, and injected through the jugular. The number of the experiments was twenty-five: Iodothyreine (five grains) increased the frequency and extent of intestinal contractions. Powdered thyreoid (one to two grains) also increased it; ovary (one half to one grain) had no effect as a rule; occasionally (one to two grains) increased the peristalsis; infundibulin (10 to 18 drops) increased the extent of the contractions of the intestine; mammary gland (one half grain) increased the height of the waves of peristalsis; prostate (one half to one grain) increased the height of the intestinal contractions; thymus (one quarter to one half grain) augmented the frequency and extent of peristalsis; spleen (one quarter to one half grain) increased the height and frequency of the intestinal contractions; parathyreoid (one half to one grain) increased the rate of peristalsis and the height of it; pancreas (one quarter grain) also augmented the extent of the contractions. One grain of cortex of the kidney had no effect; dried brain (one to two grains) also increased the height of the contractions; parotid (one half grain) increased the extent of the intestinal contractions.

Proceedings of Societies

MEDICAL SOCIETY OF THE MISSOURI VALLEY.

Twenty-third Semi-Annual Meeting, Held at St. Joseph, [illegible]

The President, Dr. Donald Macrae, of Council Bluffs, Iowa, in the Chair.

The Present Status of Salvarsan.—Dr. Alfred Schalek, of Omaha, said it was premature and risky to let a patient with syphilis go with one or only a few treatments with this agent. Syphilis was still a serious disease which required prolonged and thorough attention. Salvarsan had not as yet been proved to be greatly superior to mercury, and while it acted more rapidly on some lesions and might be of benefit where mercury was powerless, only time could tell whether or not the results would be more permanent.

Dr. C. A. Good, of St. Joseph, said that salvarsan quickly caused a disappearance of the primary chancre and mucous patches, but it was doubtful whether it would drive the spirochætæ completely from the body. In his experience the mucous patches were very quickly controlled by the use of salvarsan. The induration and the enlarged bubos in a few cases had not disappeared.

Dr. T. M. Paul, of St. Joseph, said there had been a tendency to promise a syphilitic that one injection of salvarsan would practically cure him. This was unfortunate, because if later on the disease was not annihilated by one injection, the man was imbued with a false idea as to his true condition.

Dr. Frederic S. Mason, of New York, stated that while salvarsan might not be as good as mercury, when it was used the acute symptoms were relieved quickly. He mentioned the case of a woman who had the acute lesions of syphilis and was attending to her business; she received injections of salvarsan, and within a week practically all the lesions disappeared. This was the principal advantage in using this agent.

Dr. S. Grover Burnett, of Kansas City, Missouri, reported a case of acute delirium following the chloroform habit.

Difficulties Encountered in Late Operations for Intestinal Obstruction.—Dr. Herman E. Pearse, Kansas City, Missouri, said that by observing the following procedures the late cases of intestinal obstruction could be saved: 1. By emptying the bowel at first operation and allowing time to recover from toxæmia before resection was practised, unless gangrene should forbid. 2. This should be done by employing the long intestinal tube and emptying the distended bowel as the first step after finding the obstruction, closing the wound after providing escape. 3. By the use of a glass tube of Paul or the rubber tubes with depressed external grooves, as advised by Andren Marro, to convey the toxic fæcal matter beyond the wound, thus securing primary union and safety from abscess. 4. By bringing the bowel edges out of the incision beyond the skin and substituting the open treatment by a nurse and water washing for the closed method of filthy gauze and pads of cotton. 5. By employing a second and even third operation to complete the work when the patient had recovered from the effects of the obstruction and vomiting.

Dr. John E. Summers, of Omaha, stated that sometimes in cases of strangulated hernia, where gangrene was present, one could establish an artificial anus by cutting into the gut, allowing it to remain there fastened until the circulation was reestablished, and then an operation could be done later. If drainage was carried out, it was wise to wash out the gut through a tube.

Dr. C. Lester Hall, of Kansas City, Missouri, differed with the essayist in regard to the incision. He said we could open the abdomen more widely and freely and reach parts of the abdominal cavity better through a median incision, and there was less trouble through that incision in the after treatment, and union was better there than in any other part of the abdominal wall.

Dr. O. Beverly Campbell, of St. Joseph, agreed with the essayist that a good place to make the incision was about the border of the right rectus, because there was more trouble in the right side in intestinal obstruction than anywhere else, and the fact that one wanted to drain in the median line. Therefore, he would favor the incision at this place in most cases.

Dr. S. H. Smith, of Omaha, reported a case of intestinal obstruction in a woman. The obstruction was caused by three constricting bands around the sigmoid flexure. These bands were cut. There were adhesions around the cæcum which were broken up. Three days after the operation the patient had natural bowel movements without the use of purgatives.

Dr. F. H. Clark, of El Reno, remarked that shock in abdominal operations came more from the rough handling of the intestines than from any other single thing that entered into surgical work in the class of cases under discussion. A prominent surgeon told him not long since that he attributed his remarkable success to two things: First, he had acquired a technique which enabled him to get in and out of the abdomen in a much shorter time, and, second, he had learned to handle the intestines just as gently as it was possible to do so.

Dr. John P. Lord, of Omaha, stated that when there was a gangrenous gut to deal with, he believed it should be excised; then we would have an open bowel and could drain. We should not pack it with gauze and cover it with rubber tissue. The Murphy button tempted one to make an immediate anastomosis, which would be the means of causing the patient to suffer from a toxæmia that killed so many patients that had so called secondary shock. He did not believe in secondary shock unless it was a secondary hæmorrhage.

Dr. S. G. Zink, of Leavenworth, Kansas, reported three cases of fæcal impaction, and said he had found that by using a twenty-five per cent. solution of hydrogen peroxide, and putting the patient in the knee chest position, or exaggerated Sims position, with the head low down, one or two injections of eight ounces, followed by irrigation, would break up these fæcal masses.

Dr. C. H. Wallace, of St. Joseph, said that for the average surgeon, who met these cases only oc-

casionally, he was satisfied that the simpler method of drainage by the introduction of a large tube would result in a greater saving of life than more extensive work.

Dr. JACOB GEIGER, of St. Joseph, remarked that early and correct diagnosis was most important. It was easy to say what to do, but every case was a law unto itself, and when the surgeon had a case of acute intestinal obstruction and opened the abdomen and saw the pathology, then he had to use his brains to determine what was best to do.

Dr. V. L. TREYNOR, of Council Bluffs, Iowa, believed that if efforts were directed toward a more certain and early diagnosis, it would simplify the treatment of these cases very materially. He did not like to hear the internists criticised for so called neglect when the surgeon himself was sometimes incapable of making a diagnosis when he was called early.

Dr. C. C. CONOVER, of Kansas City, Missouri, stated that modern methods of diagnosis had been improved so wonderfully in the past four or five years that most internists could make a diagnosis of intestinal obstruction, and they did not need to wait and call in a surgeon to tell them what was the matter with the patient.

Dr. H. M. CLARK, Platte City, Nebraska, observed that when country practitioners called in surgeons and they operated in cases of intestinal obstruction and lost forty or fifty per cent. of them, he thought the practitioner could do nearly as well himself.

The Röntgen Ray in Postoperative Cases.—Dr. R. D. MASON, of Omaha, showed the value of the x ray in cases where operation had been done and advised its use in all postoperative work where malignancy was suspected. He pointed out the fallacy of waiting until a return of the disease appeared before beginning the use of the rays was considered.

Treatment of Tuberculosis.—Dr. GRANVILLE N. RYAN, of Des Moines, Iowa, presented a preliminary report of five cases of tuberculosis treated with Carl Spengler's tuberculosis immune blood, and concluded that: 1. It was the most effective agent in fighting tuberculosis that had come under his observation. 2. Perceptible lysis might be obviated in a number of cases by adopting the slow method of immunization. 3. The first signs of improvement were found in the subjective condition, lowering of temperature, increase of appetite, freer respiration, if dyspnœa was present, increase in weight, more restful sleep, decrease in cough, sputum, and tubercle bacilli; also disappearance of râles during the first few weeks. 4. It had been his experience that the toxic pulse persisted for some time after the disappearance of other symptoms. 5. In moribund patients its value had been chiefly in rendering them more comfortable. 6. Acute colds, to which these patients were highly susceptible, and other complicating diseases, must be dealt with according to indications.

Oration in Medicine.—This was delivered by Dr. HEINRICH STERN, of New York, who selected for his subject The Decay of Nations.

The Rôle of Tuberculin in the Diagnosis of Pulmonary Tuberculosis.—Dr. LOGAN CLENDENING, of Kansas City, Missouri, reviewed the methods for the early diagnosis of this disease and said: 1. In infants and children the von Pirquet test was of great value and positive; the younger the child the higher its value; it was somewhat less valuable if negative. 2. In adults there was no method of using tuberculin for diagnostic purposes that had uniform value in all cases. The subcutaneous method was probably the best.

Colica Mucosa.—Dr. J. M. BELL, of St. Joseph, spoke of the dual aspect of this disease and said that his experience with it led him to believe the enteroptotic habit plus autointoxication and constipation was the foundation upon which the disease was based, the neurosis being secondary. When the digestive tract was restored, a normal state of equilibrium was obtained.

Local Anæsthesia with Quinine and Urea Hydrochloride.—Dr. C. M. NICHOLSON, of St. Louis, was convinced from experience with thirty-two cases that quinine and urea hydrochloride was destined to occupy a prominent position as a local anæsthetic. The greater length of time required after the injection of the quinine and urea hydrochloride before the anæsthetic effect was fully manifest was its principal disadvantage.

In the discussion several speakers related their experience with this agent, and said that their results had been very gratifying.

Suggestions for the Application of Lactic Ferments in Genitourinary Work.—Dr. FREDERIC S. MASON, of New York, said that these ferments had a wide field of usefulness in the treatment of diseases depending on invasion of the gastrointestinal tract by pathogenic organisms since they inhibited the growth of the Klebs-Loeffler bacillus and many other organisms. Dr. Holbrook Curtis and Dr. Otto Glogan, of New York, had used suspensions of lactic ferments in bouillon successfully in the treatment of suppurating discharges from sinuses and nasal passages as well as from the ear. The speaker had only had opportunity of confirming these results in two cases of suppurating otitis. He described the technique for using the lactic ferment crayons in acute gonorrhœa in the male, and did not state that they were specific in the treatment of this condition, for the work done was too incomplete, but the results obtained were sufficiently encouraging to warrant a more extended trial by genitourinary specialists and general practitioners.

Peritonization in Abdominal and, More Particularly, Pelvic Surgery.—Dr. JOHN E. SUMMERS, of Omaha, read this paper. He said by peritonization or peritoneoplasty was meant the covering over by peritonæum of all tears, lacerations, and losses of substance of the peritonæum due to surgical procedure. In some cases the peritonæum might be separated from the abdominal wall, commencing at the lower angle of the incision toward the space of Retzius, or at the sides, freeing a great part of the bladder likewise. These flaps were sufficiently large to cover over the posterior wall of the pelvis. In other cases, of which the author had had several examples, the technique consisted in transporting the sigmoid flexure across the pelvis and suturing it in such a way that all raw surfaces were covered over. The sigmoid was only fixed below

and was almost always sufficiently mobile to be carried across the pelvis to the right side as far as the cæcum. When the uterus was preserved, the sigmoid was sutured to the lateral walls of the excavation and across the fundus of the uterus. When the uterus was sacrificed, the sigmoid was sutured to the lateral walls of the excavation and to the bladder. Drainage should be made through the vagina. Amann emphasized the fact that this technique was particularly advantageous when septic pus or genital abscesses communicated with the intestine—for example, a pyosalpinx, or a suppurating tumor of the ovary, opening into the large bowel. Again, when there coexisted a genital abscess with a perforative appendicitis, the intestinal sutures were situated under the protection of the cavity drained and were extraperitoneal. Two vital principles were involved in peritoneal autoplastic surgery: First, the more vital principle, the prevention of infection; second, the prevention of postoperative intestinal obstruction.

Care of the Hypertrophied Prostate.—Dr. F. H. Clark, of El Reno, Oklahoma, said the responsibility for early diagnosis and advice must of necessity rest with the family physician. While this condition usually came on with advanced age, it might occur even in childhood. Operative procedure was the only treatment that offered hope for a permanent cure and a comfortable life after operation. The operation which presented the lowest mortality was through the lower perineal route. We should never forget that ten per cent. of these hypertrophied prostates became malignant if allowed to go on, and that our only hope of avoiding that was an early operation. We must not forget that we should continue to sound these patients following operation until we were certain there would be no contraction of the scar formed that might serve as an impediment to the free flow of urine. Just how long this would take must be governed by each individual case.

Dr. W. E. Engelbach, of St. Louis, gave skiagraphical demonstrations of some unusual conditions in the chest.

Poliomyelitis Anterior Acuta.—Dr. L. A. Skoog, of Kansas City, Missouri, reported three cases of this disease in the same family at the same time.

The following papers were also read: Should Venereal Infections be Classed and Reported as Contagious Diseases? by Dr. T. M. Paul, of St. Joseph, Missouri; Extreme Œdema of the Cæcum and Ascending Colon Following a Gangrenous Appendicitis, by Dr. L. J. Dandurant, of St. Joseph, Missouri; and An Unusual Case of Dilated Capillaries, by Dr. William Frick, of Kansas City, Missouri.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of Wednesday, November 22, 1911.

The President, Dr. Henry Leffmann, in the Chair.

The Pathological Chemistry of Diabetes Mellitus.—Dr. A. G. Ellis: The paper presented was a summary of the literature, the points reviewed being that the hyperglycæmia and glycosuria of diabetes mellitus are due either to overproduction of glucose by the liver or to an underconsumption by the tissues, the former possibly the chief of the two. This perversion of metabolism appeared to be due either to the failure of substance produced normally by the pancreas, muscles, and possibly other tissues, or to an affection of the central nervous system. The acidosis of diabetes was due to the abnormal metabolism of fats and possibly proteins as carried on in the absence of sufficient carbohydrates. Determination of acetonuria appeared to be the most satisfactory clinical method of estimating the degree of acidosis.

The Functions of the Stomach in Six Cases of Diabetes Mellitus.—Dr. John J. Gilbride: A study of the six cases formed the basis of this paper. A seventh was also studied, but sufficient gastric contents for a complete analysis were not obtained, as the patient refused further examination. Of these seven cases, only one complained of indigestion, and she had marked gastroptosis. One case had catarrhal gastritis; one catarrhal gastritis with dilatation of the stomach and intermittent gastric retention. Twenty-two test meals were given, and it was frequently found necessary to aspirate the stomach in thirty or even twenty minutes after an Ewald test breakfast, and in two and a half hours after a full dinner (dietetic) in order to obtain any contents. Pepsin digestion was tested by the Mett method, and found vigorous in one, reduced in four, absent in one, and only a slight trace in one. Pepsin was absent on five examinations in one case and present on the sixth analysis. It was also absent on two examinations in one other case, and a trace was present on three other examinations. The total acidity and free hydrochloric contents were each high in four. Free hydrochloric acid was absent in three. These cases confirm the finding that the motility of the stomach is usually increased, and the gastric secretion frequently diminished in patients with diabetes mellitus. They also show that pepsin secretion is frequently reduced, sometimes absent, and occasionally reappears intermittently. Two cases out of seven had a marked catarrhal gastritis, and did not complain of stomach symptoms.

The Cold Cautery.—Dr. L. D. Frescoln said, in making profound impressions of cold, we had a rapid method in the use of carbondioxide snow what he called the "cold cautery." This was collected in chamois from an iron tank where the gas was held under pressure. With varying degrees of exposure and under regulated amounts of pressure it caused hardening, bleaching, vesication (like extreme frost bite) and finally crusting and at times a pliable scar. This CO_2 was used also in the freezing microtome by means of which we could diagnosticate or exclude malignancy from a specimen during operation. It had been used for local anæsthesia instead of ethyl chloride. This paper, however, treated of the therapeutical snow, particularly in relation to dermatology. It was used successfully in treating moles, nævi, warts, senile keratosis, lupus erythematosus, lupus vulgaris, trachoma, and some forms of epithelioma of the skin. It was first used extensively by Pusey, of Chicago. (see description in *Journal of American Medical Association*). It was to be applied from 10 to 40 seconds, often with

considerable pressure. It was well for the operator to protect his own fingers during the application. We should not treat a large area at one sitting, particularly on the cellular tissue about the eye. The temperature of the solid stick was —79° C. and this might be reduced by dipping in ether. He quoted ten recent cases cured or markedly improved under one or more treatments. Cases of keratosis senilis, thought by the patients to be malignant and lasting many years, had disappeared completely in from one to three treatments, and this sometimes when x rays had made little improvement. The proper cases should be chosen for this particular form of treatment or for this form combined with other suitable forms. He had not yet had much experience with nævi and forms of lupus. It should be tried in the future on keloids. Its advantages are: cheapness (a large tank refilled costs two dollars, enough for, he supposed, fifty treatments); it was easy to control; prompt in action. Portable tubes were used for office practice. A summary of its action might be stated as (1) stimulating; (2) destructive; (3) immediately destructive. Further study was needed on this form of treatment to reach its possibilities.

Dr. Henry Kennedy Gaskill said they had had experience with the cold cautery of fifty or sixty patients in the past three years at the Jefferson Hospital with most gratifying results. Included in this series were cases of lupus erythematosus, pigmented moles, capillary nævi, small epithelioma, and tattoo marks. In many cases of nævi, the electric needle was supplemented, for small areas left between applications were difficult to treat otherwise. When the trouble was deeply seated, the exposures must be from one minute to one minute, twenty seconds, and they had found that if given in application of 20 seconds and two days afterward another application of 30 seconds the resulting scar would be less, though the pain was more. In small pigmented moles the electric needle was still preferable, as often the pigments would be disseminated in a ring around the area. Dr. Stelwagon asked him to show the society a little apparatus which he had adopted, consisting of a small metal tube filled with carbon dioxide and a rubber tube with stop cock, originally intended to be sold for the inflation of automobile tires. This tube was about 12 inches long, having a copper cap which had to be punctured to allow the escape of gas which was collected in a piece of kid firmly bound down with adhesive strips. The snow could be readily moulded by hand and with a knife cut in any desired size or could be pressed into an ear speculum. It was wise to measure the area to be treated in order that the surrounding skin might not be involved while the snow was melting under pressure. The larger tubes, used in drug stores, were unsightly as well as awkward to handle, and there was a slight amount of risk of their exploding. This little tube was neat, readily handled, and could be carried to the patient's house if desired. The initial cost was $2.50 for the entire apparatus and twenty cents for refilling each tube.

Dr. A. B. Hirsh wished to ask whether there was pain from the application of the snow.

Dr. B. A. Thomas said they had been using for two years, in the Surgical Dispensary of the University Hospital, solid carbondioxide with satisfactory results for a common malady not mentioned, that of warts or papillomata, and at the present time they had rather a large following by virtue of this therapeutical agent.

Dr. M. B. Hartzell had used the cold cautery and had found it most convenient in appropriate cases, but it was far from being a cure all. It was a caustic and could accomplish only that which any other caustic could effect. It acted rather superficially, which limited its usefulness and accounted for the slight scarring which followed its use. Its greatest use was in vascular nævi. He did not believe it to be effective in lupus vulgaris; it did not go deep enough. The small tubes shown had a certain degree of convenience, but they were certainly not cheap; for $1.75 you could buy twenty pounds of carbondioxide. A most convenient way of preparing the gas for use was by making a cylinder of thick blotting paper around a stick, and around this wrapping a towel. After moulding the carbondioxide in the cylinder it could be withdrawn, when you had a stick of the cold cautery ready for use. He had not used the cautery in lupus erythematosus sufficiently long to be sure of permanent results. He must take exception to the statement that the temperature of the carbondioxide was materially reduced by dipping in ether.

Dr. Frank C. Knowles had employed the carbondioxide snow in quite a number of cases and had had the best results in angeiomata. The port wine stains apparently did not respond as well as other discolorations, e. g., the very deep seated angeiomata. The cases of lupus erythematosus had been improved, but not cured by this treatment. In the moulding of the snow he employed wooden pill boxes, using the size approximating the area to be treated. When the lesions were small he shaped the snow into various sized ear specula. These simple devices answered admirably, instead of the very expensive and unnecessary appliances so widely advertised.

Dr. Frescoln in closing: The patients whom he had treated did not have much pain at the time of the application of the snow. However, if the exposure was long continued, and made under considerable pressure, there was apt to be pain over the blebs similar to the burn of frost bite, lasting for several days.

The Treatment of 100 Cases of Suppurative Otitis Media (Scarlatinal) by Means of Bacterial Vaccines (Bacterins).—Dr. John A. Kolmer and (by invitation) Dr. P. G. Weston: The cases were observed and treated in the Philadelphia Hospital for Contagious Diseases. The best time for commencing bacterin treatment was found, as a rule, to be from the eighth to the sixteenth day after the discharge began. The organisms found were the staphylococci aureus and albus; streptococcus pyogenes; bacillus pyocyaneus and a diphtherialike nonvirulent organism which we termed the pseudodiphtheria bacillus. The latter organism was found in 57 per cent. of the cases, and its important relation to otitis media and diphtheria of the ear was emphasized. Autogenous vaccines were used in all cases excepting one. If two organisms were found they were isolated and a vaccine was prepared of

each. Mixed vaccines were never used. The initial dose was small and repeated in from five to eight days. Frequency of dose was determined according to the clinical course. During vaccine treatment every other treatment was stopped, except gentle cleansing of the external auditory canal to insure free drainage, and to avoid inspissation of pus and plugging. They believed syringing to be harmful unless performed very carefully. The real value of vaccine or any treatment could be determined only after a long lapse of time, because not infrequently these discharging ears stopped and commenced again later. No return cases were traced directly or remotely to any of these cases. By comparison with a large number of cases treated in the usual manner, it was found that with vaccine treatment, 21.66 per cent. of cases were cured in from one to thirty days, as compared with 7.46 per cent. under the usual treatment in the same period of time. Continued high fever, acute nephritis, toxæmia, and other intercurrent infections were considered to be contraindications to the treatment.

Dr. B. Alexander Randall said that the results reported in this paper represented about half of all the work done upon this subject, the aggregate of cases treated elsewhere having been hardly more than the hundred cases reported to-night. He was a believer in the matter, but everything of the sort must be dealt with cautiously. The natural history of the disease must be distinctly taken in mind rightly to estimate the value of any treatment. The success of the treatment, together with the fact that other treatment was withdrawn, gave a strong support to the claims made for it. On the other hand, he could not refrain from feeling that more could be done in the simple measure of irrigation than had been intimated. If the amount of personal attention requisite in the culturing, etc., were given to the older fashioned style of treatment we should have had a considerable amount of good results. If a child with scarlet fever or other exanthem was well protected as to the ears with a night cap much could be done to forestall trouble. If the case was treated early he thought we could bring it to a successful issue in children in fair condition of health, in something like three weeks; he had done it in eighteen days.

Dr. B. A. Thomas stated that, incidentally, he would like to criticise the employment of the term vaccine. He thought it proper that we should use as nearly as possible scientific terms. The therapeutical agent referred to was merely a suspension of dead bacteria in physiological salt solution, to which had been added a minute quantity of phenol for preservative purposes; hence "bacterin" was the term which scientifically and properly expressed the nature of the preparation. "Vaccine," the term unfortunately employed by Wright, had by common usage become almost universally popularized, but strictly was a misnomer and should be restricted and relegated to the virus used in vaccinia, derived from the cow in accordance with the original suggestions of Jenner.

Otitis media could be divided into the acute suppurative and chronic suppurative varieties for bacterin treatment. The treatment had a definite accessory effect in conjunction with other forms of treatment. Local measures should never be omitted. He felt that bacterin usage in otitis media had a more restricted field as a therapeutic measure than in the vast majority of affections in which it was commonly used. This was largely due to the fact that the middle ear was encased in a bony cage.

Dr. E. J. G. Beardsley, when he thought of the weeks children were detained in the Municipal Hospital because of discharging ears following the average case of scarlet fever, felt that the work of Dr. Kolmer and Dr. Weston was epoch making.

Dr. Kolmer in closing: He entirely agreed with Dr. Thomas regarding the use of the term vaccine. His reason for adopting it was its familiarity to the general practitioner. Local treatment in conjunction with the bacterin treatment was advisable if it could be carried out by the physician himself. The average nurse was not able satisfactorily to syringe the ear. They were always careful to see that drainage was free and felt that anything more was unnecessary. The ear was cleansed several times a day and care observed that there was no thickening of the pus, leading to retention.

Book Notices.

[*We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.*]

Urine Examination Made Easy. A Plan of Examination with the Common Tests Fully Described. By Thomas Carruthers, M. A., M. B., Ch. B. Second Edition. London: J. & A. Churchill, 1911. (Through P. Blakiston's Son & Co., Philadelphia.) Pp. 47. (Price, 60 cents.)

This little book is intended for the use of nurses, and is based upon a course of demonstrations given to nurses by the author. There cannot be any doubt as to its usefulness and practical value, as its contents live up to its title. While suitable for nurses, it should be shunned by physicians, for they should not seek to have urine examinations made easy. The "easy" examination is apt to mean the incomplete and the hasty one in the hands of medical men. To gain real knowledge therefrom, urine examinations cannot be too carefully nor too thoroughly done. Even physicians, however, who are well trained in urine analysis, may derive benefit from a perusal of the many convenient and schematic tables given in the present volume—provided a more complete textbook is used as the primary source of information.

A Textbook of Gynæcological Surgery. By Comyns Berkeley, M. A., M. D., B. C. Cantab., F. R. C. P. Lond., M. R. C. S. Eng., Gynæcologist and Obstetrician in the Middlesex Hospital, Senior Physician to the City of London Lying-In Hospital, etc., and Victor Bonney, M. S., M. D., B. Sc. Lond., F. R. C. S. Edg., M. R. C. P. Lond., Assistant Gynæcologist and Assistant Obstetrician to the Middlesex Hospital, etc. With 392 Figures in the Text from Drawings by Victor Bonney, and Sixteen Colored Plates. New York: Funk & Wagnalls, 1911. Pp. x-720. (Price, $5.)

This book, the reviewer found, deserved his most careful consideration, primarily, because it is based upon the personal experience of the authors, with

several illustrations by one of them; secondarily, because within the limits of 711 pages it covers the entire field of operative gynæcology. A consequent careful scrutiny of the work has resulted in the conclusion that this is a worthy, a safe, and an altogether admirable book for the specialist and for those practitioners who desire or are compelled to perform gynæcological operations.

The preoperative case of the patient and the after treatment, the necessary instruments for each operation, the dangers and complications, are all thoroughly detailed. If only the dangers and complications of each procedure had been noted and compiled, the book would have been worth publishing, as it might then act as a deterrent to much of the amateur or dilettante operating which is constantly going on; and if only some book could be written which could teach the less expert when to operate and when not to operate, the ideal textbook would have appeared.

Turning now to the technical part of the work, we find the most modern form of expression. The authors favor, for instance, total rather than subtotal hysterectomy on the grounds that the cervix is useless and that it is subject to disease. It was the French operators, we believe, who first called attention to the malignant changes in the cervix after hysterectomy, and the Germans who noted the frequent metrorrhagias.

It is impossible, in the limited space of a review, to consider all the gynæcological operations. We doubt the value of the advice given to operate on hæmatoceles the result of extrauterine pregnancy by the abdominal method. Indeed, no operative procedure seems to bring about a cure by absorption in many cases. The descriptions of the classical operations—abdominal and vaginal hysterectomy, oophorectomy, the Wertheim operation, Cæsarean section, are all clear and admirable and are abundantly illustrated step by step. The plastic operations, too, are well pictured and, although they differ in details from those carried out by other operators, can be commended since they represent the experience of the authors.

We have said enough, we think, to indicate that this book is an up to date, complete, and thorough review of operative gynæcology of an unusually high character. In some respects it is the best of its kind which we know in the English language.

[illegible] Cincinnati. Cincinnati: The Robert Clarke Company, 1910. Pp. viii-126. (Price, $1.)

One of the most difficult problems which confront the modern educator is the presentation of the subject of sexual hygiene to school children. What is the best method of warning children against social diseases without unduly stimulating their curiosity for the prurient? How shall a teacher or a school physician present this subject? Should classes of boys and girls be addressed separately or together? These various questions are answered in the little volume before us from the viewpoint of a thoughtful, conservative observer of humanity and of childhood. The talks to school children and to college boys which constitute the contents of this book are full of suggestive passages for those who are planning similar courses of instruction. The language is simple, dignified, easily grasped, and free from suggestiveness. The hints to teachers given in the closing chapters are most helpful, safe, and sane.

Photographic Atlas of Radiography of the Mastoid Region and of the Nasal Accessory Sinuses. By Joseph C. Beck, M. D., Clinical Professor of Otolaryngology, College of Physicians and Surgeons, University of Illinois, Attending Otolaryngologist to the Cook County Hospital, Chicago, etc. St. Louis, Mo.: The Laryngoscope Company, 1911.

Beck's collection of beautifully made photographs of x ray plates is a valuable aid to our knowledge of the topography of the nasal accessory sinuses and the mastoid regions, both fields of practical surgery, and in one of which the author is himself a pioneer of merit. The plates are numerous and instructive. The importance of a clear knowledge of the extent and location of the sinuses as a guide to operation is generally recognized and, while the expert interpretation of the plate depends in large degree upon actual clinical experience, the chapter on this subject which Beck has prefaced to the atlas proper is of great assistance. The history of this procedure and practical hints on the technique of making and photographing x ray plates are considered briefly but fully. A table of contents and a numbered list of plates with titles might add still further to this excellent atlas.

Taschenbuch der pathologischen Anatomie. Von Prof. Dr. Med. Edgar Gierke. I. Allgemeiner Teil. Pp. 143. II. Spezieller Teil. Pp. 207. Leipzig: Dr. Werner Klinkhardt, 1911.

This manual on pathology belongs to a series of books especially meant for the use of students, to be treated as a framework in lectures, to which are to be added the special views and statements of the teaching professor. The printed matter, therefore, does not take up the whole page, but leaves plenty of margin for notes, and the book becomes at the end of the year a very useful textbook for the student.

Operative Chirurgie der Harnwege. Normale Anatomie und chirurgische pathologische Anatomie. Von J. Albarran, Professor für die Krankheiten der Harnwege an der medizinischen Fakultät zu Paris, Chirurg am Hospital Necker. Ins deutsche Uebertragen von Dr. Emil Grunert, Spezialarzt für Chirurgie in Dresden. Dritte Lieferung. Mit 252 teils farbigen Figuren im Text. Jena: Gustav Fischer, 1910. Pp. 721-1063.

With the third Lieferung closes Grunert's translation of Albarran's *La pathologie opératoire des voies urinaires*, thus bringing the work up to 1,063 pages. This part is smaller than the previous two, and, after bringing to an end the chapter on the bladder, contains also chapters on the prostate and the urethra. An index is added. We can only refer our readers to the previous reviews of the translation of this great work (July 9, and November 12, 1910). We thus possess, besides the French original, a perfect German translation. Is there not an English house which would undertake a good English translation? So many poor foreign works are yearly translated that it would really be a blessing if we had a good translation of such a standard work.

MEDICOLITERARY NOTES

It is fortunate that the intelligent lay press of the country is fully informed concerning the inestimable value of experimental physiology; the exceptions are negligible from the viewpoint of influence on public opinion of the first rank. *Puck* has published recently some telling cartoons, lampooning the ignorant and prejudiced opponents of scientific advance, a striking example of the great value of which has been recently afforded by the protection from typhoid fever afforded to our troops along the Mexican border. An epidemic would have been taken as a matter of course a few years ago. In its issue of April 5th, *Puck* returns to the charge with a double page cartoon showing a *reductio ad absurdum* of the antivivisection argument. It represents a wrecked ship, the officers of which are busily saving the lapdogs at the expense of the babies and other human passengers.

* * *

The Ideas of a Plain Country Woman, in the *Ladies' Home Journal* for April 1st, are concerning matrimony, and are so plain, so full of common sense, so free from cant, sentimentality, and flubdub that we wish every marriageable young woman in the United States would read them. Editorially the *Journal* pays its compliments to the boards of health of Boston, Cleveland, and Minneapolis, and begs them to root out the beauty parlors in their respective cities, with their dangerous forms of treatment and their illegal methods.

* * *

More than once we have recalled to our readers the fact that regular bathing is an æsthetic performance of civilized man, intended to make him *persona grata* in clubs and drawing rooms, and by no means a necessity to health. Sir Almroth Wright, discoverer of the opsonins, has recently set aghast all Great Britain, where the tin tub under the bed is a family fetich, by public announcement of the same commonplace. Sir Almroth went further and stated to his stunned hearers that the modern worship of fresh air was a "dreadful superstition," especially in the treatment of tuberculosis. According to the distinguished pathologist, a given quantity of air will last a number of persons a long time if it is only kept in constant motion and not allowed to become stagnant.

* * *

The great prototype of the modern detective of fiction, Sherlock Holmes, makes his reappearance in the April *Strand* to solve the mystery of The Adventure of the Red Circle. He is accompanied by the faithful Dr. Watson, who seems to have finally cured him of the cocaine habit, the syringe being no longer mentioned, although the distinguished amateur policeman still uses tobacco to excess.

* * *

In the April *Red Book*, Dr. Ellison is one of the few characters in Emerson Hough's Fine Gold. We do not think much of his prescription for the tired millionaire, which was to hunt up a sweetheart he had not seen for forty years. The patient has the prescription filled, so to speak, and the results are not good, nor are they, we must add, particularly thrilling. Perhaps one has been led to expect too much in the way of gore and noise from Mr. Hough. The Mulligan Camp is a story by Elia W. Peattie, in which Dr. Francis Everett is miraculously cured of the liquor habit by an accidental meeting with a long lost brother in a camp of hoboes. Miss Peattie's idea of an uncontrollable thirst is picturesque but very inaccurate clinically. We liked the way the heroine knew instantly, at first glance, that the doctor was "cured."

* * *

Bertha H. Smith explains in Health Talks for Boys, in the April *Good Housekeeping*, that the Polytechnic High School of Los Angeles, Cal., has a course in personal physiology for boys as well as girls, under the direction of a member of the science department of the faculty. The boys' course grew out of the physical examination made by the instructor in gymnastics, who was not long in finding various physical reasons for defective development mentally in his charges. An interesting article by the Reverend Lyman P. Powell avers that there is practically no dogmatic religion taught at any of the large women's colleges, although "simple, earnest preaching" is relished and there are several girl choirs. Emmett Campbell Hall and Cornelia Bedford make a plea for the raisin as a food in the East, and ask why it should cost forty-five cents a pound. They recall the old superstition that raisins eaten uncooked will cause fits.

* * *

Full details of the Newark Factory Fire are given by Mary Alden Hopkins in the April *McClure's;* a gruesome interest is lent to the tale by the duplication of the calamity in New York within a few days. We believe that a few more such fires will arouse the greatest interest in the subject and lead to an animated discussion in the newspapers. The account of the tracing of real criminals and the unraveling of genuine crimes by Detective Burns, as narrated by Dana Gatlin, is as entertaining as any fiction, while the exploits themselves are, of course, much more extraordinary than those of any book hero with his ready made plots. The Honeymoon is a brilliant comedy by the supernaturally clever and voluminous Arnold Bennett.

Miscellany.

Fracture of the Patella Without Separation.—More than any other joint region in the body, not excepting the shoulder, that of the knee is subject to a variety of painful affections. And as these pains are more common than in the other joints so are they more elusive of anatomical interpretation. Indeed, in many instances of pain in the knee, especially those that arise spontaneously, one may be at a loss to determine whether the lesion lies within the joint, in one of the structures about the joint, or even in some tissue more or less remote. To be sure, a serous joint effusion strongly suggests an intraarticular disturbance, but that evidence, by itself, is not always conclusive; synovial crepitation, too, may lead the way to the diagnosis, but it is often a deceptive sign—it may be found equally marked in the opposite knee and it is not uncommon in individuals suffering no disability whatever. In the more serious affections of the knee—fracture, displaced cartilage, neoplasm, inflammatory processes, the x ray will declare the lesion, often very definitely. But, unfortunately, in those more

common minor painful affections to which we have referred, skiagraphy is usually of little or no service. It is always worth while, however, to secure an x ray picture, both because it is of value to know that it reveals no unsuspected lesion and because, once in a while, it does demonstrate a quite unsuspected process. We would call attention here, observes the *American Journal of Surgery* for April, 1911, especially to one type of injury in which only the radiograph may establish the diagnosis—transverse fracture of the patella without separation of the fragments. Stimson says that only "in rare, entirely exceptional, cases the fibrous covering of the bone may remain untorn. . . ." No doubt this type of patella fracture occurs only occasionally, but its incidence must be more frequent than its recognition. A. E. Johnson reports three cases in *The Lancet*, January 12, 1911. In all of his cases there was but little disability and the x ray made the diagnosis. Occurring by muscular violence in much the same manner as might a sprain, and presenting as signs and symptoms only pain and moderate disability and effusion, transverse fracture of the patella without rupture of its fibrous envelope should be borne in mind as a possibility when one is dealing with what appears to be merely a sprain of the knee. In spite of the absence of separation and of marked disability the recognition of the condition is of great importance to the patient, since it determines the necessity for immobilization and recumbency to avoid possible tearing of the aponeurotic covering of the bone and its lateral expansions.

Official News.

Public Health and Marine Hospital Service

Health Reports:

The following cases of [illegible] yellow fever, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending April 7, 1911:

Places.	Date.		
[illegible]			
Madeira—Funchal	Jan. 26-Feb. 8		7
[illegible]			
Ecuador—Guayaquil	Feb. 16-28		18
[illegible]			
Peru—Lambayeque, department	Jan. 1-31		
[illegible]			
Peru—Lima, department	Jan. 1-31		
Peru—Piura, department	Jan. 1-31		
[illegible]			
Alabama—Montgomery	Mar. 19-25		
District of Columbia	Mar. 19-25		
Florida	Mar. 12-25		
Kentucky—Paducah	Mar. 19-25		
Louisiana	Jan. 1-31		
Michigan	Jan. 1-31		
Michigan	Feb. 1-28		
Minnesota	Feb. 1-20		
Missouri—St. Louis	Mar. 19-25		
[illegible]			
Nebraska—South Omaha	Jan. 1-Feb. 25		
[illegible]			
Pennsylvania	Dec. 1-31		
Pennsylvania	Jan. 1-31		
Tennessee—Knoxville	Mar. 19-25		
Utah	Mar. 19-25		
Virginia	Feb. 1-28		
[illegible]			
Brazil—Para	Jan. 17-Feb. 20		
[illegible]			
Canada—Ottawa	Mar. [illegible]		
Canada—Quebec	Mar. 19-25		
Canada—St. Johns	Mar. 12-18		
Canada—Sarnia	Mar. 19-25		
Canada—Sidney	Mar. 19-25		
Ceylon—Colombo	Feb. 12-18		
China—Hongkong	Jan. 29-Feb. [illegible]		
China—Shanghai	Feb. 6-19		
[illegible]	Feb. 19-Mar. [illegible]		
Germany	Mar. 5-18		
Gibraltar	Mar. 6-12		
[illegible]	Mar. [illegible]		
India—Rangoon	Feb. [illegible]		
[illegible]	Feb. [illegible]		
[illegible]	Mar. [illegible]		
Italy—Palermo	Mar. 5-11		7
[illegible]	Feb. 12-18		
[illegible]	Mar. 12-18		
Mexico—Mexico	Feb. 19-25		
Mexico—San Luis Potosi	Feb. 26-Mar. 4		13
Mexico—Vera Cruz	Mar. 5-18		
Peru—Salaverry	Mar. 1-14		4
Russia—Riga	Mar. [illegible]		19
Russia—Warsaw	Dec. 18-Jan. [illegible]		
Spain—Valencia	Mar. 5-11		3
Straits Settlements—Penang	Jan. 8-28		32
Straits Settlements—Singapore	Feb. 5-11		
Switzerland—Aargau, Canton	Feb. 26-Mar. 4		8
[illegible]	Mar. 4		4

Places.	Date.		
[illegible]			
[illegible]			
[illegible]			

Gahn, H., Pharmacist. Granted one day's leave of absence, March 22, 1911, under paragraph 210, Service Regulations.

Keen, W. H., Pharmacist. Granted seven days' leave of absence from March 23, 1911, under paragraph 210, Service Regulations.

Knight, C. P., Assistant Surgeon. Granted one day's leave of absence, March 27, 1911, under paragraph 191, Service Regulations.

McMullen, John, Passed Assistant Surgeon. Granted two days' leave of absence, March 3 and 4, 1911, under paragraph 191, Service Regulations.

Mooker, M. P., Acting Assistant Surgeon. Granted ten days' leave of absence from March 28, 1911.

Richardson, S. W., Pharmacist. Leave of absence for seven days from March 18, 1911, amended to read "two days from March 18, 1911."

Schwartz, Louis, Assistant Surgeon. Directed to proceed to Seattle, Wash., and report to the Commanding Officer of the Revenue Cutter *Tahoma* for duty.

Simonson, G. T., Acting Assistant Surgeon. Granted two days' leave of absence, April 6 and 7, 1911.

Slamberg, N. L. A. K., Acting Assistant Surgeon. Granted five days' leave of absence from April 3, 1911.

Story, H. C., Acting Assistant Surgeon. Granted thirty days' leave of absence from May 1, 1911.

Wasdin, Eugene, Surgeon. Placed on "waiting orders" effective September 22, 1911.

White, J. H., Surgeon. Granted two days' leave of absence, March 31 and April 1, 1911.

Williams, L. L., Surgeon. Granted three days' leave of absence from March 3, 1911, under paragraph 180, Service Regulations.

Wilson, J. G., Acting Assistant Surgeon. Granted one day's leave of absence, March 12, 1911, under paragraph 210, Service Regulations.

Board Convened.

Board of medical officers convened to meet at the Marine Hospital Office, Custom House, New Orleans, La., on April 3, 1911, for the physical examination of candidates for appointment as Cadet Engineer in the Revenue Cutter Service. Detail for the board: Passed Assistant Surgeon A. D. Foster, chairman; Acting Assistant Surgeon J. T. Scott, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending April 8, 1911:

Bourke, James, Captain, Medical Corps. In addition to his duties at Fort Crockett, Texas, will report to the Commanding General, First Separate Brigade, for duty as medical supply officer at that brigade; in addition to his other duties, will perform the duties of medical superintendent, transport service, at Galveston, Texas.

Casper, Joseph, Lieutenant, Medical Corps. Will proceed to Galveston, Texas, and report to the Commanding General, First Separate Brigade, for duty.

Chase, Chauncey L., Lieutenant, Medical Reserve Corps. Ordered to active duty and assigned to station at Fort Oglethorpe, Georgia.

Craig, Charles F., Captain, Medical Corps. Will proceed to Montgomery, Ala., for the purpose of delivering a lecture on April 18, 1911, before the medical officers of the Alabama National Guard on the subject of malarial disease.

Davis, Arthur O., Lieutenant, Medical Corps. Ordered to proceed from Fort Oglethorpe, Ga., to San Antonio, Texas, for duty with Manœuvre Division at that place.

Le Hardy, Julius C., Lieutenant, Medical Reserve Corps. Upon completion of such duty assigned him by Commanding General, Department of California, will proceed to Fort Ward, Washington, for duty.

Moseley, William H., Captain, Medical Corps. Will proceed to Galveston, Texas, and report to the Commanding General, First Separate Brigade, for duty.

Nichols, Henry J., Captain, Medical Corps. Detailed to represent the Medical Department of the Army at the eighth annual meeting of the American Society of Tropical Medicine, New Orleans, La., May 18 and 19, 1911.

Pyles, Will L., Captain, Medical Corps. Will proceed to Galveston, Texas, and report to the Commanding General, First Separate Brigade, for duty.

Sherwood, Joseph W., Lieutenant, Medical Reserve Corps. Will proceed to Galveston, Texas, and report to the Commanding General, First Separate Brigade, for duty.

Thomason, Henry D., Captain, Medical Corps. Ordered to proceed to Jefferson City, Missouri, on official business relative to the reorganization of the sanitary troops of that State.

Wales, Philip G., Lieutenant, Medical Reserve Corps. Reported for temporary duty at Fort Miley, California.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending April 8, 1911:

Haynes, J. P., Passed Assistant Surgeon. Ordered to the naval station, Olongapo, P. I.

Huff, E. P., Assistant Surgeon. Detached from the Naval Hospital, Canacao, P. I., and ordered home.

Births, Marriages, and Deaths.

Born.

Rossiter.—In Vallejo, California, on Wednesday, March 8th, to Surgeon Percival S. Rossiter, United States Navy, and Mrs. Rossiter, a daughter.

Married.

Henderson—Owen.—In Springfield, Kentucky, on Tuesday, April 4th, Dr. Elmer L. Henderson and Miss Laura B. Owen.

Thomson—Laird.—In Springfield, Massachusetts, on Thursday, March 30th, Dr. A. Thomson and Mrs. Charles Laird.

Died.

Baker.—In Cleveland, Ohio, on Wednesday, April 5th, Dr. Albert R. Baker, aged fifty-three years.

Bouse.—In Harrisburg, Pennsylvania, on Wednesday, March 29th, Dr. John A. Bouse, aged fifty-eight years.

Brainin.—In New York, on Friday, March 31st, Dr. Simon M. Brainin, aged about fifty-six years.

Cramer.—In Flemington, New Jersey, on Friday, March 24th, Dr. Isaac S. Cramer, aged seventy-seven years.

Cushing.—In Lynn, Massachusetts, on Sunday, April 9th, Dr. Maria J. Cushing, aged seventy-six years.

De Courcy.—In Baltimore, Maryland, on Thursday, April 6th, Dr. William Henry De Courcy, aged eighty-seven years.

Dimon.—In Syracuse, New York, on Monday, March 27th, Dr. R. J. Dimon, of Hastings, aged fifty-eight years.

Fels.—In Cincinnati, Ohio, on Thursday, March 30th, Dr. George W. Fels, aged sixty-one years.

Glatfelder.—In St. Louis, Missouri, on Sunday, April 2d, Dr. Noah M. Glatfelder, aged seventy-three years.

Godshaw.—In Louisville, Kentucky, on Monday, April 3d, Dr. Cain C. Godshaw, aged about fifty-five years.

Hoskins.—In West Chester, Pennsylvania, on Thursday, April 6th, Dr. John R. Hoskins.

Phillips.—In Lewiston, Idaho, on Thursday, March 30th, Dr. C. C. Phillips, aged forty-two years.

Pilcher.—In Savannah, Georgia, on Sunday, April 9th, General James Evelyn Pilcher, Medical Corps, United States Army, of Carlisle, Pennsylvania, aged fifty-four years.

Poore.—In New York, on Tuesday, April 4th, Dr. Charles Talbot Poore, aged seventy-one years.

Sabin.—In Black River, New York, on Tuesday, March 28th, Dr. George G. Sabin, aged seventy-two years.

Solt.—In Mountaintop, Pennsylvania, on Monday, April 3d, Dr. Thomas J. Solt, aged fifty-four years.

Walker.—In Wilkinsburg, Pennsylvania, on Wednesday, March 29th, Dr. Robert A. Walker, aged fifty-three years.

Wilson.—In Denver, Colorado, on Saturday, April 1st, Dr. William E. Wilson, aged seventy-eight years.

Wolff.—In San Antonio, Texas, on Saturday, April 1st, Dr. Herman T. Wolff.

New York Medical Journal

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Original Communications.

THE STARNOOK AND THE WINDOW TENT. TWO DEVICES FOR THE REST CURE IN THE OPEN AIR AND FOR OUTDOOR SLEEPING.*

BY S. ADOLPHUS KNOPF, M. D.,
New York.

[illegible] Physician in charge of the [illegible] Medical School and Hospital.

Every physician interested in the treatment of tuberculosis knows how difficult it is to have anything in the line of additional porches or verandas built onto a city home. First of all in cities, like New York for example, wooden constructions are not permitted. The vast majority of houses are tenement or apartment houses, and even if there would be space, the owner would not permit any addition.

The only thing in the line of outdoor sleeping, or that approaches outdoor sleeping for the average dweller, is the window tent. For the benefit of those who are not familiar with this device, I will reproduce here four drawings which are self explanatory (Figs. 1, 2, 3, 4), and I will give the opinion of two authorities who have experimented with this device in the treatment of tuberculous patients.

Robert H. Babcock, A. M., M. D., author of *Diseases of the Heart and Arterial System*, who was until recently Professor of Clinical Medicine and Diseases of the Chest, at the College of Physicians and Surgeons (medical department of the Illinois State University), Chicago, and consulting physician to Cook County Hospital, says in his recent book on *Diseases of the Lungs:* "There are other instances in which one has to contend with the prejudices of either patient or friends against sleeping out of doors lest harm result from exposure to the dew and chill of the night air. Notwithstanding these or other objections, the patient must be made to get the maximum amount of fresh air in some manner. Halfway measures do not answer in so serious a fight as that against pulmonary tuberculosis. It is the consideration of the many obstacles that may arise which makes me look with favor upon an ingenious arrangement devised by Dr. S. A. Knopf under the name of window tent. This device meets many if not all the objections that can be raised to spending the night outside one's room. It possesses other advantages that will appeal to the doctor who is trying to secure a supply of pure air to the dweller in the city or to the consumptive far advanced in this complaint."

Sherman G. Bonney, A. M., M. D., Professor of Medicine, Denver and Cross College of Medicine, medical department of the University of Denver, says in his book *Pulmonary Tuberculosis and Its Complications*, 2nd Edition, 1910: "The window tent devised by Dr. S. A. Knopf embodies all the desirable features of the aerarium and obviates some of the disadvantages. The window tent is virtually an inside awning consisting of canvas stretched upon an iron frame attached to the lower half of the window, as shown in illustration. The tent is designed to rest upon a single bed, and to enclose the upper portion of the patient's body, its height, length, and degree of curvature being necessarily dependent upon the dimensions of the window. In its construction the effort is made to provide fresh outdoor air which shall not be allowed to mix with the air in the room. In case there is but a single window, a measure of ventilation for the room is afforded by an air space of about three inches between the top of the window tent and the lower edge of the sash. This space may be reduced or closed entirely by lowering the window. It would appear that the access of fresh air rendered possible by this method is much greater than obtains in lower berths of Pullman sleeping cars, though the conditions are in some respects quite similar. With the upper berth made up and the curtains tightly drawn the traveler in the lower compartment occupies throughout the entire length a modified window tent. The comparatively small window opening is practically offset by the forcible entrance of air incident to the rapid motion of the car, yet the air within this confined space, even during hot weather, when the windows are open, often becomes noticeably foul. It is apparent that a vitally important feature of the window tent is the opportunity afforded for the egress of expired air by virtue of the proportionately large opening. An added factor is the small capacity of the enclosed tent, with its rounded upper surface facilitating the course of the air current. In describing the ventilation of the window tent Knopf states that the cold air enters at the bottom of the open space, describes a quarter circle, and makes its exit at the top, carrying with it the exhaled carbon dioxide. This I have verified by the use of a delicate instrument known as the air meter, the current being perceptibly inward at the bottom and outward at the top. In cold weather it is apparent that the outward direction of the air current at the top is facilitated by the egress of heated air from the room through the aperture above the window tent."

For a detailed description I must refer you to



Fig. 1.—Dr. S. A. Knopf's window tent [illegible], with patient [illegible] breathing outdoor air only.

some of my previous articles on the subject.[1] My purpose to-day is to show to those who are so fortunate as to have their own house in city or town, or to have an accommodating landlord, how they may avail themselves of a very new and practical device which will answer all purposes for outdoor life by day and by night. I am indebted to Mr. H. C. Ford, a young mechanical engineer, and to the Starnook Company with which he is associated, for the construction of this device. As I have said, it is suitable for the rest cure in the open air by day and for outdoor sleeping at night, and as the thought of the latter use came first, it has been called the starnook. This name is very appropriate, for, as will be seen from the following description, on a clear night the stars can be seen from this little nook.

I have slept in my starnook since October, 1910, and never have I had more peaceful nights, more sound and more refreshing sleep. To lie outstretched in the warm bed, breathing constantly the pure, fresh air, to be able to gaze at the beautiful sky, and watch the starry constellations without any effort, is a sensation which must be felt, for it cannot be described. I am inclined to believe that the most restless and nervous person will soon fall asleep in a quiet starnook. On bright, moonlight nights the scene is equally enchanting. Even on rainy nights with roof overhead and the slats of the shutters open to admit air, the sensation is a cozy one. One soon gets accustomed to the rain trickling on the roof and the monotonous noise of it is sleep inviting.

My purpose in having this starnook constructed was that it might serve as a model for tuberculous, pneumonic, or nervous patients who have been directed to live and sleep in the open air. As will be seen in picture No. 5, my own starnook is built on an extension at the rear of the house, but it could also rest on posts or columns, or triangular supports attached to the walls. The starnook consists of three walls composed of frames holding movable slats, of a roof, and a floor. It is all made of galvanized iron with the exception of the floor, the window sash, and the roof frame. The wall of the house closes the fourth side, through which access is had to the starnook by a long window or a door. It is about 9 feet long, 6 feet deep, 6 feet high at the outer side, and 8 feet next to the house. It can also be made 8 feet deep, and will then hold a bed and couch or two beds.

In either end is a glass window, which can be opened outward, and Florentine glass fills the triangular spaces at each end under the slope of the roof, which rests a short distance above the walls to allow for free circulation of air at all times.

Fig. 5 shows the starnook in use at night in rainy or stormy weather. Fig. 6 gives an interior view, all closed except the door leading from the house into the starnook. On a clear night, when there is no fear of rain or snow, the roof of the starnook is raised by means of a crank and counterweights.

As seen in Figs. 7 and 8, the roof can be completely raised against the wall of the house and an unobscured view of the sky can be had by the occupant of the bed. During the day the starnook can be transformed into a typical rest cure veranda. Three upper sections of the front shutters can be entirely opened, and with the two windows open and the roof up one is certainly out of doors. Fig. 7 shows the starnook transformed from a night shelter to a pleasant resting porch by daytime. Fig. 8 gives an idea of the interior aspect of the starnook by day, with roof and all windows open.

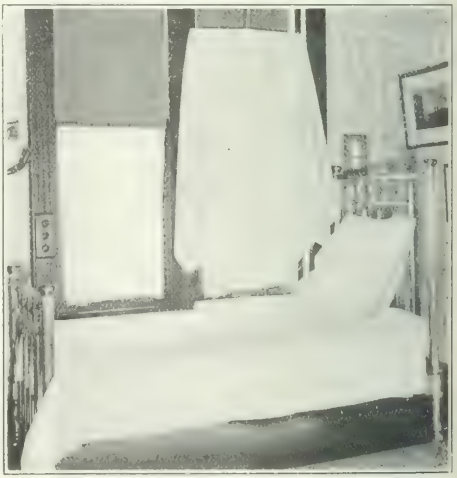
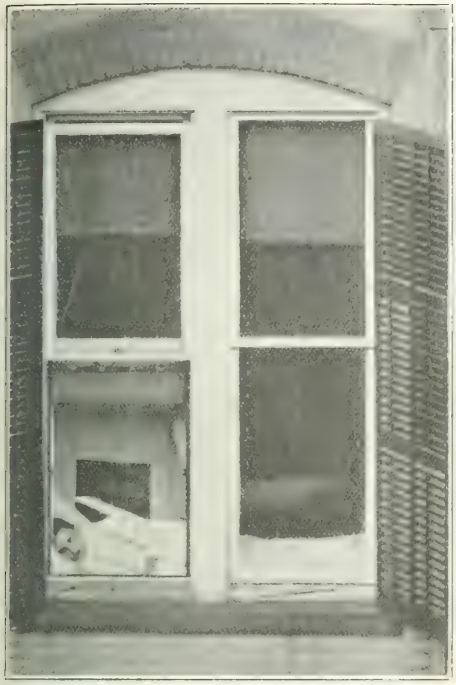


Fig. 2.—Dr. S. A. Knopf's window tent raised, when not in use.

[1] A Window Tent for the Prevention and Treatment of Tuberculosis. *Medical Era*, Vol. xviii, No. 5.

Tuberculosis a Preventable and Curable Disease, Modern Methods for the Solution of the Tuberculosis Problem. Moffat, Yard & Co., publishers, New York, 1910. Second edition.

[illegible] Disease [illegible] How to Combat It. International Prize Essay, seventh edition. *The Survey*, New York.



The advantages of this device are manifold. When painted to match the house it forms an attractive addition. The slats that form the walls, instead of being straight, are bent inward at the lower edge and outward at the upper, in such a way that when partly open they permit a free access of air, yet neither the bed nor the occupant of the bed can be seen by neighbors and absolute privacy is thus assured (Fig. 9).

In very stormy weather the shutters can be tightly closed (Fig. 10) to protect the occupant from rain, drifting snow, and strong winds, and still there will be enough open spaces to allow the fresh circulation of air. The lower sections of the shutters are manipulated simultaneously by means of a handle conveniently located so as to be reached from the bed. Each upper section has an individual handle whereby the slats can be placed at any angle desired. The handles are of wood so as not to chill the patient or occupant when he touches them in cold weather. An electric light, which can be turned on and off with the aid of cords by the occupant of the bed, and a push button to call a maid or nurse in case of illness, complete the arrangement for comfort.

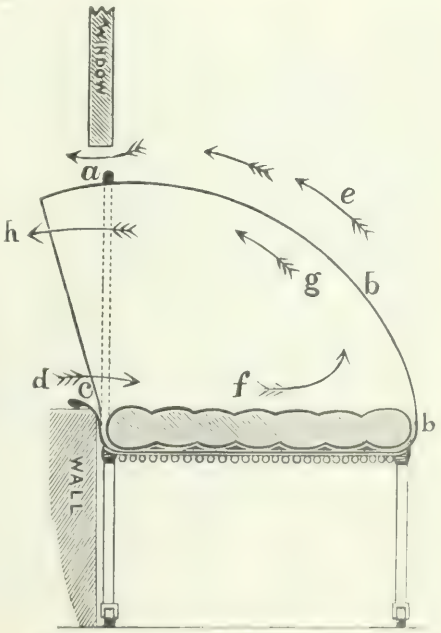
Sometimes the starnook cannot be constructed so that the roof can be raised upward to rest against the wall of the house. When this is the case the roof has to be tilted outward. When for one reason or other it is desirable to have the con-

be constructed with a little shack, the two joined together, so that the latter can be heated when serving as a dressing room. To make a good support for the roof of the starnook when raised, the shack would have to be somewhat higher. Another way is to divide the roof into two sections, so that they may better withstand strong winds when the roof is open. The same plan can, of course, also be carried out on the ground, in the yard, or garden. If it is desired to have a double starnook, the two devices can be joined, the bathroom and dressing room being between them.

To the timid who are afraid of sudden rain showers or snowstorms, and believe that they cannot get the roof down quickly enough, or who fear to get out of the warm bed for the purpose of lowering the roof, there can be arranged an electric motor, manipulating the raising and lowering of the roof quickly and securely, operated by means of a push button within easy reach from the bed.

It is hoped that with a demand for a number of starnooks, two different standard sizes can be put on the market at very reasonable prices. In presenting this new device to the profession and the public, the inventors trust to have been in a measure helpful not only in solving the problem of outdoor sleeping and outdoor resting for the tuberculous in cities, but also to have given opportunity to other sufferers to recuperate, and to the well and strong to enjoy constant fresh air, at least at night, and enable them to be more frequently in touch with Nature than is granted to most city dwellers.

16 West Ninety-third Street.



A CONTRIBUTION TO THE STUDY OF FATS AND LIPOIDS IN ANIMAL TISSUE.

IV. The Ring Bodies and Their Significance in Vital Processes.

By Jonathan Wright, M. D.,
New York.

It must be clear to all those who have closely followed the literature of the microchemistry and the micromorphology of animal tissues and to those who have similarly noted the drift in immunology and pathology that the fats and the lipoids are attracting an attention which, while it bids fair greatly to elucidate many hitherto inexplicable phenomena, will in all likelihood, if we are to judge the future by the past, soon lead us to an exaggeration of their importance in vital processes. Such a point we have not as yet reached. It is, however, to be remembered that protoplasm in general, that the ferments, the antibodies and the antigens, the cell membranes and the nuclei have other ingredients which govern and modify the phenomena which their study defines, that they present other manifestations than those which can be traced to fat like bodies. Indeed, it should remain obvious that there are very few if any of these modifications and manifestations in which the fats play an exclusive rôle.

The study of the fats and the lipoids outside of the body by means of the applications of the reagents which it is possible to use within the body, and by means of the synthesis of material in such a way that it represents what we conjecture is the combination within the body, has seemed the only way to attack this problem from the standpoint of stains. But in spite of ourselves we suffer from

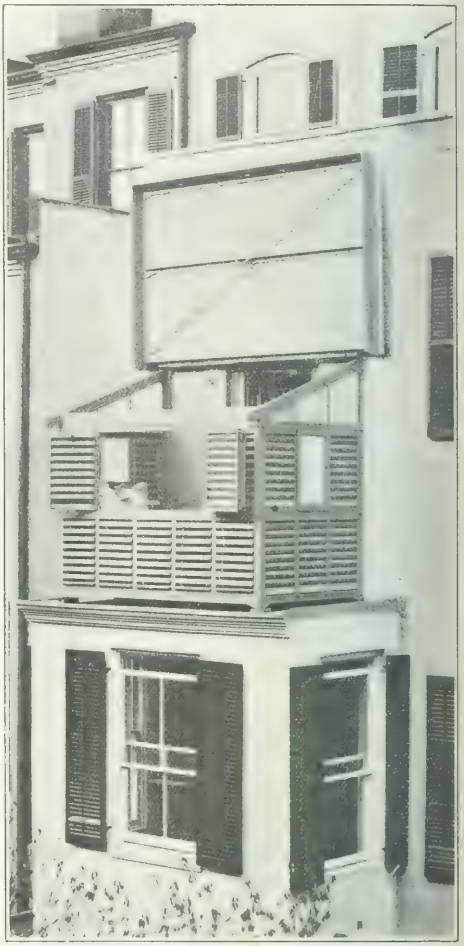


Fig. 6.—Knopf's sanitook, with roof raised and windows and part curtains open for the rest cure by day.

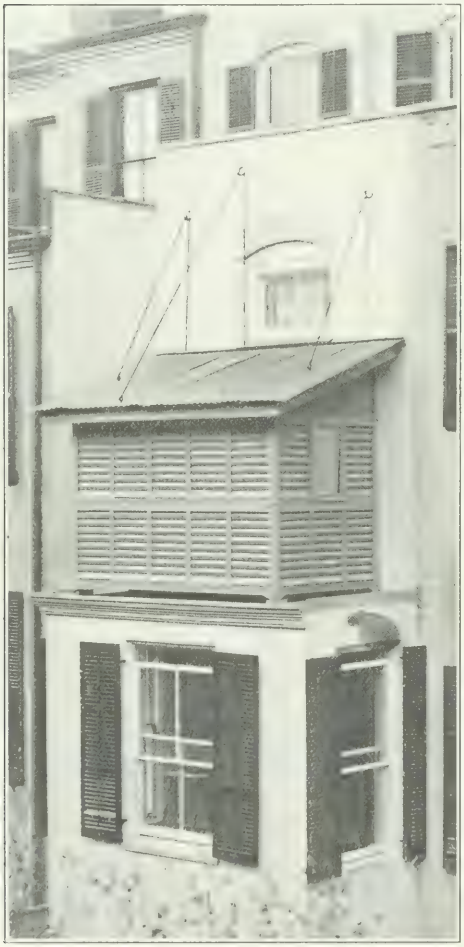




Fig. 7.—Knopf's starbook, interior view. Everything closed except door leading from the house into the starbook.



Fig. 8.—Knopf's starbook, interior view with roof raised and door and partitions [illegible].

the almost unavoidably erroneous tendency to forget that this basis is an insecure one. We can never be sure that a stain within the living tissue will act as it does on substances which have been made to imbibe the material, fat or lipoid, in the test tube or on the object glass.

In the case of lecithin, for instance, even the most exhaustive analysis is incapable of explaining why the lecithin of the egg differs from the lecithin of the blood; indeed, it has been declared that such a thing as pure lecithin, representing the formula given for it, has never been obtained, while within the body its shifting of chemical stereoscopic structure, its albumin combinations, its physical properties in them, above all its tinctorial affinities in the environment of the living cell constantly elude our closer anaylsis. With soap and cholesterin it is scarcely less true. Yet something can be gained in a collateral way by the study of such material outside the body. For instance, we find that of all things used outside the body for the study of fluid crystals and artificial cells, it is the various combinations with cholesterin which give rise to the most interesting phenomena. It was Quincke who declared that when foam cells of the artificial kind and foam cells of the living tissue are examined in polarized light, the resulting pictures could not be distinguished one from another, and the inference is that the molecular arrangement in each, as dissected by the polarized light, is of a similar nature. "Especially adapted to the study is a mixture of stearic acid, palmitic acid, cholesterin, and glycerin, which one warms and allows to cool."[1] From this mixture there results a mixture of cholesterin and fatty acid with but little glycerin. "Combinations of lecithin, cholesterin and fatty acids, which are excellent examples for fluid crystals and myelin forms are found within the protoplasm."[2]

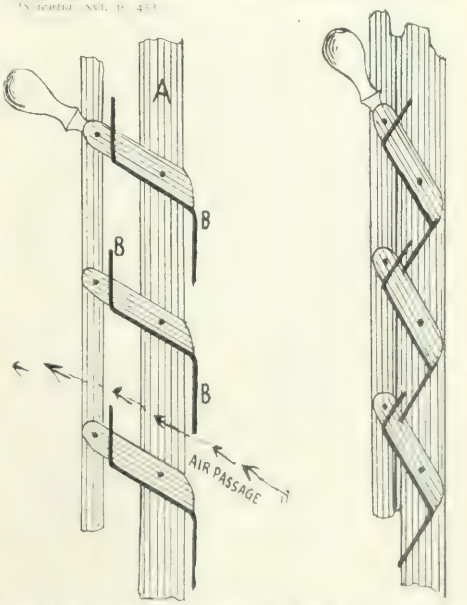
"A model of the simplest kind of contractile element would be a pillarlike crystal, an ethylester of-parazoxybenzoic acid which can freely move in a fluid in which it cannot be dissolved."

Lehmann intimates that it is by means of crystallization processes in these fat like materials that chemical energy is turned into mechanical energy in the living cell.

How near to this conception we have gotten by means of the tinctorial processes, akin to those with which I have been concerned in previous papers is instanced by Prénant,[3] who, in dealing with the mitochondria as cytoplasmic structures, says that when unstained it is only their refractile index which is to be credited with their visibility. We see in the microscope that certain parts of the protoplasm are in a different physical phase as concerns the transmission of light, and this fluid crystalline state is all that reveals them to us under such circumstances.

[2] Lehmann. Scheinbare lebende Crystalle und Myelinformen. [illegible] ber. 22, 1908.

[3] *Ventral*, XVI, p. 433.



which they can be [illegible]

(Knopf.)

This and their slight tinging with osmic acid, the very selective staining by the methods of Benda and others have led many histologists to suppose that they contain some lipoid, a fatty acid, in the form of a soap, I suppose. The presence of crystals of fatty acids in benign tumors and various experiments have led White[4] to conclude that it is the presence of cholesterin associated with them which limits their growth. This has its suggestiveness here, but it also has an affiliation with the part cholesterin plays in immunology, and it is liable to be an important consideration in the more scientific study of cancer.

I cannot, of course, even allude to all the fields in which this subject has its place. All I wish to do is to supplement and direct to a more specific application the general considerations I have already ventured on in a recent article[5] on surface tensions.

There I have alluded to the method by which Lord Rayleigh ascertained the radius of molecular action and its influence on the surface tension of fluids. He employed, it will be remembered, the surface of the fluid in a tub of water, over which he spread an extremely thin coating of oil. Camphor flakes thrown on water surfaces exhibit gyrations familiar to all; thrown upon oil they are motionless. The degree of tenuity of the oily coating on the water was measured by the degree of motion imparted to the flakes by the underlying water and from this the length of the radius of the dynamic influence of the molecules of water was deduced. Now let us imagine a fat like fluid coating an albuminous body in the tissues. At once it is evident that the reaction of that body is dependent on the state of the fat like coating and the thickness of it. Beyond the radius of molecular action of the albuminoid the lipoid is master of the situation. Within that radius the lipoid shares its government with the underlying albuminoid. In view of the extreme tenuity of a layer of oil (5 to 20 $\mu\mu$ for water), which would allow any albuminous action to be manifested, it is questionable if tinctorial reactions are capable of revealing the combination in that condition which we must believe is the most essential to the vital action of protoplasmic entities, be it cell or chromosome. That condition which approaches nearest to a tenuity of coating represented by the radius of molecular action would be the most sensitive and the most efficient one. Thus far such light as we perceive is purely of a deductive nature. What direct evidence can be adduced that such in fact is the condition of combinations of albuminoid and lipoid? It must be confessed that its visible direct demonstration is impossible. That is, we cannot see entities so small with coatings so thin as those which are concerned, as we believe, in vital reactions. Yet there are adumbrations of this direct visible proof. Such are furnished by the revelations of the polariscope applied to the microscopic vision of certain lipoid combinations of cholesterin, lecithin, and neutral fat, as set forth in this country by the work of Adami[6] and published elsewhere by him[7] in collaboration with Aschoff. This phenomenon of birefringency is known to rest upon the dynamic condition of certain layers which coat the surfaces of lipoalbuminous derivatives of tissue cells. Now this principle of double layers or triple layers or the many zoned composition of entities in the microchemistry of living tissue is no anomaly nor is it confined to fatlike material alone or to its combinations with the albuminoids. It is shadowed forth in the hull of the nut, in the shell, in the condensed outer layer of the kernel; nay, it has been shown that the starch granules of the wheat kernel are each surrounded by an envelope which has to be disintegrated before any diastase can work on it, and so, one hull within the other, we reach the minute dimensions of the ultimate starch granules said to be about thirty or thirty-five micra in diameter.

This phenomenon is attracting a great deal of attention in connection with fatty substances and it is well to point out the place it assumes in the general scheme of living things. The capsules of bacteria borrowed from their environment, nature's effort to encapsulate foreign bodies, the sort of semihull that is formed around old tubercle, etc., should all be thought of as indicating that this putting another surface tension on lipoid drops is in line with putting another surface on more familiar entities like the walnut and the grain of wheat. The physical aspects of it should be viewed in all lights, and it is not out of place to cite here a reference to some work of Pickering.[8]

"Paraffin oil emulsified in various solutions, especially soap, like calcic soap and solutions of the basic sulphates of copper and iron, showed that emulsification depended not on the viscosity or the lack of it in the fluid, but upon the presence of small particles of certain substances, smaller than the oil particles and which the latter could cover as a mantle, but which are more easily wetted by the solvent than covered by the oil. Many particles, such as crystals and particles tending to form groups are unsuited for the purpose."

More immediately applicable to our own observation of the ring bodies as revealed in the study of the lipoids in the tissues, is a reference to some observations of Robertson.[9] An emulsion of olive oil and slightly alkaline water form, when mixed in equal parts, an emulsion in which oil forms the outer phase and water the inner one, but on increasing the amount of oil there comes a critical stage after which the relations are reversed. This critical point is dependent not only on the relative amounts of oil and water but upon the alkalinity of the latter. These phases can be detected by the microscope and the use of the Sudan III stain. This was the conception by Albrecht as by Arnold and Altmann of the structure of certain granules and these writers have been supported by a general consensus of opinion in more recent work. Aschoff cites a statement of Albrecht to the effect that the extension of the liposomes, due to the flowing out of the fatty substances on the surfaces of drops, can be seen by the proper procedures. I cannot see, however, even

[4] *Journal of Pathology and Bacteriology*, April, 1910.
[5] *New York Medical Journal*, October 15, 1910.
[6] *Journal of the American Medical Association*, February 9, 1907.
[7] *Proceedings of the Royal Society of London*, Biological Section, 1906, lxxvii, 359.
[8] Ref. *Centralblatt für Biochemie und Biophysik*, x, 21, part 1, November, 1910.
[9] *Ibid.*, Nos. 19 and 20, part 2, October, 1910.

if we are quite sure of the admixture of albuminoids with these structures, that Loewenstein[10] has any justification for the assumption that these phenomena furnish any proof that there is a transformation of a part of the granular protoplasm into fat. This is a faulty conception of protoplasm, it seems to me. We can only conceive of protoplasm as a combination of extreme variability including all sorts of lipoids and albuminoids and crystalloids and the extrusion or segregation of any part of the protoplasm *may* be accomplished without necessarily abolishing that attribute which distinguishes protoplasm from other mixtures. I mean, of course, "life." It is only necessary to refer to the process of lactation to instance an act of tissue cells whereby oil drops and globules are regular products of the cell. It is important to get rid of the idea that the presence of these globules and ring bodies, free in the tissues, is necessarily indicative of a pathological state, a degeneration of anything, though they then frequently become more visible by becoming larger, by taking on certain reactions which at other times they do not possess.

From this exposé of the facts and the deductions from them it will be seen that the demonstration of such ring bodies as I have described as found in the tonsil, exhibiting, under certain differentiating processes, clear evidences of the condition referred to, is a matter of considerable interest, even if we regard it as nothing more than a simulacrum of smaller, more numerous, but less visible agents of metabolism forming parts of the cell protoplasm (see Fig. 6). That one of the zones of lipoids was in the form of an oleate or soap, that the outer zone had been differentiated by the influence of the inhaled ether, or by the differentiating steps of the tinctorial process, revealed a compound physical state which is interesting and instructive. It may be interesting in this connection to note that Stheemann,[11] in support of an earlier work by Poulain on the lymph glands (among which we must include the tonsils) remarks in regard to the fat which goes through the lymph glands that the principal part is carried as a fine emulsion of neutral fat, "whose separate particles are surrounded by a soapy hull or one made up of the fatty acids." It detracts nothing from the force of the suggested physical arrangement, whereby a foreign surface tension is loaned to the neutral fat, to entertain the opinion that the external coating is a lipoid, perhaps a cholesteryl oleate in the black line, and some other modifications of cholesterin or other lipoid at the periphery. I need not dilate further here on the bearing this has upon the puzzling problem of the absorption of neutral fat by cells when it has been proved that "naked" neutral fat, as we may call it to preserve our unity of thought, is not absorbed by cell membranes. Give another coating to its granules and in it goes, and when it takes off its overcoat inside the cell—there it is.



[illegible] with the soap stain, showing the [illegible] of a tonsil which had been removed from the throat under ether.

I have had occasion to point out the importance of the work of Professor Albrecht for our conception of intracellular structure and dynamics and Aschoff does justice to his conception of the dynamics of the circulation in the connective tissue. In 1907, at the Dresden meeting of the German Pathological Society, he drew attention to the behavior of many of the drops in the lymph spaces of the tadpole's tail when pressed out into water or a weak salt solution; like the scolices of acne, many of them still present in the lymph spaces projecting inward, they showed simple or compound myelin figures continually derived from the wall (of the spaces). He continues:

"The surprising fact emerges from this that a similar structural plan, such as we are already acquainted with in much finer form in the cell, is found in the connective tissue of the tadpole's tail; that is to say, the formation of large drops which are made up on the surface of some myelin producing substance (he means by this some lipoid), which contains inside some fluid watery solution." "They represent thereby an osmotic reservoir lined with a lipoid sheeting."[12]

Indeed, Albrecht imagined, for the explanation of the movement of the lymph and the cells which wander with it through the lymph spaces, that these spaces are in fact lined with a coating of a lipoid nature. We may extend the conception a little. As the lipoid coated bacillus slips along the lipoid washed endothelial walls of the lymph spaces, as the intestinal[13] contents glide downward to the sigmoid flexure, we may believe, from what we shall subsequently learn of the immunological side of the lipoids, that it is to the nature of the lipoid coating of the channels, as I believe it is to the lipoid nature of the contents of the tonsillar epithelium, that man owes in part his immunity to bacterial toxin or intestinal autotoxin or to bacterial tonsillar invasion.

It is easy to understand from what I have said in regard to the tenuity of the lipoid film, necessary to supply an efficient characteristic tension to a surface, that such a coating would defy direct detection, but Albrecht's conception of the wall linings of the infection and nutrition routes in the connective tissue, will find its justification in recent disclosures as to the composition of the external phases or membranes of cell protoplasm, with which I have in previous papers dealt to some extent and to which further allusion will be made.

When one remembers how liquid crystals can be made to glide along glass surfaces by virtue of their own varying internal molecular structure, we

[illegible] 4.

[12] For an account of "The precipitogenic ferment of the fæces as well as of the cellular coating of the gastrointestinal tract," see Brezina and Ranzi, *Zeitschrift für Immunitätsforschung*, iv, p. 375, 1910.

may understand how much more labile an agent of convection they become when they creep along surfaces which themselves vary with every breath of chemical change.

In the tangled skein of vital action it is difficult to maintain any conformity to the sequence demanded by the arbitrary divisions of biological science into acts of nutrition and decay, of immunity and infection, of cell division and cell annihilation, if one attempts to trace out, without teleological or anthropomorphic bias, the different phases of physical and chemical changes in the cells. They all hang together, yet some heads of discourse are necessary, and I may, as well as of any other, say something first of the apparent part the lipoids play in the process of caryocinesis, especially as suggested in connection with my own work.

In the first article on the neutral fat in the lymphocytes I have drawn attention to its demonstration exclusively or almost so in cells having two or more, usually two separate nuclei, while soap and cholesterin show chiefly in cells in which one nucleus is found. I am not concerned here with the discussion as to whether we ought to look upon these cells as true lymphocytes or as lymphocytes changed into plasma cells. In these cells it often happens that the stimulus to cell division ceases to be operative *after* nuclear division and the cytoplasm remains undivided, exhibiting multiple nuclei. This is the stage par excellence in which I have noted regularly the presence in the cytoplasm of neutral fat. In the study of the lecithin it seemed apparent that that lipoid was associated with the neutral fat at this stage,[14] but it was also present, which was not the case for the neutral fat, *in the act* of nuclear division and during cytoplasmic division also. After the completion of the act of cytoplasmic division the lipoids showing are cholesterin and soap. Let us at once turn to the admirable paper on Surface Tensions in Relation to Cellular Processes, by Professor A. B. MacCallum, which has recently appeared,[15] and there we learn that: "In cell and nuclear division surface tension operates as a force, the action of which cannot be completely understood until we know more of the part played by the centrosome and centrosphere. That this force takes part in cell reproduction has already been suggested by Brailsford Robertson. He has devised an ingenious experiment to illustrate its action. If a thread moistened with a solution of a base is laid across a drop of oil in which is dissolved some free fatty acid the drop divides along the line of the thread. When the latter is moistened with soap the drop divides in the same way and in the same plane. The soap formed in one case and present in the other, it is explained, lowers the surface tension in the equatorial plane of the drop, and this diminution results in a streaming movement away from that plane which brings about the division. He suggests that in cell division there is a liberation of soaps in the plane of division which sets up streaming movements from that plane toward the poles and terminating in the division of the cytoplasm of the cell."

Now while it may be true that enough has been advanced by MacCallum and by others to show that surface tension is not a minor feature of cell life and that it is the force concerned in nuclear and cell division difficulties have been encountered in reconciling its manifestations with familiar forms of electrodynamic energy. There is every reason to believe that a great forward step was taken in the study of cell dynamics when the mathematical principles of Gibbs were found to apply to vital phenomena. Many of these, though plainly of an osmotic nature, had not hitherto appeared to obey the laws of osmotic diffusion as ascertained from observations on nonliving membranes. In order more surely to point out the bearing of the quotations, I italicize some of MacCallum's words: "The essential points may be rendered in the statement that when a substance on solution in a fluid lowers the surface tension of the latter the concentration of the solute is greater in the *surface layer* than elsewhere in the solution; but when the substance dissolved raises the surface tension of the fluid, the concentration of the solute is least in the *surface layers* of the solution." And "The occurrence of soaps which are amongst the most effective agents in lowering surface tension may be revealed without difficulty microscopically, as may also neutral fats, but we have as yet no delicate microchemical tests for sugars, urea, and other nitrogenous metabolites, and in consequence the part they play, if any, in altering the surface tension in different kinds of cells, is unknown." And again, "This determination is based on the deduction from the Gibbs-Thomson principle that, where in a cell an inorganic element or compound is concentrated, the surface tension at the point is lower than it is elsewhere in the cell."

I do not pretend to say whether the presence of a soap in the form of a cholesteryl oleate, as was demonstrated in the uninuclear lymphocytes, inhibits cytoplasmic division in these cells, or whether the preponderance of cholesterin in this form may in some way interfere with the lecithin as an agent in cytoplasmic division, as we will find shadowed forth as a possibility when we come to speak of the immunological side of the lipoid phenomena. Suffice it to say that the observations I have noted in my own work seem suggestive in the light of the investigations and the views of other workers. I have quoted so much from MacCallum, one or two further extracts from his paper may be admissible.

"There are in cells various inclusions whose composition gives them a different surface tension from that prevailing in the external limiting area of the cell. Further, the limiting portion of the cytoplasm in contact with these inclusions must have surface tension also. When, therefore, we find by microchemical means that a condensation of an inorganic element or compound obtains immediately within or without an inclusion, we may conclude that there, as compared with the external surface of the cell, the surface tension is low. It may be urged that the condensation is due to adsorption only, but this

[14] Vide October 7 and 14, 1911. By "this stage" I mean the time, however long or however short, between the completion of nuclear division and the beginning of cytoplasmic division. I am not prepared to deny or affirm that this stage represents a pathological halt in a physiological process.

[15] Anyone interested in this cytological question may consult the recent quite readable monographs by Schäffer on *Die Plasmazellen*, and by Schridde, *Studien über Degen der Entzündungszelle* (both Jena, 1910).

objection cannot hold, for in the Gibbs-Thomson phenomena the localization of the solute at a part of the surface as the result of high tension elsewhere of the solution is, in all probability, due to adsorption, and is indeed so regarded." (See Freundlich, *Kapillarchemie*, p. 50, 1909.)

It was from considerations such as these that Bütschli came to hold that "the contractile movements of amœbæ are brought about. In these the chylema or fluid of the foamlike structure in the protoplasm is alkaline, it contains fatty acids and, in consequence, soaps are present which, through rupture of the superficial vesicles of the foamlike structure at a point are discharged on the free surface and produce there the diminution of surface tension that calls forth currents, internal and external, like those which occur in the case of the drop emulsion." Such principles, too, MacCallum urges, must be kept in view in the study of cell secretion, and he suggests as a working hypothesis that in the secreting or the excreting cell lower surface tension exists at its secreting or excreting surface than at any other point on the cell surface.[16] While this is a little aside from our interest in caryocinesis it is helpful in its application to the growth of the globules observed in the lipoid cells which we have traced from the granulocytes and their final release into the freedom of the lymph spaces by the parting of the limiting cell membrane at its lowest point of surface tension. Something of this kind we recognize enters in the physiological secretion of milk.

To return for a moment to the question identifying the caryocinetic figures with the artificial electromagnetic phantoms erected by various authors to simulate them. It may be remembered that I drew attention to the fact that I was unable to detect the presence of fat or lipoid in the caryocinetic figures which initiate nuclear division, though the figures themselves were beautifully shown by the counterstain in Ciaccio's process. His own work on the mitochondria I did not repeat. In referring to the matter here I do so only to indicate that in this early stage of nuclear division if the lipoids are present, and I have every reason to believe they are, they are in a different phase from that of later stages, since they react differently in the matter of the adsorption of the various reagents I used. Prénant, in a very interesting, though not a very sympathetic review,[17] refers to the various simulacra of the diasters and triasters and polyasters, of their spindles and cœnocentra, which the electromagnetic phantoms and analogies of Hartog and Rhumbler and Reinke and Gallardo are intended to elucidate. The resemblances are many of them astounding and we are tempted to go on to the belief that real mitosis *is* a result of the apposition of these various phases of the lipoids and albuminoids in such a way that veritable electromagnetic poles with intervening chains of force have been generated in the colloid material. The stumbling block has been the supposed impossibility of the existence in proximity of two poles of opposite or even of similar sign. One would cause the immediate collapse of the figure by force of the attraction of the poles, the other its explosion by repulsion, but it has been shown that this is not a necessary assumption, since results similar to the living figure have been obtained by the introduction, between the similar poles of a phantom, of a plate of soft iron permeable to the electric fluid, to represent the presence at the equatorial plane of the living figure of a semipermeable membrane, which we have come to look upon only as a certain differentiating dynamic phase of colloid matter. Nevertheless while all agree that we have to do now with the phenomena of surface tension on colloid bodies which manifest themselves in obedience to the law of Gibbs-Thomson, all are justly chary of the tendency of trusting analogies, and in spite of the attractiveness of the study of the caryocinetic figures from this point of view, there can be no doubt that a skeptical reserve is still to be maintained as to the reality of an identity between the forces of the living figure and those of its simulacra.

Finally, there is one point which has escaped sufficient emphasis. All observers have noted the evidence of the coexistence in morphological entities of mixtures of the lipoids, and I judge from a reference[18] that Polosoff, in repeating the process of Ciaccio, has come to the same conclusion as I have as to the tinctorial evidence of the mixture of lecithin with neutral fat and the other lipoids in various cells. It is this very evidence of mixture, of the preponderance of one lipoid at one phase of the cell and of another at another phase, it is the evidence of one liquid on the outside of a drop and at the next moment of another fluid coming to the surface, which tells the tale of the meaning of the mixing—of its significance.

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[16] We cannot all of us hope immediately to [illegible] with this physicochemical way of looking at biological problems. We may be sure, however, that their future evolution will escape [illegible] unless we ultimately succeed in doing so.

[17] [illegible]

[18] [illegible] November [illegible]

THE PREVALENT MISUSE OF THE PROSTATE IN GONORRHŒA.

By Hermann G. Klotz, M. D.,
New York.

Soon after gonorrhœa, in consequence of the discovery of the gonococcus, began to receive more careful attention from the medical profession and to be looked upon as a much more serious affection than formerly, more or less general experience has pointed to the fact that the posterior urethra was rather more frequently affected than previously had been admitted, and that in a large proportion of cases of posterior urethritis the prostate gland shared the infection. Statistics of the frequency of these conditions from various authors exhibit considerable differences, but unmistakably show a large increase over older reports. This increase has received varying interpretations. Some authors have attributed it entirely to the better examination and observation of the patients by their physicians, while others insist on the actually increased fre-

quency of the cases, and have been inclined to hold directly responsible for the same certain methods of treatment, particularly the direct irrigation of the urethra and bladder under high pressure. I can say that the number of cases of prostatitis which have developed under my own observation has been relatively small, but I have met with more cases of prostatic infection among those patients who came to me after having been treated by other physicians. At the same time I not rarely see patients who have previously been professedly treated for prostatitis without any apparent effect, and in whom definite signs of prostatic infection can not be demonstrated, although gonorrhœa is undoubtedly present. Still I fully agree with the opinion which within the last years has been more and more generally accepted that prostatitis is not a rare complication or part of chronic gonorrhœa, and that, therefore, it is imperative to make a careful examination of the organ itself and its secretion so far as it can be obtained, in every case of subacute and chronic gonorrhœa, particularly wherever the question of marriage comes up.

But of late some writers in the periodical literature have gone so far as to state that no chronic gonorrhœa exists without prostatic infection. There is little danger that those physicians who have obtained greater experience in the handling of gonorrhœa, and principally of chronic gonorrhœa, would be misled by such a doctrine, but the large number of practitioners who either from necessity or from inclination do not relinquish the treatment of patients affected with gonorrhœa, but who are not always either able or willing to resort to the same careful examination of the conditions as the specialists, may easily be beguiled by such teaching, which is not without alluring features, and may be led into the commission of grave errors, often to the detriment of their patients. Indeed, apparently, it has become already the rule, if not a fashion or a fad, to promiscuously massage the prostate in every case of acute, subacute, and chronic gonorrhœa. What proportion this interference with the prostate must have assumed may be understood from the following editorial in the *Critic and Guide*, in April, 1910, on The Benefits of Prostate Massage, which says as follows: "While we were among the first to protest against indiscriminate, too frequent, or too violent prostatic massage, we were not unaware of the benefits of this measure when properly applied in indicated cases. On the contrary 'wonderful' is the only adjective that can be applied to the results which frequently follow the performance of gentle massage of the prostate gland. It is remarkable what an effect this procedure often has on a person's general well being, his spirits, his buoyancy, not to speak of more material conditions, such as improvement in urination, improvement in the quality of the urine, disappearance of pains on urination and defæcation, disappearance or diminution of that heavy, dragging down sensation and of the sense of heat in the legs, and last but not least, the great improvement in sexual intercourse, both as far as *libido and ejaculatio* are concerned. Yes, prostatic massage is an exceedingly valuable measure, but it must be used understandingly, discriminately, and always gently. *Ne quid nimis* holds good of this as of all other therapeutic measures."

I have cited this editorial in full in order to enable the reader to judge for himself, and because it might be unfair to reproduce it only in part. In my experience I have found that to normal men the rectal examination of the prostate in itself is not an agreeable procedure, not on account of pain which occasionally is not entirely avoidable. It is not denied that prostatic massage in certain conditions brings relief of various pathological sensations and incidentally confers a restitution or improvement of the general feeling of the patient. But I doubt that many physicians will subscribe to such a glowing encomium of prostatic massage and will approve of its publication, even if one could be sure that it would not come under the eyes of anybody else but physicians and pharmacists, for one need not be a pessimist to apprehend that such praise might tempt to the application of prostatic massage for pleasure and for recreation, and to the formation of bad habits. The voluminous literature on homosexualism which is making its appearance in Europe certainly ought to give us warning. Such a publication seems even more objectionable when it comes from somebody who poses as critic and guide to two learned professions and recently figured before the public as president of a society for medical sociology. The fact that the almost frivolous laudatory part is preceded and followed by a warning of deprecation of any abuse does not serve as an excuse, for the *nitimur in vetitum* holds as good to-day as in the time of Horace.

Since the assertion that no chronic gonorrhœa exists without prostatic infection is particularly liable to favor the too general application of prostatic massage, it seems justified to dispute its correctness as not substantiated by the actual facts and to challenge it as misleading and in various ways dangerous.

Quite a number of statistics have been published in this country, as well as in Europe, intended to throw light on the frequency of prostatitis in connection with gonorrhœa. They by no means at once demonstrate the correctness of this doctrine; although some authors have reported a very high percentage of prostatitis others have found it much less frequent, and hardly any one has remarked to have found it in all cases. But as Saxe has pointed out, various circumstances have rendered the results of most of these statistics somewhat uncertain, partly on account of the method of examination on which the diagnosis was founded, a point to which I shall refer later on, partly because many of the authors have failed to state the duration of the gonorrhœa at the time of the examination, or how many cases of posterior urethritis were among the cases considered. As conscientious and painstaking investigator as de Santos Saxe among 108 cases observed not less than six months after the last infection, reports 108 cases of prostatitis. From among these 108 cases the presence of gonococci in the prostatic secretion was demonstrated in thirty-one, that is, in 28.7 per cent. Strictly speaking, a prostatitis can be called infectious only on the strength of the demonstration of gonococci and if such a rule was applied to all the statistics

the number of cases of prostatic infection would be greatly reduced in most of them. But to waive this strict interpretation and admitting as infectious all cases of prostatitis occurring during or in the wake of gonorrhœa we find only sixty per cent. in Saxe's cases above six months' duration. He says that prostatitis is much more frequent in the earlier stages. However, in the earlier stages the diagnosis is considerably less certain on account of the difficulty of obtaining the prostatic secretion isolated from the urethral one. Still, accepting all the statistics simply on their face they show that in a number of cases of chronic gonorrhœa the prostate was not affected. This implies that in a certain number the chronicity of the gonorrhœa did not depend on the infection of the prostate and that in these the cause of the chronicity must be located somewhere else within the genitourinary tract. In my own experience I have successfully treated a large number of patients with chronic gonorrhœa in whom the posterior urethra evidently was not infected and who were cured without any treatment of the prostate, although usually the condition of the gland was examined. Some of these cases date back to the period preceding the discovery of the gonococcus when its absence was not available as a criterion of a cure. At that time, when a patient was discharged from treatment, usually after a longer period of observation without any treatment, I was well aware that I could not absolutely say that the patient was cured. But when I found, sometimes after years, either through direct observation or through indirect reports, mostly from patients who had been recommended to me by the former, that they were in good health themselves, had been married for a number of years, had healthy wives and two, three, or more healthy children, I felt entitled to the assertion of having cured them. I know very well that on and off cases have been reported in literature in which a man, apparently cured from gonorrhœa, married, had a healthy wife and several children, and after twenty years or more without exposure suddenly was attacked with a virulent gonorrhœa with which he infected his wife. I am not inclined to accept such a case as one of autoinfection without doubt, but would much rather assume an accidental infection, even one contracted on a water closet, from a towel, etc. It is true that in exceptional cases gonococci have been found after such a long period of latency, and it can well be maintained that as long as gonococci are present a man may infect his wife and that in her a virulent gonorrhœa may develop. But as a rule the bearer of the latent gonococci either is entirely free from discharge or other symptoms or shows an extremely mild affection of the urethra; hence the great danger in married life and the frequent infection of the wives.

In reality there are various conditions in the anterior urethra in the course of gonorrhœa which are favorable to the retention of the gonococci in the tissues and to the indefinite prolongation of the infectious process entirely independent of infection of the prostate, although they may appear simultaneously with it. Among the various types of chronic anterior urethritis attention must first be called to those cases in which the seat of the infection and gonococcus retention is located in the region nearest to the meatus externus. Occasionally the narrowness of the meatus itself may be the immediate cause of the continued presence and activity of the gonococcus, either by the formation of a pocket below which favors the retention of some of the secretion, or by the drawing of the mucous membrane into more or less deep folds, like the wrist band of a shirt sleeve, the bottom of which can be expanded only with difficulty, in order to make it accessible to the gonococcocidal solutions. Paraurethral cavities, channels, and sinuses may also be responsible for the chronicity of the infection, particularly in the presence of moderate or slight conditions of hypospadias and epispadias. Here you may find several openings, sometimes so fine that they can be observed only if you succeed in finding them filled with secretion and squeeze out the discharge.

Another type of obstinately returning attacks of gonorrhœa depends on the infiltration of the mucous membrane and the submucous tissue of the bulbar region, acknowledged to be the most frequent seat of urethral stricture. This condition represents the early stage of the formation of stricture. By far the most common type, however, is the infection of the lacunæ Morgagni, which are found mostly in the middle portion of the pendulous urethra, with subsequent deepening and widening of their cavities into more or less deep pits. The retrograde direction of these glands and their valvelike covering render the successful treatment sometimes extremely difficult, particularly if they are imbedded in tissue in a state of progressive sclerosis. In such cases it may become necessary to split open the cavities in order to exterminate the gonococci. It is evident that such conditions can be demonstrated and successfully treated only through the urethroscope, and the means of such treatment have been described already by the early writers on endoscopy, like Gruenfeld. In reference to cases of these types I cannot understand the position of Swinburne (*Annals of Surgery*, September, 1908), who declines to use the urethroscope as long as gonococci are present. It is true that endoscopic treatment may be and frequently is followed by a more or less acute exacerbation of the symptoms. This has to be considered in the same light as the effects of the provocative instillation of silver solutions in the deep urethra, and, besides, it is commonly easy enough promptly to obtain the former quiescent stage again by the usual methods of treatment if the exacerbation does not subside by itself as it usually does.

The conditions of the anterior urethra just mentioned may indeed occur simultaneously with infection of the prostate, but they are met with without even the slightest participation of that gland. In the former instance it is naturally of the greatest importance to clear the prostate of the gonococci to prevent the reinfection of the anterior urethra. It can be stated, though, if the symptoms of chronic gonorrhœa are definitely and permanently removed by treatment of the anterior urethra alone, that the seat of the gonococci had been in that portion alone. Now, as long as the assertion stands undisputed, that the prostate is infected in

every case of chronic gonorrhœa, it is quite probable that if such patients with anterior chronic urethritis will seek medical treatment, the physician will save himself the trouble of much examination or will be prejudiced in favor of the prostate in his examination; therefore he will simply begin to treat the prostate by the usual means, that is, by massage, and very frequently he will continue to do so, even without any apparent results until the patient's endurance becomes exhausted and somebody else discovers the real conditions after the precious loss of time and presumably of money.

The predilection for the prostatic treatment is perhaps largely favored because it places the situation entirely in the personal judgment of the physician himself and gives the patient hardly any control of his condition. The diagnosis of chronic prostatitis, or rather of the participation of the prostate in the gonorrhœal infection, is by no means as simple and definite as a great many physicians seem to imagine. Subjective symptoms may be entirely absent, and when they are present, none is absolutely pathognomic of prostate affections. Rectal palpation, although always necessary and of a certain value, in a number of cases is not reliable and often without the slightest significance with regard to infection. Surgical experience has shown that even in decided chronic hypertrophy of the prostate palpation may fail to demonstrate the slightest abnormity. The size, shape, and consistence of the gland vary within wide limits; sometimes there does not appear even a prominence in the prostatic region, or it is impossible to detect any circumscribed, resistant body there, and in notorious cases of prostatic infection it is not possible to demonstrate any irregularity in shape, size, consistence, or sensitiveness. Much, of course, depends on the quality of the touch applied. Under these conditions I cannot help feeling somewhat skeptical with regard to the reflex or sympathetic enlargement of the prostate which Huhner says to have observed in almost every case and in almost every stage of gonorrhœa.

As to other means of diagnosis, the urine may be continuously and entirely free of shreds and clear, although usually it will present some not characteristic features of chronic gonorrhœa. It is therefore almost generally agreed that for the diagnosis of prostatic infection we have mainly to rely on the microscopical examination of the prostatic secretion, such examination to be very exact and to be repeated several times, eventually after a provocative injection of silver nitrate solution. The methods of obtaining the prostatic secretion as uncontaminated as possible have been amply described by different writers, generally with the acknowledgment of their difficulty and of their undeniable uncertainty. This, however, may be reduced so much in the hands of careful observers that its consideration may well be waived. The demonstration of the gonococci, either alone or accompanied by other bacteria, establishes the diagnosis at once; but unfortunately this has been accomplished only in a certain proportion of the cases. In their absence the diagnosis depends on the presence of other microbes and principally on at least a fair number of pus cells (Saxe). With regard to the significance of the pus cells or multinuclear round cells in the prostatic secretion opinions are not in full accord. Some authors declare that as long as even any single pus cells are present, there is still prostatic inflammation and no cure. Saxe states that he is satisfied of a cure, when all germs have vanished, when the number of pus cells has been reduced to a very small one, when the patient has no symptoms, and his urine is clear. My own experience has led to similar conclusions, perhaps slightly farther to the conviction, that a number of multinuclear round cells may be met with in every prostatic secretion even from perfectly healthy individuals.

Recently Björling, in an article on the Constitution of the Prostatic Bodies (*Archiv. für Dermatologie,* ciii, p. 37), states as the result of extensive investigations, that life leucocytes in the secretion of the prostate very likely do not establish a pathological condition, even if present in copious numbers. "Leucocytes," he argues, "are never wanting in the prostatic secretion; their number varies between several single ones and large numbers. A distinction between a normal prostate, sexual neurasthenia, and chronic gonorrhœa cannot be demonstrated by their relative number. It is impossible in the two last named conditions to prove a definite relation between the subjective symptoms and the relative frequency of leucocytes. In cases examined with reference to these conditions only life leucocytes were found." Björling considers it as probable that the prostatic bodies are the product of cell degeneration, possibly of leucocytes. Björling's statements may need further confirmation by other investigators, still they add to the confirmation of the fact, that the diagnosis of chronic infection of the prostate is neither simple nor absolutely certain.

As I have stated before, there is not much danger that experienced urologists who are used to conscientious investigations should commit errors of diagnosis and treatment of chronic gonorrhœa cases. But as to those practitioners who do not usually make microscopical examinations of the prostatic secretion, by which symptoms, by what principles will they be guided in the management of their patients? When will they begin to massage the prostate and when will they stop doing so, as long as they are taught that the prostate is affected in every case of chronic gonorrhœa? There is no rule or gauge for measuring the force which may be safely applied to the massage of the prostate; so one may use sufficient pressure to squeeze some fluid out of the driest prostate and will consider the appearance of any secretion as sufficient evidence of a pathological condition and as a sufficient excuse for an indefinite course of massage treatment. I cannot convince myself that it is contributive to the welfare of the prostate to be squeezed regularly with more or less energy, the more so as it is generally considered as the seat of various nervous symptoms which constitute or form part of that complex of symptoms usually described as sexual neurasthenia. Indeed, I firmly believe from actual observations of patients that unnecessary massage of the prostate, even if not too severe, is liable to produce a more or less in-

tense and lasting irritation of that gland sometimes with considerable pain and followed by those neurasthenic symptoms, whether the individual had been infected with gonorrhœa or not. In the former instance the patients are exposed to another danger, namely, that the prostate in consequence of its treatment may actually be infected with gonococci which might be present in the posterior urethra without so far having entered the prostatic ducts themselves. It is obvious that an organ of the structure of the prostate, surrounded by a rather resistant capsule, when compressed by some force from the outside, will have the tendency to assume its former shape and volume as soon as the pressure ceases to act. The relaxation from the pressure will therefore be followed by a negative pressure in the prostatic ducts and by the aspiration of whatever fluid may surround their openings in the prostatic urethra and into the ducts and farther up in the prostatic vesicles until the pressure is again equalized. In this way the deeper portions of the gland may become infected with gonococci which were present in the mucous membrane of the posterior urethra or had previously entered only the larger ducts from which they had been swept out by the massage.

I had for some time come to the conclusion that this danger certainly existed in connection with prostatic massage when my attention was directed to a paper by Carl Schindler, of Berlin, a former assistant of Neisser, who, in a paper on the Significance for the Pathology and Therapeutics of Gonorrhœa in Men of the Contractions of Involuntary Muscles and their Dependence on Atropine (*Berliner klinische Wochenschrift*, 1909, p. 1691), writes as follows:

> The confidence that you can free a prostate from gonococci by massage is founded on physically wrong conceptions. On the contrary, gonococci still localized are diffusely spread over the entire prostate by massage, not only in consequence of the mechanical friction and of the autocontraction of the glandular muscles, but also through the autonomous action of the colliculus seminalis, the automatism of which is increased by reflex action during massage. At the moment of relaxation of the colliculus aspiration takes place, so that some of the secretion which runs out during the massage, flows back into all the terminal vesicles of the gland, as can be demonstrated on a section of the prostate. If the secretion which flows out during the massage is contaminated with gonococci which perhaps previously had been localized in a single terminal vesicle, now the gonococci during the moment of reaspiration, may easily reach all the terminal vesicles.
>
> I object on principle, Schindler continues, to massage of the prostate during the acute and subacute stages of gonorrhœa, and now for a year I have seen a remarkably rapid cure not only of severe prostatitis but also of the gonorrhœa although, or perhaps because, I left the prostate absolutely undisturbed. I also, as a rule, omit during the acute stage the probatory expression of the prostate, because at this stage of the disease the microscopical proof of the presence of the gonococci is immaterial to the cure of the patient and likely to do harm. A single negative finding does not prove anything and through repeated exploratory massage only too easily an originally still localized prostatitis can turn into a diffuse one.
>
> Abscesses or softened foci, which are not absorbed, must be expressed also toward the end of the treatment if a complete resorption of the prostatic infiltrations has not taken place; gentle massage of the prostate may be useful not only in order to eliminate gonococci with the secretion but solely to stimulate the tonus of the bloodvessels and muscles and thereby the absorption itself

marriage the repeated energetic expression of the prostate cannot be dispensed with, because it has to be demonstrated, whether the candidate for marriage is a latent carrier of gonococci and whether a reinfection of the urethra from the prostate or the seminal vesicles has still to be apprehended.

I have cited Schindler the more fully believing that some colleagues may be more readily inclined to give some consideration to this question if it is supported by some foreign authority, although it would seem that the unprejudiced examination of the facts would make the latter speak for themselves.

CONCLUSION.

In conclusion I wish to emphasize:

1. That the prostate is not affected in all cases of chronic gonorrhœa, but that various conditions of the anterior urethra are just as liable to cause the prolongation of the gonorrhœal infection.

2. That the doctrine that the prostate takes part in every case of chronic gonorrhœa is a mischievous and dangerous one because it will lead to neglect and oversight of the chronic lesions of the anterior urethra, because it favors the indiscriminate application of prostatic massage with the incidental opportunity for spreading the infection of the prostate.

3. That massage of the prostate should be restricted as much as possible, because its popularization is liable to corrupt public morals.

616 MADISON AVENUE.

CHRONIC BACKACHE. ÆTIOLOGY. TREATMENT.*

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It is the object of the writer to discuss the ætiology of a few forms of backache, which are frequently seen and less frequently recognized. These are the cases of 1, weak spine with postural deformity; 2, rotary lateral curvature (scoliosis); 3, sacroiliac strain; and, 4, flat feet. Chronic backache from these causes is so frequently overlooked that it will be well to briefly review the subject from this standpoint.

It is not to be expected that in this short paper one would attempt to discuss at length these several subjects, but rather is it the purpose of the writer to emphasize the points in diagnosis by which these cases can be readily recognized and effectively treated.

Pain in the back, especially in the lumbar region, is of very frequent occurrence. The cause is sought for in the kidneys, but no renal disease is found, nor is either kidney found to be movable. If the pain is low down, just over the sacrum, it may be due to some displacement of the pelvic organs. These are examined and found to be normal. Again, disease of the rectum or uterus may cause constant pain. When these are examined and no pathological condition is found, a myalgia due to traumatism may be suspected. Any history of trau-

matism is denied, and we are left with but rather indefinite symptoms and a still more indefinite history on which to make a diagnosis.

I. *Weak spine with postural deformity.* Symptoms of a weak spine develop before the age of



FIG. 1.—Weak spine with postural deformity.

adolescence, between the ages of five and fifteen years in the majority of patients.

At first no symptoms are complained of. The child is less active than would normally be expected, may play about for a short time but soon tires, does not enter into outdoor sport and pastime with the keen interest and zest of other children of the same age, and what is perhaps most noticeable and that which first attracts attention is the child's posture, especially in sitting or standing, and also in walking. When sitting the back is crouched over with the shoulders drawn forward; one shoulder is usually held higher than the other, and if the child is attending school and sitting at a desk a faulty, slouching position is habitually indulged in. The attitude when standing is with the shoulders forward, commonly termed by the laity "round shoulders," the chest retracted, the abdomen protuberant, a marked lordosis in the lumbar spine, and slight flexion of the hips and knee joints. Thus the normal physiological curves of the body in standing are reversed. With this careless attitude in standing there is associated a condition of postural curvature of the spine, caused by the general lack of force of the spinal muscle, and the patient slouches over to one side or the other, at the same time having the body weight on one leg only.

The gait is ungainly and might be described as lunging forward step by step, with the head advanced, and an imperfectly controlled ambulation. This condition occurs much more frequently in girls than in boys, sedentary habits and inactive games being predisposing causes. Little or no pain is at first complained of. The back is weak and tires easily. Later the symptom complained of is that of a dull, tired, aching feeling in the back, which is relieved by rest. One side or the other may be complained of, but there is a generalized rather than a localized area of pain.

Postural deformity develops so gradually that it is seldom recognized early.

A careful examination of the child, with its clothing off, definitely reveals the condition, and, fortunately, it is one which can be perfectly corrected by carefully selected calisthenics and postural exercises. A light spinal support is necessary in a few cases.

II. *Rotary lateral curvature.* Of rotary lateral curvature of the spine I shall speak only of the acquired form; congenital cases should be treated from infancy.

Rotary lateral curvature develops usually between the ages of ten and fifteen years. It is often a successor of the weak spine previously described. The deformities of habit of the weak spine, which can be easily corrected and in which there is no bony change, pass to the deformities of true scoliosis, with bone change which cannot be entirely corrected.

Symptoms: There is rotation of the vertebræ with an accompanying lateral deviation from the midline. The rotating vertebræ carry with them the attached ribs, so that we have a marked prominence on one side of the back with a corresponding flattening on the opposite side and also a prominence of one hip, depending upon the location and extent of the scoliosis. There is a difference in the height of the shoulders; one scapula projects more than its fellow and is at a higher level. When the arms hang by the side it is noticed that the space between the arm and the body is greater on one side than the other. The amount of rotation of the vertebræ



FIG. 2.—Rotary lateral curvature; area of pain as designated.

is measured by having the patient stoop forward with arm hanging down and the examiner look over the bent back. Any difference in contour is thus easily detected, the prominence on one side being distinctly outlined. There is some rigidity of the spinal muscle, but not the spasm of muscle

which is present in spinal disease, with which it must not be confounded.

The backache of rotary lateral curvature is usually referred to the lumbar region. It is mostly complained of at the end of the day or after a long period of standing or sitting without the back being supported.

Backache is not a constant symptom of scoliosis; a tired, dragging feeling may be the only discomfort complained of.

Diagnosis: The deformity in scoliosis is so apparent, even in the milder cases, that, after an examination has been made, its nonrecognition would be unpardonable. The diagnosis is rendered more easy when it is remembered that scoliosis is a condition and not a disease, and that the inflammation preceding and accompanying disease never occurs in scoliosis and the history is always negative in this regard.

Backache in scoliosis is always relieved by treatment. There are two forms of treatment, viz., exercises, developmental and corrective, and spinal support. Both should be employed. Exercises alone are not sufficient, except in a very few selected cases. On the other hand, a spinal brace should not be applied unless at the same time we utilize to the best advantage the patient's corrected spinal muscle force, without which it is impossible to obtain the best results.

III. *Sacroiliac joint strain.* During the past few years we have learned much more about the sacroiliac joint than we previously had knowledge of. The sacroiliac joint had previously been considered a fixed joint without motion and was so described in anatomical textbooks. We now know it to be a movable joint lined with synovial membrane and partaking of regular joint functions. The joint capsule is firm and dense, but is liable to strain, and when such occurs the sacrum assumes a more vertical position than is normal. With these changes there is an accompanying backache with a point of tenderness over the sacroiliac articulation.

Two other symptoms usually present are a unilateral curvature of the spine toward the side affected and a tenderness referred directly to the joint posteriorly when with the patient lying upon the back the thigh is forcibly flexed with the leg extended.

Ætiology. Sacroiliac strain may be caused by lifting a heavy weight; by slipping forward and suddenly jarring the joint in an effort to save oneself from falling. It also occurs during pregnancy. Many of the backaches complained of after labor are due to sacroiliac joint strain. It is also frequently the cause of postoperative backache. After lying for some time upon a hard, flat table without a posterior pelvic support, as is frequently the case, the leg structures holding the sacrum are strained and subsequently pain is complained of. Another of the causes of this condition is one leg being shorter than the other. The difference in the length of the legs results in a tilting of the pelvis, which results in an uneven distribution of the body weight upon the sacrum, which again results in a sacroiliac joint strain.

Treatment: The treatment of sacroiliac strain is to reduce the displacement of the sacrum if any, and to hold the joint firmly together. This is accomplished by properly adjusted fixation appliances: 1. Adhesion plaster and bandage dressing; 2, narrow pelvic belt with perineal straps; 3, wide pelvic belt with abdominal support; 4, corset firmly fixing pelvis.

IV. Flat Feet. That flat feet or weak feet are a frequent cause of backache is too often forgotten by general practitioners. One reason of this is that the feet are not or may not be complained of, and the only symptom referred to is the backache. This type of case is exemplified as follows:

M. M., aged 33 years, [illegible] weight 151 pounds. History: For the past two years a dull aching pain in



[illegible]

the back, lower lumbar region, worse toward the end of the day. No other symptoms. When asked about his feet replied that they were "perfectly all right." Examination showed a rather accentuated lumbar lordosis without any definite points of tenderness. The feet were markedly everted and the longitudinal arch was not properly supporting the body weight. He stood and walked with an out turning of the feet. His symptoms were entirely relieved after having had proper shoes prescribed and flat foot plates made.

Always examine the flat foot with the patient standing; there is no exception to this rule. The diagnosis should be [illegible] before the long arch of

the foot has been flattened or decreased. Look for the eversion of the foot which means weakness. An everted foot was never made to support nor ever can support the body weight. The reason we have flat feet causing backache is that the whole poise of the body is altered and in the effort to relieve the pain in walking the back is strained to such a degree that a resulting backache develops which is relieved simultaneously with the correction of the deformity of the feet.

These several conditions in relation to backache, I have briefly summarized that by so doing I may have emphasized the importance of a more careful and thorough examination being made in all such cases.

125 West Fifty-eighth Street.

REPORT OF A CASE OF PSYCHOGENETIC CONVULSIONS, SIMULATING EPILEPSY,

*With Hallucinations and Obsessions Treated by Suggestion.**

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The case here recorded illustrates a class of hysterical convulsions that shows so great resemblance to true epilepsy that in many instances a differential diagnosis is by no means easy. Jones (1) remarks that, while in many varieties of fits it is possible to exclude epilepsy, it is hardly ever possible to exclude hysteria from observation of the fit alone, and he urges careful study of the patient in the interval period before one ventures to make the diagnosis of epilepsia vera. He quotes Hoche (2) as saying that it is definitely known that every symptom of a true grand mal fit, from fixed pupils to sphincter relaxation, may occur in psychoneurotic conditions. Heilbronner (3), Fox (4), Spiller (5), and others have discussed the difficulties of diagnosis in such conditions and have emphasized the fact that many cases which are looked upon as true epilepsy are, in reality, major hysteria. The enormous difference in the prognosis of epileptic and psychoneurotic convulsions should lead us to make a careful study of every case. Many cases of psychogenetic fits readily yield to therapeutic suggestion, while Freud, Jung, and the Zurich school have presented to us the method of psychoanalysis which has brought about brilliant results in such conditions. Many other cases will of course respond to the older methods of treatment.

The case here reported had, as will be seen, some of the symptoms that in the ordinary textbook description are regarded as practically pathognomonic of true epilepsy, while others, such as biting of the tongue and sphincter relaxation, were absent. The hallucinatory symptoms and compulsive ideas would naturally make one suspicious of a psychic ætiology for the convulsions, though epilepsy could not be excluded on their account alone. The result of the treatment leaves no doubt as to the psychoneurotic nature of the condition for it is practically certain that epilepsy is not benefited by psychotherapeutic measures (6).

Case. The patient, H. O., a single woman twenty-three years of age, came to Cornell Dispensary in April, 1910, and was referred to the Psychotherapeutic Clinic by Dr. Brooks. The history obtained at that time was as follows: She was born in America of Irish parents. Her father died of tuberculosis and her mother was living and well. There was no history of any nervous disorder in the parents. She had one brother, who was inclined to be moody, silent, and unsociable, and to act peculiarly at times. She had measles and whooping cough as a child but no other illnesses except the present one. Her use of tea and coffee was very moderate, and she took no other stimulants. Menstrual history showed nothing abnormal.

Her present illness began while she had whooping cough when she was two and a half years old. She first had attacks in which she would become rigid and stare for a few moments and then continue with what she had been doing as if nothing had happened. With these attacks there was no aura and no loss of consciousness. They occurred two or three times a month and as a rule lasted only a few moments, though a few were as long as twenty or thirty minutes.

When the patient was four years old she had her first general convulsion and after that time the lesser attacks ceased. The description of the convulsive seizures was as follows: As a rule there were premonitory symptoms consisting of feelings of fright and nervousness for several hours before the attack. Then the patient would see a cloud before her and this rapidly changed to a white figure with outstretched arms. The figure would advance as if to seize her and, just as it seemed about to do so, she would be overcome with a great feeling of terror, give one or two loud, inarticulate screams, and pass into unconsciousness. The convulsions began just after the scream. She sometimes had an aura of right sided headache. The patient became first pale and then cyanosed. The eyes were open and directed upward or straight in front of her, and the mouth was drawn to one side. The convulsions were general, sometimes tonic and then clonic, but more often clonic from the start. She would be unconscious during the attack and generally slept for an hour after it. The convulsions produced frothing at the mouth, but were not associated with biting of the tongue, relaxation of the sphincters, or vomiting. The mother of the patient kept very close watch of her and was always on hand to support her when a fit came on and believed that it was her care that had prevented the patient from ever hurting herself. The only history of injury was this: Four or five years ago the patient was left alone in the house for a short time and when the mother returned the girl was sitting on a sofa with her collar bone broken. She had no idea of how she got there or how the injury occurred. The mother said that the next day the bone was protruding through the skin. I had never seen the patient in an attack. A friend of the patient who had a daughter suffering from true epilepsy had seen the patient's attacks and told me the convulsions appeared to be exactly like those of her own daughter. The severe attacks were of about five minutes duration. When they first began she had them about once a week but they gradually increased in frequency and for five or six years before coming to the clinic they occurred four or five times a week. Up to that time seven weeks was the longest period that she had been free from attacks. The vast majority of the seizures came on at night. The fright and the advancing figure would awake the patient and then the convulsion came on just as in the day time. The patient had had the usual bromide treatment for epilepsy at several clinics in the city and the mother thought that such treatment had a slight influence in diminishing the frequency of the attacks.

Since the patient was nine years old she had been troubled with what she called "impure thoughts." That is, she saw before her the male genitals. She said that as a rule this was "just a thought" but at times the idea seemed to have taken on a true hallucinatory character. These "thoughts" most frequently occurred when the girl was at her prayers or just after confession. For a year or two before coming to the clinic these thoughts had become very frequent and four months before that time she

*Case presented before the New York Neurological Society, March 7, 1911.

began to have a sore in doing [illegible] staring of the eyes accompanying them, and occurring only with them.

Three years before her first visit to the clinic she had what she took to be a vision. She thought she saw heaven, Christ, saints, and angels, and she talked with them all that night. She was perfectly conscious and talked to her mother at the same time. Most of the talk was about herself, she inquired if she would be saved, if she would get well, etc., and she was assured that she would. These hallucinations were repeated, but none of them was as vivid as the first one. For a long time she had no insight regarding them, but she finally came to realize that what she saw was unreal. These hallucinations often occurred just before her convulsions, and sometimes independently of them. As a rule their content had to do with heaven and angels and was rather pleasant, but a few times the visions were unpleasant—she saw purgatory and a place prepared for her there and was told that she was unworthy to get well, etc.

For eighteen months before I first saw her she had had a fear that she would kill herself and she made her mother put all knives and sharp instruments out of her reach, but she never made any actual attempts at suicide. She also became greatly depressed and was afraid to go out alone. She was bad tempered, extremely sensitive, and suspicious. She had always been very religious but seemed to be more so during this time. She slept poorly and lost a good deal of weight.

Her sexual history was as follows: When six years old she suffered an assault from a man who lived in the house with her. She told her mother about the matter very shortly afterward. She began to masturbate when nine years old and continued to do so until a little less than two years before she came to Cornell Dispensary, when, through the help and encouragement of her priest, she was able to overcome the habit. It was shortly after this that her suicide phobia began.

Her physical examination was as follows: She was very thin and anæmic. She had a narrow high arched palate and poorly set teeth. Gait and station were normal. Her eyes were rather prominent but pupillary relations were normal. There was some limitation of the visual fields. Conjunctival reflex was absent on both sides and the pharyngeal reflex was also absent. There was considerable tremor of hands and tongue and the slow nodding tremor of the head with staring of the eyes that has been mentioned. The tremor was intermittent. It would be present from one to two or three minutes and then cease, to return in five or ten minutes. Tendon jerks were all very active. There were no anæsthesias though the mother said that there was a time when the patient was numb on one side.

Mentally, the patient was not extremely intelligent and her memory was poor for both recent and early events. She had a fair amount of schooling in spite of the fact that her illness prevented her from being regular in attendance.

The treatment of the patient consisted in suggestion in light hypnosis. The patient was not a good hypnotic subject and, though she would accept suggestions of catelepsy of the arm and inability to open the eyes, she was never rendered unconscious and always remembered everything that was said to her. The treatments were administered twice a week for about six weeks and then once a week for two months. Since then she had visited the clinic about once a month.

The result in this case was very gratifying. She had only one convulsive attack since the beginning of the treatment. This attack occurred a little over a month ago. The hallucinations disappeared with the beginning of treatment and did not return. The nodding tremor of the head and the fear of suicide rapidly improved but she was not quite free from them. Her depression disappeared, she went out alone, and is now working. She gained about twenty pounds in weight in the first two months of treatment and her weight has remained the same ever since.

SUMMARY.

A woman of twenty-three years, with a history of petit mal attacks from her second to her fourth year; grand mal attacks, from four to twenty a month, from the fourth to the twenty-third year, with hallucinatory attacks, and compulsive ideas: Treatment by suggestion produced immediate and almost complete relief for a period of eleven months.

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34 West Eighty-third Street.

SOME CLINICAL STUDIES IN THE PEPSIN AND DIASTASE CONTENT OF URINE.

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[illegible]

Many papers have been devoted to the question of the practical value to be obtained from the estimation of the urinary ferments, especially pepsin and diastase, and after perusing the literature one is forced to the opinion that but little benefit, diagnostically and prognostically, is to be derived from the study. Not only by clinicians, but also by physiologists, have the origin, amount, and significance of these two ferments been studied, and it would seem of some interest to draw briefly an historical sketch of the most important work done to date.

PEPSIN.

To Brücke (1) (quoted by Ellinger and Scholz) is generally accredited the honor of having discovered the presence of pepsin in the urine, by noting that a fibrin flake placed in urine acidified with hydrochloric acid was dissolved. Whence the pepsin came he did not definitely state, but he supposed it to be the unused pepsin which was absorbed from the intestine and later excreted in the urine. This extremely valuable observation apparently aroused but little interest, for not until twenty years later do we find any attention whatsoever being devoted to the subject.

At this time Grützner (2) was able to isolate from the urine a diastatic, a proteolytic, and a coagulating ferment by making use of a discovery of von Wittich that fibrin was able to absorb ferments from a liquid if allowed to remain in the latter. He made a few observations on the quantities of ferment which are of themselves of small significance, but which led to important studies by his pupils, Sahli, Gehrig, and Hoffmann.

Sahli (3) found that there were variations in the pepsin output, but that these were in direct relation to the time of day and to food. The greatest amount was found in the urine collected in the morning before breakfast, while the smallest occurred in the hours immediately following the afternoon meal. Sahli believed that the urinary pepsin was identical with that of the gastric juice, being absorbed directly from the cells or else absorbed with other products of digestion.

Gehrig (4) confirmed Sahli's work, but made a curiously simple observation, which it seems in-

credible that the latter should have overlooked, namely, that the time of day of itself played no rôle in determining the quantitative output of pepsin, but that all the influence could be ascribed to the food. He differs with Sahli as to the origin of the ferment, and believes it is absorbed from the glands of the stomach as propepsin and is converted into pepsin either by the renal epithelium or by the action of the urine itself.

Hoffmann (5) agreed with the findings of Gehrig, but was unable to suggest an explanation for the diminution of pepsin after a meal. As is well known, the urine is alkaline at this time, and since Langley (6) found that a very weak alkaline solution suffices to destroy the ferment, it might *a priori* be explained on this basis. He, however, was able to render his urine strongly alkaline by taking sodium bicarbonate, but with no effect on the pepsin output. He holds that the urinary pepsin is a product of the gastric glands and is not merely the unused ferment absorbed from the intestine.

Leo (7) was able to show by an ingenious though rather coarse experiment, that pepsin was present in the first third of the small intestine and had disappeared in the middle third. A lapse of twenty years ensued before Leo's work excited comment, but then Grober (8 and 9) was able to confirm fully the former's observations by work more carefully planned and sedulously executed. Still later, Loeper and Esmonet (10) offered further proof of the destructive action of the duodenal mucous membrane on pepsin, and found that mere contact of an isolated segment of the duodenum with a pepsin solution diminishes its strength one quarter. It would seem improbable from these observations that the pepsin could be absorbed in an active condition from the intestinal canal.

It must be presumed, since there is no note to the contrary, that the older authors regarded the gastric and urinary pepsin as identical, but definite proof was first offered by Delezenne and Frouin (11). They made comparative studies of the pepsin output in animals deprived of the stomach, and in animals in which the stomach was so isolated that food passed directly from the œsophagus into the duodenum, while the gastric secretion was drawn from the stomach by means of a fistula. In the gastrectomized animals no pepsin was found, while in those with the isolated stomach it was always present, and they aver that this proves the identity of the gastric and urinary pepsin. In order to demonstrate that the presence of the ferment was not due to the length of time the gastric juice remained in the stomach, they withdrew it at intervals of six hours, finding pepsin, however, always present in the urine. To prove that it is not absorbed from the intestine, they gave 550 c.c. of the gastric juice obtained from the isolated stomach to a gastrectomized animal, but were never able to find pepsin in the urine of the latter.

Working on the effect of various conditions on the amount of pepsin, Ellinger and Scholz (12) have summarized their results as follows: In the majority of cases there is an increase of pepsin during fasting and a decrease after eating, but this is not constant either in man or in dogs. The normal variations in the urinary reaction are without influence on the pepsin output, which for the most part is in the form of propepsin. If the latter or pepsin be introduced intravenously it is put out unchanged in the urine, and if taken *per os* it does not increase the amount of urinary pepsin. This urinary pepsin is taken up in all probability from the gastric mucous membrane by the blood in the form of propepsin.

In addition to these conclusions the following summary may be adduced from the foregoing literature: The pepsin found in the urine is identical with that found in the gastric juice. The ferment is not absorbed as pepsin, but as a proferment, which is activated either in the kidneys or perhaps in the urine itself.

DIASTASE.

In 1863 Cohnheim (13) reported the finding of a starch splitting ferment in the urine, and immediately following this paper appeared an article by Béchamp (14) with practically the same results as Cohnheim's, but holding the diastase, which he called *néphrozymase*, to be a metabolic product of the kidney cells.

The next work on the subject was from Plosz and Tiegel (15), who isolated the ferment, but without advancing the subject any further than had Cohnheim ten years earlier. They studied, especially, diabetic urine, in which the ferment was always demonstrable.

Grützner (*l. c.*) studied the ferment quantitatively and later directed the work of Gehrig (*l. c.*), Hoffman (*l. c.*), and Holovtschiner (16). The conclusion obtained from their work is that when the urine is examined fractionally, it appears to contain more diastase after the noonday meal. Leo (7) criticised this finding, and held that the fasting urine contained more diastase than the urine excreted after a meal. Some observations of Zuntz (18) seem to corroborate this opinion, for in a man who starved himself for six days only small amounts of diastase were present at first, while toward the end of the experiment larger amounts were found. Leo found an increase in the diastatic ferment which bore no relation to the amount of sugar present. Here again we find contradictory statements, Bendersky (19) confirming this observation in two cases, but believing nothing was learned by these variations, while Lépine (20) found a decrease.

There seems to have been little work done on the subject between 1891 and 1907, when the work of Loeper and Ficai (21) appeared. These authors showed that in acute diseases diastase was increased, the contrary being found in chronic illnesses, in prolonged infections, and also in diabetes. The most interesting observation was that in intestinal obstruction there was an increase, while in nephritis the diastase was decreased. The method used in the quantitative determination of diastase was based on the amount of sugar obtained from starch after a certain time. Wohlgemuth (22) materially facilitated the quantitative study of diastase by the description of a new method whereby the amount of diastatic activity is measured by the color reaction of starch and iodine.

In a later paper (23) he gives results of some quantitative estimations. The urine of man was

found to contain more diastase than that of woman, and more diastase was found when the stomach was empty than after the ingestion of food. Nephritis and diabetes were the only diseases he studied clinically, and in both the ferment was decreased. In one case of occlusion of the pancreatic duct great quantities of diastase were found. The normal amount in one c.c. of urine he gives as 78.

TECHNIQUE.

In our series of cases the full twenty-four hours' urine was collected and preserved with chloroform. No restriction as to diet was prescribed, since Wilenko (24) has shown that it has very little effect on the amount of pepsin, while its effect on diastase is uncertain. The urine was measured, the specific gravity taken, and when necessary made up to a certain definite quantity with distilled water. In each specimen the total acidity, the pepsin, and diastase were estimated.

Total acidity: Twenty-five cubic centimetres of urine were placed in an Erlenmeyer flask, 15 grammes of potassium oxalate added, and the mixture thoroughly agitated for two minutes. At the end of this time a drop of phenolphthalein solution was added, and the urine titrated with n/10 sodium hydroxide. Calculation was made for the total quantity of urine.

Pepsin: The method as given by Wilenko was employed, using ricin Goodman (25). To a portion of the urine concentrated hydrochloric acid was added until congo paper was changed in color. The urine was then filtered, and meanwhile, in five small test tubes, 0.5 c.c. of a one per cent. solution of ricin in 0.5 per cent. salt solution were put. To four of these tubes 0.3 c.c. n/10 hydrochloric acid were added, and in the fifth 0.5 c.c., and, furthermore, the acidulated and filtered urine in the following amounts:

0.2 c.c. ..... in test tube 2
0.5 c.c. ..... in test tube 3
1.0 c.c. ..... in test tube 4
2.0 c.c. ..... in test tube 5

A portion of the urine was then boiled, cooled, and added to the tubes as follows:

1.0 c.c. ..... in test tube 1
0.8 c.c. ..... in test tube 2
0.5 c.c. ..... in test tube 3
Nothing. ..... in test tube 4
Nothing. ..... in test tube 5

The tubes were then corked and put in an incubator (38° C.) for six hours, and that tube which was clear at the end of this time was taken as the limit of digestion, and the amount of pepsin calculated in the total quantity of urine.

Wilenko states that this method is easy of application and gives fairly accurate results. The salts which are apt to interfere with pepsin digestion, namely, urates and sulphates, are rendered nil by hydrochloric acid and by the length of time in the incubator. The ricin solution should be made up fresh every two or three days according to Wilenko, but this time consuming work may be avoided, with no diminution of accuracy, by keeping the ricin in the cold.

Diastase: In each of seven tubes are measured 5 c.c. of a one per cent. rice starch solution. This starch solution is made by stirring one gramme of soluble starch (Kahlbaum) into 100 c.c. of water, stirring until a uniform suspension results. This is put in a porcelain dish on the water bath, and under constant stirring is kept there until clear, which occurs in from eight to ten minutes. This solution lasts for several days, but fresh solutions are advocated.

In the first tube Wohlgemuth puts 1 c.c. of the urine, in the next 0.64, in the next 0.4, in the next 0.25, in the next 0.16, in the next 0.1, and in the next 0.064. To each tube is added two drops of toluol, and the tubes are put in an incubator at 38° C. temperature and allowed to remain there for twenty-four hours. They are then taken out, rapidly cooled by surrounding them with ice, and the tubes are filled almost to the top with water and then one drop of a 1/10 normal iodine solution is added to each tube. That tube which first shows a blue tint is considered the limit of activity and the strength of the diastase is calculated from the tube just below this one. He describes a factor $D^{38°}_{24h}$, which is supposed to represent the amount of diastase in 1 c.c. of solution. For instance, if 0.16 c.c. showed blue (limes) and 0.25 showed no trace of blue, then D^{38}_{24h} equals 20.

I have placed in one column Wohlgemuth's factor $D^{38°}_{24h}$ and in another column the total amount of diastase $TD^{38°}_{24h}$. This is arrived at by assuming that $D^{38°}_{24h}$ represents the amount in 100 c.c. and then multiplying this result by the number of times 100 goes into the total quantity of urine. In this way the amount of diastase in the twenty-four hour quantity can be estimated. If $D^{38°}_{24h}$ equals 20 and if there were 1,600 c.c. voided in twenty-four hours, there would be 320 diastase units present. It seems more advisable to make an arbitrary calculation such as this instead of multiplying $D^{38°}_{24h}$ (the amount in 1 c.c.) by 1,600, which would give 32,000 diastase units. The same idea of amount can be had by disregarding the last two ciphers, in other words by assuming that $D^{38°}_{24h}$ represents the amount in 100 c.c. of urine. The total quantity of diastase is then represented in the last column by the factor $TD^{38°}_{24h}$

All twenty-four hour specimens regardless of the diseases were examined, our object being to test out in a large series the practical advantage to be derived from a study of the ferments. The cases have been grouped as nearly consequentially as possible and when two or more conditions are coexistent, the primary or principal morbid state has been chosen for tabulation of the case.

CLINICAL WORK.

The work of Leo (*l. c.*), Bendersky (*l. c.*), Mya and Belfanti (26), Hoffmann (*l. c.*), and Thiele (27) shows that little of diagnostic value can be learned from a study of the urinary pepsin. Wilenko has shown that the pepsin output is independent of any special food and that in diabetes the amount is not always increased. He suggests that when there is a deficiency of secreting surface in the stomach, that pepsin in urine will be diminished and

he believes this may be an important aid in diagnosis. Ellinger and Scholz have devoted considerable time to this phase of the subject and have found that when there are very small amounts or no pepsin at all in the stomach contents, and a large amount is found in the urine, that this speaks for carcinoma.

TABLE 1.

Diabetes mellitus

No.	Urine	Made to	Specific gravity	Total acid	Pepsin	$D^{24}/_{38}$	D total
1	1,000	1,000	1.020	228	1,000	12.5	125
2	860	900	1.020	363	450	12.5	112.5
3	1,190	1,200	1.025	316	600	12.5	150.0
4	1,110	1,200	1.030	379	1,200	12.5	150.0
5	1,490	1,500	1.018	402	1,500	7.8	117
6	1,320	1,400	1.030	425	2,800	20.0	280
7	1,395	1,400	1.025	571	600	12.5	175
8	3,820	4,000	1.034	704	8,000	5	200
9	1,750	1,800	1.038	776	1,800	10	180
10	1,750	1,800	1.040	827	3,600	10	360
11	3,900	4,000	1.038	811	2,000	5	200

Table 1. *Diabetes mellitus.* No diagnostic significance can be attached to any of the findings in this series, since there are wide variations in the two ferments and in the acidity, irrespective of the quantity of urine passed. The highest acidity was found in this series (960 c.c. n/10 sodium hydroxide) and from this there was a decrease to below what is generally held to be the normal amount. The pepsin and diastase varied independently of the acid value and none of the three seems to be in the least influenced by the others.

TABLE 2.

Gastrointestinal conditions.

	Urine	Made to	Specific gravity	Total acid	Pepsin	$D^{24}/_{38}$	D total	Condition
	700	800	1.024	108.8	200	12.5	100	chronic gastritis.
2	890	1,000	1.020	272	2,000	20.0	200	chronic gastritis.
	2,310	2,400	1.020	440	2,400	7.8	187	chronic gastritis.
4	1,780	1,800	1.010	390	1,800	5.0	90	chronic gastritis.
	750	800	1.024	170	400	12.5	100	hyperchlorhydria.
	1,090	1,000	1.020	440	1,000	12.5	125	hyperchlorhydria.
7	2,000	2,000	1.012	720	1,000	20.0	400	achylia gastrica.
8	920	1,000	1.018	376	2,000	20.0	200	achylia gastrica.
	880	2,000	1.015	208	800	31.3	313	dilatation of stomach.
	980	1,000	1.010	244	600	7.8	78	gastric ulcer.
	720	800	1.012	118	1,800	5.0	90	gastroenteritis.
	1,480	1,500	1.012	366	750	5.0	75	gastroenteritis.
13	1,250	1,300	1.010	360	650	5.0	65	gastroenteritis.
14	1,850	1,900	1.018	129	1,900	7.8	148	enteritis.
15	1,140	1,200	1.020	340	1,200	7.8	93.6	chronic appendicitis.
16	810	1,000	1.020	344	500	31.3	313	chronic appendicitis.
	1,320	1,400	1.020	83	1,400	20	280	perisigmoiditis.
	980	1,000	1.012	168	1,000	7.8	78	perisigmoiditis.

Table 2. *Gastrointestinal conditions.* In four cases of chronic gastritis, in two cases of hyperchlorhydria, and in two cases of achylia gastrica there was no semblance of uniformity in findings. In a case of gastroenteritis where estimations were made each day on three successive days, the diastase in 1 c.c. of urine was the only constant feature, but converting it into terms of the total quantity of urine it suffered a decrease, pari passu with the pepsin, while the total acidity showed an increase. In the remaining cases of the series no diagnostic *Anhaltspunkt* could be read into the findings.

TABLE 3.

Cardiovascular conditions.

No.	Urine	Made to	Specific gravity	Total acid	Pepsin	$D^{24}/_{38}$	D total	Condition
1	1,250	1,300	1.020	275	2,600	12.5	162	arteriosclerosis.
2	1,170	1,200	1.020	561	6,000	50.0	600	arteriosclerosis.
3	1,580	1,600	1.020	448	8,000	31.3	500	arteriosclerosis.
4	1,320	1,400	1.010	207	1,400	....	....	arteriosclerosis.
5	1,370	1,400	1.020	705	1,400	12.5	175	arteriosclerosis.
6	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
7	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
8	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
9	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
10	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
11	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
12	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
13	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
14	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
15	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
16	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
17	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
18	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
19	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
20	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
21	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
22	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
23	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
24	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
25	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
26	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
27	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
28	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
29	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
30	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
31	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
32	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
33	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
34	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
35	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
36	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
37	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
38	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
39	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
40	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
41	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
42	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
43	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
44	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
45	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
46	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
47	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
48	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
49	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
50	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
51	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
52	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
53	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
54	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
55	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
56	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
57	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
58	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
59	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
60	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
61	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
62	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
63	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
64	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
65	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
66	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
67	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
68	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
69	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
70	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
71	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
72	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
73	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
74	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
75	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
76	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
77	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
78	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
79	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
80	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
81	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
82	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
83	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
84	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
85	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
86	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
87	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
88	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
89	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
90	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
91	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
92	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
93	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
94	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
95	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
96	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
97	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
98	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
99	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
100	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
101	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
102	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
103	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
104	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
105	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
106	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
107	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
108	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
109	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
110	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
111	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
112	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
113	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
114	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
115	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
116	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
117	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
118	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
119	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
120	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
121	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
122	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
123	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
124	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
125	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
126	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
127	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
128	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
129	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
130	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
131	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
132	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
133	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
134	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
135	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
136	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
137	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
138	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
139	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
140	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
141	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
142	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
143	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
144	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
145	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
146	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
147	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
148	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
149	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
150	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
151	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
152	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
153	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
154	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
155	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
156	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
157	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
158	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
159	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
160	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
161	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
162	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
163	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
164	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
165	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
166	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
167	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
168	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
169	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
170	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
171	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
172	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
173	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
174	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
175	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
176	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
177	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
178	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
179	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
180	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
181	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
182	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
183	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
184	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
185	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
186	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
187	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
188	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
189	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
190	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
191	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
192	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
193	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
194	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
195	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
196	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
197	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
198	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
199	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.
200	1,200	1,200	1.022	312	1,200	12.5	150	arteriosclerosis.

Table 3. *Cardiovascular conditions.* Extremes of all three are found in arteriosclerotic conditions, since 818 marks a high acid value, while 26,000 pepsin units would seem questionable had not two estimations been made. In one case diastase was not found in 1 c.c. of urine (it was not tested for in a larger amount than this), whereas in another patient $D^{38°}_{24h}$ 50 or 600 for 1,200 c.c. urine was found.

TABLE 4.

Hepatic conditions

No.	Urine	Made to	Specific gravity	Total acid	Pepsin	$D^{24}/_{38}$	D total	Condition
1	1,310	1,500	1.018	150	750	20.0	300	cirrhosis.
2	770	800	1.030	277	1,600	20.0	160	syphilitic hepatitis.
3	1,380	1,400	1.020	268	700	31.3	438	gallstones.
4	1,080	1,200	1.018	192	2,400	7.8	93.6	cholecystititis.
5	900	1,000	1.028	636	500	20.0	200	

Table 4. *Hepatic conditions.*—The only point of interest in this series is that in the one case of cholelithiasis, there was a high diastase factor based on the twenty-four hour quantity. It was high, for my series of total cases, and would suggest that an explanation might be offered on the basis of obstruction to the outflow of pancreatic juice due to chronic pancreatitis, Wohlgemuth having found it increased in cases of pancreatic obstruction. This is mere conjecture and is valueless when based on but one case.

TABLE 5

Nephritis.

No.	Urine	Made to	Specific gravity	Total acid	Pepsin	$D^{24}/_{38}$	D total
1	820	900	1.022	252	1,800	7.8	70.2
2	710	800	1.028	368	400	12.5	100
3	1,850	1,900	1.015	198	3,800	5.0	95
4	1,360	1,400	1.020	761	700	7.8	109
5	1,220	1,300	1.015	462	1,300	31.3	406.7
				Cystitis			
	2,820	3,000	1.010	alkali	9,000	5.0	150

Table 5. *Urinary conditions.*—It has already been stated that the output of pepsin is independent of the acidity of the urine, and it is of some interest to observe a high pepsin unit of 6,000 in an alkaline urine.

Nephritis is unaccompanied by any specific changes in acid or ferment content of the urine.

TABLE 6.

Blood conditions.

No.	Urine	Made to	Specific gravity	Total acid	Pepsin	$D^{24}/_{38}$	D total	Condition
	1,300	1,400	1.022	280	1,300	7.8	101	secondary anæmia
1	1,420	1,500	1.012	108	5,000	8.3	124.5	chloroanæmia
2	1,110	1,200	1.020	528	2,400	20	240	chloroanæmia
3	1,080	1,100	1.025	642	1,100	20	220	chloroanæmia
4	610	700	1.010	302	700	7.8	54.6	chloroanæmia

Table 6. *Blood conditions.*—Findings of acidity, pepsin, and diastase amounts are diagnostically valueless.

TABLE 7.

Pulmonary tuberculosis and bronchitis

No.	Urine	Made to	Specific gravity	Total acid	Pepsin	$D^{24}/_{38}$	D total
	1,350	1,400	1.020	201	2,800	20	280
	910	1,000	1.020	430	1,000	7.8	78
				Bronchitis.			
	450	500	1.010	118	2,500	7.8	39

Table 7. *Pulmonary conditions.*—Negative.

TABLE 8.

Thyreoid conditions.

No.	Urine	Made to	Specific gravity	Total acid	Pepsin	$D^{24}/_{38}$	D total	Condition
1	1,500	1,500	1.012	180	750	8.3	124.5	hyperthyreoidism.
2	710	1,000	1.028	140	1,000	20.0	200	hyperthyreoidism.
3	1,300	1,400	1.020	218	1,400	50.0	700	hyperthyreoidism.
4	700	700	1.030	397	1,400	50.0	350	goitre

Table 8. *Thyreoid conditions.*—It is well known that in thyreoid conditions, notably in Graves's disease, there is a deficiency in the oxidation of sugar, and as a result alimentary glycosuria can be easily induced. The presence of large amounts of diastase in Cases III and IV of this series is significant in this connection.

TABLE 8.

No.	Made to	Specific gravity	Total acid	Pepsin	D[21]/[28]	D total	Condition.
[illegible]	[illegible]	[illegible]	[illegible]	587	528	9.2	107	[illegible] arsthenia.
[illegible]	[illegible]	[illegible]	1:028	416	500	12.5	62.5	[illegible] arsthenia.
[illegible]	[illegible]	[illegible]	1:025	266	1,400	200	14	[illegible] arsthenia.

Table 9. *Nervous conditions.*—Negative.

TABLE 10.
Skin conditions.

No.	Made to	Specific gravity	Total acid	Pepsin	D[21]/[28]	D total	Condition
[illegible]	[illegible]	1:400	1:020	380	1,400	12.5	125	[illegible]
[illegible]	[illegible]	[illegible]	1:020	504	9,000	416.3	312.5	[illegible] soriasis.

Table 10. *Skin conditions.*—In psoriasis the total acidity, pepsin unit, and diastase amount were all high.

TABLE 11.
Miscellaneous conditions.

No.	Made to	Specific gravity	Total acid	Pepsin	D[21]/[28]	D total	Condition.
[illegible]	[illegible]	[illegible]	1:020	412	1,200	7.8	93.0	[illegible] arthritis.
[illegible]	[illegible]	[illegible]	1:030	not taken	938	[illegible]	[illegible]	[illegible] arthritis.
[illegible]	[illegible]	1:400	1:020	not taken	938	[illegible]	[illegible]	gout.
[illegible]	[illegible]	1:200	1:020	not taken	938	1:200	12	[illegible]	gout.
5	1,530	1,600	taken	684	1,600	7.8	124.8	gout.
[illegible]	[illegible]	[illegible]	1:016	812	[illegible]	12.5	87.5	autointoxication.
[illegible]	[illegible]	1,400	1:015	944	2,800	7.8	109	autointoxication.
[illegible]	[illegible]	1,800	1:010	799	1,800	7.8	140	autointoxication.
7	[illegible]	1,200	1:025	422	2,400	7.8	93.6	obscure eye condition.
[illegible]	[illegible]	[illegible]	1:020	489	1,200	5.0	60	obscure eye condition.

Table 11. *Miscellaneous conditions.*—Negative.

It must be confessed that the writer was but little impressed at the beginning of the work with the possibilities of the subject, and this impression has gained force until he is now of the conviction that no diagnostic aid is to be sought in the amount of pepsin or diastase in the urine. If one glances at the appended ten protocols he is at once nonplussed by the only too apparent confusion in results, and it is impossible to draw any conclusions from the work. The writer would unequivocally disclaim all value for the determination of the ferments in the urine, *per se*. Whether parallel studies of the gastric pepsin and urinary pepsin will prove of value (Ellinger and Scholz, Wilenko) must remain a question, since in my series this has not been studied, as I preferred to limit my observations to the urine alone.

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BREAKING DOWN OF WOUNDS FOLLOWING OPERATIONS.*

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Breaking down of wounds following operations is caused by infection. There are, however, a number of factors that contribute to infection. The preparation of the hands of the surgeon, assistants, and nurses; also suture material, dressings, etc., have received a great deal of attention, but here, too, a change has been made recently, and since the application of the tincture of iodine for sterilizing the skin it is also being used by surgeons in preparing their hands. The iodine method for skin disinfection in preparing the abdomen for laparotomy was first published by Grossich in the *Zentralblatt für Chirurgie*, October 31, 1908, and iodine in solutions of different strength is now used for this purpose in many large surgical clinics and it has largely supplanted the washing and scrubbing and application of solutions of mercury, etc. The original method as suggested and practised by Grossich consists in the application of the tincture of iodine, and the following is an abstract from the *Journal of the American Medical Association*, December 5, 1908, p. 2012: Grossich applies a ten or twelve per cent. tincture of iodine to the field operation and to disinfect the skin around without any preliminary scrubbing with water. His microscopic studies have shown that the tissues take up the iodine much more readily when they are dry, and that it penetrates deeply into all of the nooks and crevices, which does not occur with the usual preliminary scrubbing with soap and water. The water macerates the epidermal cells and they swell and plug the openings. He relates his experiences with this technique, especially in a large number of cases of open crushing wounds in laboring men. The parts are shaved dry, then painted with the tincture of iodine, and a sheet is then laid over the naked patient, etc. After the patient has been anæsthetized, the field of operation is painted a second time with the tincture of iodine and the completed su-

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ture is swabbed anew with it. He has never witnessed any by effects from this technique, not even when a third of the body was painted with the iodine. This technique he is convinced eliminates all danger of infection from the patient. He applies it only when the wound is still entirely free from inflammation, as shown by redness and swelling. If the tincture of iodine is applied after the parts have been recently scrubbed with soap and water, there is liable to be suppuration. It is indispensable that the tissues should be dry when the iodine is applied for this purpose.

Some surgeons have their patients prepared by washing the field of operation with soap and water, etc., the night before the operation, when time permits, and then applying the tincture of iodine when the patient is placed on the operating table. Other surgeons apply this technique with an additional application of the tincture of iodine one or two hours before the operation.

Waterhouse, in the *Lancet*, April 16, 1910, p. 1063, uses two per cent. tincture of iodine in rectified alcohol with the following technique: Shaving and necessary washing of the skin are performed some hours before in order to allow the skin to dry. Then he paints the solution on the skin two hours prior to the operation. He repeats this one hour later in important cases. A small flat paint brush is used. In using any of these solutions the skin should be painted for a good distance around the field of operation, but the solutions should not be permitted to run all over.

Benzin and benzin iodine solutions have also been recommended for sterilizing the skin for operations.[1] But the skin of some patients is too sensitive for strong iodine solutions. The same is true of benzin.

Petroleum benzin for surgical sterilization of the skin is used by C. Zatti (*Gazzetta degli Ospedali e delle cliniche*, April 19, 1910, No. 47, p. 497). The field of operation is wiped over with cotton saturated in petroleum and this is followed by the benzin.

Pure benzin may be applied to the skin, and after it dries, which takes only a few minutes, the tincture of iodine or other iodine solutions may be applied. In the benzin iodine solution, a solution consisting of one or two parts iodine crystals in one thousand parts benzin may be applied as a preliminary to the other iodine solution. The benzin not only aids in removing the fat but it is believed it also aids in a deeper penetration of the iodine.

In dealing with the pathological conditions it is frequently necessary to protect the surface of the wound from infection. This is especially true when a hollow viscus is opened, as in operations on the stomach and intestines and gallbladder. If moist gauze is used, that wrung out of sterile warm water or a weak solution of iodine, one drachm of the tincture to a quart of water, is satisfactory.

All wounds that are infected, as shown by a growth from a culture made at operation, do not break down, and, on the other hand, some wounds from which no growth is obtained on culture media subsequently break down. This depends on the natural resistance of the patient and the virulency of the infecting organism.

Dannreuther (*Medical Record*, January 16, 1909, p. 99) recommends the irrigation of abdominal wounds, after closure of the peritonæum, by the method of Augustus H. Goelet, with a drachm of tincture of iodine to a pint of water. Jewett (*Ibidem*, August 14, 1909, p. 271) says that in his experience with iodine so far, in clean cases, no wound has broken down. When pus is present it is wiped away with gauze saturated in iodine solution of the same strength. Perhaps one of the most important contributing factors to infection in these cases is bleeding, which, though small in amount, perhaps only an oozing, furnishes a good culture medium. It is sometimes better to ligate bleeding points as they are picked up with a hæmostatic forceps. Bleeding points are frequently arrested when the sutures are introduced. Occasionally, although all bleeding points are controlled, some oozing takes place after the patient has reacted. This is more apt to occur when the walls of the incision are thick, and especially if there is much fat. In those cases drainage should be provided in the shape of a few strands of silkworm gut, small rubber drainage tube, or strips of gutta percha, etc., and the drainage left in for twenty-four, forty-eight hours, or until the oozing ceases. One of the best means of preventing suppuration of wounds is to have them dry.

Dead spaces in wounds, as in any other part of the body, should be obliterated. As a matter of fact, there is no reason for dead spaces in the closure of abdominal wounds if there is anatomical apposition of the parts. I think there is a greater tendency on the part of surgeons in general to close all wounds in layers by bringing together in anatomical apposition the different structures so far as possible. This is not only true in wounds of the abdominal wall but in those of the extremities, head, neck, etc. This surely gives better functional results. There appears, also, to be more regard shown by surgeons for the structures themselves, as is demonstrated in the excellent functional results following operations on the breast, etc.

The least amount of traumatism inflicted on any tissue, the more likely is it to heal promptly. This means the use of sharp scalpels, scissors, etc. Not only does one make a clean cut incision, without it being jagged, but the force necessary to handle dull instruments may cause one to injure important structures. Therefore, traumatism with instruments and hands, and, moreover, the unnecessary use of hæmostatic forceps, which "chew" and devitalize the tissues, should be avoided. The incision should be of sufficient length to permit of the proper performance of the operation and thereby lessen traumatism. In the matter of incisions, however, two small ones, as for instance when one wishes to operate on the appendix and the gallbladder or other upper abdominal structure at the same time, are preferable to one long incision. In drainage of the biliary passages in patients with a thick belly wall and where there has been a great deal of traumatism, it is probably better to make a small new opening for drainage and close the original incision.

[1] Benzin Iodine for Disinfection of the Skin. Esau. *Medizinische* [illegible] No. 22, p. 801

As for suture material, nonabsorbable sutures to be left in are not used very extensively at the present time. At the same time iodine catgut is now in much favor; and in the use of any sutures, those of medium size are perhaps the most satisfactory. The use of large sutures and large knots is undesirable, as one of these may be the starting point of an infection. Ten day or twenty day gut is not absorbed in that time, but absorption commences usually at the end of that time.

Undue tension should not be placed on the sutures, nor should they be placed too closely together. This is especially true when the fascia is dense, as in the palm of the hand, soles of feet, scalp, etc. In so far as the so called stitch abscess is concerned it has been my experience that it has occurred most frequently when the cutaneous stitches were left in for a longer period than three or four days. At the end of this time, in ordinary cases, I think they should be removed.

I further believe that not a few wounds, by displacement of dressings, hands of patients, etc., become infected at a time subsequent to the operation. When a wound shows signs of infection time is saved by the removal of some or all of the sutures and establishing free drainage.

It is not possible to prevent all wounds from breaking down, but, perhaps, by a little closer application to well established principles, one may lessen the number of wounds that break down through infection.

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STUDIES OF ANTIFORMIN RESISTANT MICROORGANISMS FOUND IN THE BRAIN OF ANIMALS INFECTED WITH RABIES.

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All efforts, up to the present time, to find the causative microorganism of hydrophobia have been useless. No conclusions have been drawn from the older investigators, who are only of historical interest, since the organisms found by them could not be demonstrated by later competent investigators. Of the more recent investigations, those of Negri (1), Babes (2), J. Koch (3) are of certain value.

Negri's important discovery of intracellular inclusions, which are of great value in the diagnosis of hydrophobia and which Negri thinks are the cause of hydrophobia, is not accepted as the cause of the disease, but as a product of the degenerated cell formed under the influence of the specific noxa.

The "passage virus bodies" which Lentz (4) found by the inoculation of rabbits with fixed virus is, without doubt, of a nuclear origin, and it is possible that the Negri bodies in street virus may be of the same origin.

I wish to reserve for a later communication the discussion of the interpretation against the parasitic nature of the Negri body.

Of greater importance is the finding of cocci and bacilli form organisms by Babes and Koch. Babes found these with a modified Cajal-Giemsa stain, Koch with Heidenheim hæmatoxylon stain, and later with von Krogh staining method on bichloride fixed material.

I can confirm these findings, but it is difficult to differentiate these form elements from similar ones which can be found normally in the central nervous system.

The nature of these form elements must at present be questioned, as their isolation and cultivation have not been accomplished.

Our incomplete knowledge of the finer histological details of the central nervous system, little knowledge of the pathological changes, the unaccountable influence of our fixation methods, and the difficulty in obtaining constant results in staining make it almost impossible to differentiate the unknown microorganisms from the cellular elements.

Systematic investigations in our laboratory, by examination of smears and sections made from the central nervous system of animals naturally infected with hydrophobia (dogs, cats, horses) and of rabbits inoculated with fixed virus, showed a peculiar form of microorganism in only one specimen.

The smear was made from the brain of a rabbit infected with fixed virus and killed in the paralytic stage. The smear was freshly fixed with bichloride alcohol for twenty-four hours, stained with Gram and counter stained with carbol fuchsin. Very small cocci and bacilliform organisms were found, which were mostly in clumps and stained light blue. The bacilli were bipolar stained with a very delicate, merely visible body. Without doubt, I dealt here with a peculiar kind of microorganism, as infection with other microorganisms is excluded, since bacteriological examination shows aerobic and anaerobic cultures sterile. The examination of the stained smear with polarized light showed no double refraction, which excludes the possibility of a precipitate resembling microorganisms. Further, after being preserved for one year and being almost decolorized, the smear was restained and showed the same picture. All future efforts to find this same microorganism were useless, regardless of different fixations and staining methods.

The remarkable resistancy of the street virus to outer invasion led me to think of the possibility of isolating the microorganism after the destruction of the brain substance.

At present, what do we know of the nature of the virus of rabies?

We know that in a pure culture the virus is abundantly present in the central nervous system. Filtration experiments have shown that the rabies virus does not pass through filters which are impermeable to other bacteria. According to Remlinger (5), it should pass the larger pores of a Berkefeld filter No. 5, which is impermeable to the smallest present known microorganism. Bertarellie (6) and Volpino state that the fixed virus passes through finer filters than the street virus, but that the filtration experiments are not always trustworthy. We must bear in mind the possibility of an imperfect filter. Stimson (7) reported that he never succeeded in obtaining a virulent filtrate of fixed virus. My own experiments have always been with negative results.

The filtrate which Bertarellie and Volpino obtained showed certain biological changes in com-

parison to the original material, thus increasing the time of incubation from nine to thirteen days, decreasing the virulence, and lowering the resistancy to chemical and physical influences. Of special interest is the fact that the filtrates do not contain the entire amount of the infectious agent, as part remains on the filter, which is more virulent than the original material (decreasing time of incubation, Bertarelli).

According to these experiments, we have to admit that certain form elements in the rabies virus must be microscopically visible. The investigations of the conditions of the resistance of the microbe of the rabies shows that it belongs to the class of highly resistant viruses. Putrefaction does not seem to destroy its virulence. G. E. Mattei (8) reports that he found no diminution in the activity of the organism in a dog which had been buried eight months. The street virus is still more resistant to the bactericidal power of the organism, which lives for a long time in the cicatrix in contrast to the fixed virus which is rapidly destroyed.

Basing on these properties of the street virus, first, that it must be microscopically visible, since it is only partially filterable, second, the resistancy to putrefaction, I tried to isolate the unknown microbe by dissolving, in antiformin, the brain of animals infected with street virus.

For these experiments we use the brain of dogs, which have been proved by the inoculation of rabbits to be afflicted with hydrophobia. The brain was hardened in formalin and cut with the frozen microtome or embedded in paraffin and cut in sections about thirty micra thick on the Minot microtome, the latter method being more satisfactory because the brain substance is more easily and completely dissolved. The paraffin sections were first subjected to xylol to dissolve the paraffin, then washed with absolute alcohol, ether, and water, and dissolved in a fifteen per cent. antiformin solution, which was heated to 60° C., for more rapid dissolving. The solution obtained was almost clear, with the exception of a few particles. This was then filtered through sterile gauze into sterile centrifuge tubes and centrifuged with from 2,500 to 3,000 revolutions. The scanty sediment was again dissolved in a fresh antiformin solution, centrifuged, and the remaining sediment washed with sterile water and centrifuged for at least one hour. Smears were made from the sediment on cover glasses, which were cleaned with sulphuric and chromic acid. The air dried smears were fixed in absolute alcohol for fifteen minutes and stained by Gram and counter stained with carbol fuchsin.

The microscopical examination of these smears showed Gram stained, nonacid, resistant microorganisms in form of bacilli, one half to one micron in length and one third micron thick, and either isolated or arranged in chains or groups. These bacilliform microorganisms were similar to those described previously in the smear of fixed virus, except that the latter were finer and paler Gram stained.

Besides these small bacilli there were larger, oval, or round forms, which were arranged in pairs, chains, or groups. Also a granulated bacilliform was found. It was remarkable that often a larger form was found on one end of the chain and the succeeding ones gradually decreased in size to a very minute form.

I was able to find these organisms in the brain of twelve dogs infected with street virus. In some cases they were present in such numbers as to be found in every field. In others they were few in number and difficult to find.

These organisms could be found in only three out of twelve rabbits infected with fixed virus.

As a control, the normal brain of the dog, rabbit, guineapig, and human being were used. Also, pathologically changed brains of human beings were used, but in none of these were these organisms found.

The question arises whether these microorganisms should be considered as the cause of hydrophobia.

At present we can say that they are constantly found in the brain of dogs infected with street virus.

In the fixed virus they were found in only a few cases, which probably can be accounted for by lower resistance to outer invasion.

By the use of a fifteen to twenty per cent. antiformin solution, which destroys all microorganisms except tubercle bacilli, *Spirochæta lymphatica,* and *Bacterium lymphaticum,* we may consider this organism to bear a certain relation to hydrophobia. Also, the morphological properties of this microorganism, which varies from distinct microscopical size to very minute forms, favor their ætiological connection.

The definite solution of the specificity of these organisms must be confirmed by culture and animal experiments.

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CLINICAL IMPORTANCE OF THE IMPURE FIRST SOUND AT THE CARDIAC APEX.

By Selian Neuhof, M. D.,
New York.

Mechanically speaking the heart is a hollow muscular pump whose muscle layers are intricately interlaced and whose individual muscle elements are differently constituted from the rest of the striated muscle fibres of the body. Analogous to the difference in power of skeletal muscles, we sometimes find a small heart possessing great muscular power and heavier and bulkier (though normal) hearts weak and flabby (1). This difference of power

is also found in pathological hearts. Mackenzie, for example, points out that hearts with thin and diseased walls working against high arterial tension will not show any signs of dilatation and "on the other hand dilatation of the left ventricle may occur, even when the diastolic force filling the ventricle is greatly diminished, e. g., in pure mitral stenosis." (2.)

These marked differences in the cardiac muscular pumping power have been tentatively ascribed to differences in muscular tone (3, 4); that is, alterations in the amount of nerve energy transmitted to the heart account for alterations of tone or "tensive force." (Allbutt, 5.) This explanation, at present only partly based upon experiment, will probably be found to correspond with the result of further work and experimentation in this field. Clinical evidence also supports this theory for it, at least partly, accounts (as some of the cases described below will show) for the resumption of a practically normal "tone" of hearts that have been subjected to extreme dilatation (6).

It is not within the scope of this paper to discuss endocardial or hæmic murmurs, or the varieties and symptoms of cardiac dilatation. The writer wishes to describe particularly those patients with attacks of dilatation, whose course and symptoms he has been able to follow for years, and in whom he has been struck with the great difference in the intensity of their heart symptoms presented at various times. In some of the cases, the myocardial dilatation was secondary to valvular and arteriosclerotic changes. In others, there had been evidences of well marked and severe acute myocardial insufficiency and dilatation; after a varying period of days, months, or even years, the heart had regained its normal muscular strength and "tone" (7) and practically nothing had remained except the slight difference in the first sound at the apex (8, 9). A most careful examination at this time will detect no alteration in the size of the heart from the normal; the heart's reserve force is again established, patients can again attend to their daily tasks, including laborious work (10). It is the alteration of the first sound as a sequel of an attack of dilatation upon which the writer places great significance as an indication of former cardiac mischief (11).

This alteration may consist in nothing more than a diffuseness (slight or marked) of the natural sharpness and definition of the first apical sound (12); there may be a so called "split" first sound, i. e., a slight halt or break in its continuity; there may be a bare impurity, a lack of distinctness of the first sound, or there may be a faint scarcely discernible soft blowing whiff or murmur accompanying or partly replacing the beginning of the apical systole. This murmur or whiff is not transmitted, is never loud or rasping, and is at times only noticeable after sharp exercise (13, 14, 15).

The following are a few case histories selected to illustrate the condition under discussion. Some of the patients had gone through *several* attacks of severe cardiac dilatation, [illegible] marked physical and auscultatory signs of decompensation. When improved, however, nothing remained of the attack except an impure first sound. [illegible] several exceedingly dangerous attacks of acute pulmonary œdema; in each of these attacks the patient became very cyanotic, the pulse very irregular, the heart sounds almost inaudible, and death seemed imminent. In each instance several days after the attack, the only noticeable change in the heart was a muffled, impure first mitral sound.

Case II. S., female age fifty-six years. Six years ago she was first seen in an attack of malarial fever (tertian type); the heart was moderately dilated with a loud systolic murmur at the apex and very irregular heart action; the symptoms were those of moderate decompensation. After a few days under the administration of quinine, the fever disappeared and with it the above cardiac symptoms and signs. During a period of two years thereafter, there were several such febrile attacks, each accompanied by a similar condition of the heart. There had been no attack since. At the present time the heart action shows only occasional intermittence and a faint murmur accompanying the first sound at the apex.

Case III. B., female, age forty years, had had diabetes mellitus; irregular "rheumatic" pains, refused to follow proper diabetic treatment for any length of time. Under careful diet the sugar rapidly disappeared from the urine; when indiscreet in her diet, sugar soon reappeared (from 1.5 to two per cent.). In several of these attacks of glycosuria, cardiac dilatation developed, accompanied by loud systolic murmurs at the aortic and mitral valves. In the intervals and since the last attack (one year ago) these marked evidences of dilatation disappeared, leaving only a faint murmur accompanying the first sound at the apex.

Case IV. F., male, age forty-two years, alcoholic; three years ago he was first observed in an attack of severe cardiac dilatation (alcoholic myocarditis) with marked dyspnœa and a loud systolic murmur at the apex. His symptoms lasted about four weeks, after which time the physical signs and symptoms gradually improved. There had been no subsequent attacks. At present, the heart was slightly enlarged and there was a muffled sound accompanying the first systolic at the apex; compensation seemed perfectly established.

Case V. E., female, age fifty years; ten years ago had severe dyspnœa lasting several days, and marked evidence of broken compensation. The heart was dilated, irregular in rhythm, there was a loud regurgitant mitral murmur present. Under treatment the heart gradually resumed its normal function. After several months the patient was again able to take up her duties and had been at her work ever since. At the present time, the heart is normal in size, beats regularly; there is a slight whirring sound accompanying the first sound at the apex.

Case VI. M., female, age forty-five years, suffered from severe alcoholic pseudotabes; during convalescence, myocardial dilatation developed. Cardiac examination showed loud systolic, aortic, and mitral murmurs. After several months the cardiac condition cleared up; there now remained a faint murmur accompanying the mitral systolic at the apex.

Case VII. R., female, age forty years, was exceedingly neurotic; no rheumatic history; was a moderate beer and wine drinker. Four years ago during the course of an attack of alcoholic neuritis, toxic myocarditis developed. Cardiac examination showed marked dilatation with loud systolic murmurs at the base and apex. This cardiac condition—with remission and exacerbations—lasted three months; coincident with the gradual improvement in the neuritis, the dilatation disappeared and as the only evidence of the former lesion, there was present a slight impure first sound at the apex.

Case VIII. S. H., male, age forty-four years, heavy tobacco smoker since youth, no alcoholic, rheumatic, or luetic history; no alcoholism, no arteriosclerosis. One year ago while running for a car, he suddenly fainted and remained unconscious for over an hour. The patient was not seen until some weeks after he had recovered from this attack of acute cardiac dilatation (?). Since then, there had been frequent attacks of true angina pectoris, some of them severe, many brought on by even mild exertion (*e. g.*, rapid walking across the room). Examination showed a slight increase of heart area and a faint blowing murmur at the apex. In the anginal attacks the only additional physical sign was slight acceleration of the pulse (16, 17). At the present time after several

months' treatment (particularly rest in bed at first, total abstinence from tobacco, and carefully graded exercise) his anginal attacks have disappeared and he is able to walk about with practically no discomfort. The cardiac area is normal and only occasionally is there heard a faint blowing murmur accompanying the first mitral sound.

These few cases are cited because they strikingly illustrate the point the writer wishes to make—how little, besides the alteration in the first systolic sound, remains after these severe attacks of acute dilatation. In every instance the patient was quite ill during acute attacks of what might be called typical heart failure, and yet, after a longer or shorter time, sometimes only after a few hours, at other times, after months, the heart functionally returned to the normal and regained its "tone;" all evidences of severe dilatation and heart weakness had vanished, dyspnœa, œdema, bronchitis, and loud murmurs had disappeared, the patients went about their usual work (in many instances hard manual labor), and only very careful and perhaps repeated examination showed any physical abnormity in heart action or heart sounds. Indeed, if unacquainted with the direct evidences of severe and sometimes dangerous failure of compensation occurring in these attacks, it would be difficult to believe that the apparently normally acting, steady heart could assume such alarming irregularity and give rise, by its dilatation, to loud mitral murmurs and severe evidences of decompensation.

It is of course not to be implied that all hearts with alterations of the first apical sounds have been the seats of acute severe dilatation. In myocarditis, as in most other organic diseases, there are slow, insidious forms in which there may never be an acute attack of heart failure.

Patients with the impure mitral sounds previously described will bear close watching, however, because evidences of acute dilatation may suddenly and unexpectedly supervene. These attacks are usually caused by overindulgence in alcohol or tobacco, by overexertion, etc. Patients should be warned against special excesses and indulgences which are apt to bring on attacks. The physician should particularly remember that though patients with the apparently slight physical imperfection described may go along for years or perhaps to the end of their lives without symptoms referable to their hearts, there is always the possibility that this same heart, apparently so near the normal, may quite suddenly "give out" and present all the dangerous manifestations and characteristics of severe acute dilatation and consequent decompensation.

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LETTER FROM HEADQUARTERS, MANŒUVRE DIVISION.

Forces Available.—Antityphoid Vaccination.—Sanitary Precautions.

Chief Surgeon's Office.
San Antonio, Texas, *April 11, 1911.*

All organizations have come in in good order and gone into camp without confusion. The division consists of three brigades (nine regiments) of infantry; two regiments of field artillery; one battalion of engineers; two companies of signal corps; four field hospitals—capacity 108 beds each; four ambulance companies, each operating twelve ambulances, with the necessary wagon trains for this command. In addition, there is attached a brigade (two regiments) of cavalry, and the cavalry belonging to the division is down on the Mexican border, and one infantry regiment belonging to the division stationed at this place has not come into camp; otherwise the troops enumerated are all present in the miles of tents spread out before me as I write.

The total strength to-day is 10,545. All these men have received the antityphoid vaccination without a single disagreeable sequence, and after four weeks in camp the sick report is less than two per cent. (at least one third lower than the prevailing rate throughout the United States at posts to-day). A large part of this nonefficiency has resulted from measles and mumps among the recruits who have been sent in here.

Major Russell's assistant from the Army Medical School Laboratory at Washington is in charge of the laboratory here and is making blood cultures from every case of continued fever of over forty-eight hours' duration to detect any possible case of typhoid. This procedure is necessary, as the men have been inoculated with the antityphoid vaccine and all give the Widal reaction. No case of typhoid, clinically or by laboratory diagnosis, has developed as yet. We dare not hope that not a single case will develop among this number of men in camp, but we hope to keep our typhoid rate well below that of the ordinary American city.

General Carter, who is in command here, is assistant to General Wood as chief of staff. His idea and the idea which seems to govern throughout the camp is to develop the greatest efficiency possible with the fewest impediments possible.

The mobility of the army is limited by the immense amount of transportation required for its equipment at present, and everybody here is trying to get down to the lowest possible basis as regards

supplies. All the officers at division headquarters live in tents, 9′ x 9′. The general uses two of these tents—one for an office. His tent is the only one which is floored. One of these tents has constituted the chief surgeon's office, where I and four clerks have worked. Inspectors and boards are constantly on the alert for places where equipment can be reduced. We hope to make marked improvements along this line in the medical department. This is the first time that the War Department has authorized the supplying of sufficient mules and horses to equip the medical department units in the field, and we are making the most out of the opportunity afforded to give our equipment a practical test. The greatest enthusiasm prevails among the officers of all branches.

Twenty-two medical officers from the militia left yesterday with a brigade, two field hospitals, and two ambulance companies for Leon Springs, twenty-three miles from here, which corresponds to Pine Camp in our section. They will spend a week there in manœuvres and field exercises; the medical department is in charge of Major P. F. Straub. Among them is Captain M. A. Stivers, of Binghamton, the only representative of the National Guard of the State of New York. The sanitary precautions enforced are simple, but I believe will prove to be effective. Pits are dug for latrines, covered with wooden seats, with parts so arranged as to make it impossible to leave the openings uncovered when not in use. Lime is freely used, and twice daily the boxes are removed, straw is thrown in, crude oil is poured over, and the pit burned out. The insides of the boxes are whitewashed daily; picket lines are burned over with crude oil; kitchen waste is burned or evaporated on a simple incinerator constructed of stones found on the ground. I think we have no more flies than we had when we arrived. Kitchens are screened.

I understand the present visiting militia officers, of whom there are 200, including line and medical department, will be replaced by others when they return home, so that a large number will eventually visit the camp, probably some of them men from New York.

LETTER FROM MONTREAL

Personal News.—Canadian Medical Association Meeting.—Hospital Reports.—Royal Commission on Tuberculosis.

MONTREAL, *April 14, 1911.*

Dr. N. R. Alcock, lecturer in physiology in St. Mary's Hospital Medical School, London, England, since 1904 and vice dean of the school, has been appointed professor of physiology in the medical department of McGill University, a position rendered vacant through the death of Dr. Welsey Mills a few months ago. Dr. James Bell, of Montreal, one of the leading surgeons of Canada, died at the Royal Victoria Hospital on the 11th of April, of pneumonia, after one week's illness. Dr. Bell was in his fifty-ninth year. He was a graduate of McGill University of the class of 1877 and Holmes gold medalist. At the time of the establishment of the Royal Victoria Hospital, he was made chief surgeon, a position he held at his death. He was also professor of surgery and of clinical surgery in the medical department of McGill University. He was a prominent worker in the Canadian Medical Association, at one time being general secretary and at his demise chairman of the finance committee.

The forty-fourth annual meeting of the Canadian Medical Association will be held in Montreal June 7th, 8th, and 9th, under the presidency of Dr. George E. Armstrong, the general secretary being Dr. E. W. Archibald, 160 Metcalfe Street, Montreal. Dr. H. S. Birkett is chairman of the programme committee, and has announced a fine preliminary programme. Sir James Barr, of Liverpool, will deliver the address in medicine and Dr. Alexander Primrose, of Toronto, the address in surgery. Amongst other American practitioners who will be present and contribute papers are Dr. W. J. Mayo, of Rochester, Minn., and Dr. Casey Wood, of Chicago.

At the annual meeting of the Alexandra Hospital board, the president's report showed that 820 patients had been treated throughout the past hospital year, being an increase of 165 over the previous year. The total number of deaths was 47, the lowest death rate since the hospital was opened. Of diseases treated, 233 were scarlet fever; 227 diphtheria; 210 measles. The hospital is for the English portion of the community. Dr. T. G. Roddick was elected president.

The year 1910 was the largest in the history of the Montreal General Hospital. Forty-nine new governors were elected at the annual meeting and feeling reference was made to the thirty-three who had died during the year. The total number of patients treated to conclusion in the wards of the hospital amounted to 3,586, which was 284 more than in 1909. There were 272 deaths in the institution, and 3,314 patients were discharged. The average daily number of patients in the hospital was 20.8. In the outdoor departments the total number of patients treated was 13,588, with the total number of consultations reaching 59,683. During the year eighteen nurses graduated from the institution, making a total number of graduates 358 since the hospital's inception.

Dr. Burgess, medical superintendent of the Verdun hospital for the insane, has issued his annual report. Early in the past year a more favorable contract was arranged with the provincial government by which the yearly sum per capita paid the institution by the government was increased from $116 to $142. During 1910 the admissions numbered 215, while the total number under treatment for the twelve months was 828. The daily average number in residence was 624. The total discharge rate of admissions was 60.93 per cent., and the recovery rate 40.66. The average length of residence for those discharged was a trifle over one year. The deaths numbered sixty-one, a percentage of 7.36 of the number under treatment.

During the past year the Notre Dame Hospital treated 2,016 patients, of whom 1,186 were men and 830 women. Of the patients, 1,404 left the hospital cured, 369 were improved, and 109 were pronounced incurable. There were 152 deaths, the mortality percentage being reduced over the previous year. In the dispensary there were 21,537

consultations and 1,749 urgency cases. The report of the infectious branch of the institution—St. Paul's Hospital—showed that 227 cases of diphtheria had been taken care of, 212 cases of measles, 210 cases of scarlet fever, and thirty-seven cases of erysipelas. The hospital had a deficit of $3,809 against a surplus of $7,377 for the previous year. During the year Mr. Rodolphe Forget gave a donation of $100,000 to wipe out a mortgage of a similar amount.

The annual meeting of the Association of Medical Officers of the Canadian Militia was held recently in Ottawa, when numerous papers of interest were read and discussed. Dr. E. A. LeBel, of Quebec, was elected president and Dr. T. H. Leggett, of Ottawa, secretary. Ottawa has been passing through an epidemic of typhoid fever, there having been in the neighborhood of one thousand cases. Dr. Law, the M. H. O., resigned; and the Ottawa Board of Control is at the present time advertising for a successor. Added to this smallpox broke out and over thirty cases developed rapidly through the laxity of quarantine regulations. The provincial board of health was called down from Toronto, and Dr. Hodgetts, chief medical officer of the Canadian Conservation Commission, was placed temporarily in charge of the situation in the capital. The amendments to the Canada Medical Act have passed a special committee of the House of Commons. In order to make the amendments satisfactory to the provinces of Alberta and Saskatchewan, which have no universities teaching medicine, two of the three members to be appointed by the Governor-General-in-Council are to be residents of these provinces.

Dr. E. P. Lachapelle, dean of the medical department of Laval University, has taken up the defence of Laval against the inspectors of the Carnegie Foundation and shows that the report must be taken with rather more than the usual grain of salt. It seems to be certain that the Carnegie report has done injustice to not only Laval but also Halifax, Queen's at Kingston, and the medical department of the Western University at London.

The Royal Commission on Tuberculosis appointed by the Quebec government have published their report. The commission was composed among others of Dr. J. George Adami, Dr. T. G. Roddick, Dr. Joseph E. Dube, Dr. M. J. Ahern, Dr. E. P. Lachapelle, and Dr. J. J. Guerin. The report calls attention to the fact that while other countries have reduced the mortality from tuberculosis by forty to fifty per cent., Quebec has practically remained stationary. It urges a vigorous campaign and lays down certain measures to be followed out at once and others of more gradual execution. It also points out the part the government should take in the campaign. The Quebec government has issued a regulation with regard to the sale of cocaine which provides that the drug cannot be sold in any form without a physician's prescription. Cocainism has become very prevalent in Montreal, and numerous convictions had been secured in the courts against druggists for selling it.

Dr. Fred J. Tees has resigned from the superintendency of the Montreal General Hospital and has been succeeded by Dr. George Shanks. A fund of over $10,000 has been subscribed as a memorial to the late Dr. Arthur A. Browne, of Montreal. The committee in charge has decided that it take the form of a medical scholarship in the medical department of McGill University.

Dr. E. G. Kidd, of Kingston, has been appointed head of the anatomical department of Queen's University, to replace Dr. Etherington, who resigned to enter private practice.

Therapeutical Notes.

Popular Herbal Remedies Vindicated.—In a review of the fruitful results following the application of his biological method to the fresh tissues of plants, resulting in the detection and isolation of many new glucosides, Professor Bourquelot points out in the official organ of the Paris Society of Pharmacy one fact of no little interest, which is reported in the *Pharmaceutical Journal* for October 1, 1910. Many of the simple herbal remedies, which at one time received official recognition, but have since been relegated to popular medicine, and have been either abandoned or neglected by therapeutists, on account of their supposed deficiency in active principles, are now found to be by no means necessarily inert. It is curious that, despite the discredit into which many of these indigenous remedies have fallen with the medical profession and pharmacists, they have still retained their popularity with the laity, especially in rural districts both in France and England. The tenacity with which they have thus been retained in domestic medicine is, in itself, some indication of real medicinal value. The latest developments of biological chemistry tend, however, to give these a much more powerful claim to acceptance. Quite a number of the commoner plants, which, in years gone by, having been found to be devoid of alkaloids, were considered to be of little therapeutic value, are now shown to contain glucosides. Glucosides, moreover, are, in many instances, the most potent of remedial agents, and possess intense physiological activity. Few, if any of them, are physiologically inert. In medicine as in other things, it would seem that the most recent advances of science are tending to verify, on purely scientific grounds, popular beliefs in what scientists of an earlier period have called fallacies, because they were not able to confirm them experimentally at that time, owing to the then defective state of their knowledge. These results seem to show that the prophecy of Professor Tschirch, that the value of the vegetable drugs would doubtless soon be vindicated, is already being fulfilled.

For Hyperidrosis of the Feet.—Brocq (*Paris médical*, March 25, 1911) advises the application of an astringent lotion, naming an infusion of walnut leaves, to be used for two days, followed by the application of the following lotion:

℞ Solution of ferric chloride, . . . 3i;
Glycerin, 3iiss.

M. et ft. Solutio.
Sig.: Use as a paint.

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A NEW SYMPTOM IN SCARLET FEVER.

In the February number of the *Archives de médecine des enfants,* Pastia, of Bucharest, describes a new sign in scarlet fever which, if it is of constant occurrence, will prove of as great diagnostic value as Koplik's spots in measles. This symptom consists of transverse lines, usually two or three, in the fold of the elbow. They are of a rose red hue at first, but in a few days turn red or wine colored. In the severe cases they are ecchymotic. Between the lines the erythematous eruption characteristic of scarlatina is seen. Similar lines have been observed in the axilla in a few cases, but they are of less intense color and of shorter duration in that situation.

These lines are visible before the appearance of the rash, remain throughout the eruptive stage, and persist as lines of pigmentation after desquamation is completed. Pastia found this symptom present in ninety-four per cent. of the cases of scarlet fever in the hospital for contagious diseases in Bucharest. As far as his experience goes, it is absent in the other exanthemata and in all forms of drug rash. If the danger of contagion is greatest during the tonsillar stage of the disease and not during the period of desquamation, as was formerly thought, any symptom which will aid in establishing the diagnosis before the appearance of the rash will be of great value in preventing the spread of the infection.

DIGITALIS STANDARDIZATION.

The necessity of occasionally examining, especially by new methods, some of the commonly accepted views concerning even well known drugs is well illustrated by a bulletin on *Digitalis Standardization* by Dr. Worth Hale, recently issued by the Public Health and Marine Hospital Service. The author endeavors to trace the origin of certain prevalent beliefs concerning this important drug, and to determine, by experimental methods, to what extent they are valid. Thus, ever since the time of Withering, the view has been quite generally accepted that digitalis leaves gathered from wild growing plants were more potent than those from plants growing in the garden; this view has found expression in a number of pharmacopœias. Hale, using the method of physiological assay adopted by the Hygienic Laboratory, found various American garden grown digitalis leaves to give tinctures more potent than any commercial tinctures available with one exception. He also calls attention to the fact that Allen's English leaves, which prove very active both in the clinic and in the laboratory, are garden grown. He admits that wild growing leaves may at times be more active than cultivated ones, but he doubts whether cultivation has anything to do with it.

Another still more widely accepted view, and one which has found expression in most of the pharmacopœias of the world, as well as in the *International Protocol,* is that only second year digitalis leaves should be used. Hale states that he has been unable to trace the origin of this view, but that it is quite old. It is quite possible that in reaching this conclusion authors have confounded various factors. Thus, Tourdes, in 1867, attributed the greater activity of the digitalis at Strassburg partly to the fact that only second year leaves were used; it now seems probable that the leaves of this region are usually more active than those grown in some other localities. Experimental work by Focke and by Hart had already indicated that first year leaves might be as active as the second year leaves or even more active. Hale obtained similar results, finding the first year leaves to be from twenty-eight to forty per cent. more active than those of the second year.

Great emphasis has been laid by many writers and by some pharmacopœias upon the methods of drying and preserving the leaves. Some believe that the moisture should be rapidly reduced to 1.5 per cent.; others that the drying should be done in a vacuum, etc. Hale found that mouldy leaves might lose ninety per cent. of their activity within a few months, but he does not believe it necessary to take the elaborate precautions to reduce the moisture to a minimum recommended by some, and he considers vacuum drying entirely superfluous. These illustrations show that a number of the currently accepted views concerning digitalis are at least open to question; Hale does not advocate changing the present methods, evidently believing

that further evidence should be collected. More important than these suggested causes of variations of digitalis leaves are the well established facts that the locality in which the plants grow alters the amount of their active principles; that this varies with different seasons; and, more important still, that leaves of the same locality and of the same harvest may vary considerably. The facts make it highly desirable that a uniform method of standardization be adopted, and at present only the physiological methods are available.

Hale next discusses the causes of the variations of the medicinal preparations of digitalis; it was found that the commercial tinctures, fluid extracts, tablet triturates, hypodermic tablets, etc., varied by as much as 360 per cent., and that the variations in the case of some of the special preparations were even greater. The most important factor in this variation is the character of crude drug used, but even with the same drug the medicinal preparations may vary considerably according to the manner in which they are made. Thus, the official fluid extracts were found to be invariably weaker, relatively, than the tinctures, indicating an incomplete extraction of the drug. So called tinctures prepared from fluid extracts are correspondingly weak; physicians should insist upon getting the genuine instead of such imitation tinctures. The strength of the alcohol used in making the preparations has an important bearing upon their keeping qualities; some of the special preparations made with comparatively dilute alcohol were found to be especially liable to deterioration.

The bulletin closes with a discussion of two somewhat widely used specialties, digalen and digipuratum. The tone of the bulletin is throughout moderate and conservative, and the author, a man of considerable clinical experience, clearly recognizes which part of the problems are the proper subjects for laboratory investigation, and which parts can only be decided clinically.

SUPRARENAL INSUFFICIENCY IN INFECTIOUS DISEASES.

Again attention is called by Comby (*Archives de médecine des enfants*, January) to suprarenal insufficiency, frequent in the infectious diseases of childhood, particularly in the so called malignant types of scarlet fever and diphtheria. Formerly myocarditis and cardiac collapse were incriminated, likewise bulbar manifestations, but following the writings of Sergent, it was recognized that the asthenia, the weak pulse, the hypothermy, and the white line all pointed to suprarenal insufficiency.

There is consequently much necessity for the study of the condition of the suprarenal capsules, both clinically and at autopsy, in cases of infectious diseases. Moizard, some time since, classified cases of suprarenal insufficiency by setting forth the principal symptoms. The asthenia frequently attains an extreme degree; the limbs are cold, and livid and present a marked cyanosis; the heart beats are weak and the sounds dull; the arterial pressure falls at least ten points; vomiting is frequent, sometimes incoercible in character; the abdominal pain may occasionally lead one to suspect appendicular inflammation; while the nervous disturbances are variable, consisting of agitation, delirium, meningitic state, and coma.

All these symptoms may develop suddenly and terminate in death, and, according to Moizard, the most common cause of sudden death in the infectious diseases is suprarenal insufficiency. Generally speaking, however, the alarming condition rapidly disappears and the affection pursues its normal course. These facts should be known, because, when in presence of acute manifestations of this type, rapid action must be taken, and by proper treatment their gravity is decreased. If suprarenal insufficiency arises during the progress of diphtheria, Comby advises combining suprarenal opotherapy with serotherapy. If syphilis is also present, suprarenal opotherapy may be associated with mercurial treatment. In the other infectious diseases, where no specific medication exists, opotherapy should be begun from the beginning of the symptoms of suprarenal insufficiency. Adrenalin may be given by the mouth, or, if the hypodermic method is used, 1 c.c. of a 1 to 1,000 solution is added to fifty grammes of normal salt solution and injected into the subcutaneous tissue. As this medication is inoffensive, it can be continued daily until the accidents of suprarenal insufficiency have disappeared.

ABSCESS OF THE ILIAC LYMPH NODES.

Abscesses of the iliac lymph nodes require a complex classification, which is based both upon their primary site and their origin. The most interesting cases, those really meriting the denomination of iliac abscess, develop in the cellular tissue which spreads between the iliac fascia and peritonæum, and should always be considered as developing in the lymph nodes.

Bonvoisin (*Thèse de Paris*, 1910) has recently studied those cases of lymphatic abscess which, in appearance primary, give rise to uncertainty in diagnosis and prognosis. It is to be recalled that the external iliac lymph nodes receive the lymphatics of the pelvic organs, so that if the lower limb

is normal, without ulceration or wound, it is most likely in the pelvis that the causative lesion of the process is to be sought for. According to Bonvoisin, the uterus is practically the only organ responsible for lymphatic infection and post partum or post abortum infection is nearly exclusively the cause.

In cases of primary iliac lymphatic abscess all digestive symptoms are wanting and movement of the coxofemoral joint is possible. It is above Poupart's ligament that the abscess projects and spontaneously opens. Rupture of the abscess into the intestine is most infrequent, likewise ulceration of the iliac vessels. Consequently it would appear that the prognosis is good, which is quite the contrary to that of other pus collections in the iliac fossæ. These abscesses should be opened and drained before fluctuation has been detected.

RESTRICTION OF THE MATERIA MEDICA.

While the individual practitioner limits the number of drugs with which he does his work to a comparatively few, the sum of the drugs in use presents a vast array, which constitutes an excessive burden to any one who must familiarize himself with even a small proportion of the list. Many of these drugs possess identical therapeutic virtues and some no virtues at all; yet, while every one would willingly dispense with a large proportion of them, no two individuals seem to be agreed upon the particular drugs which might be eliminated.

This old problem comes up regularly with every revision of the *Pharmacopœia*. Recently it has been attacked from a new standpoint. The Committee on Materia Medica of the National Confederation of State Medical Examining and Licensing Boards in their last report presented a scheme which might do much to improve the situation. Several lists of medicaments had been considered by the committee and the conclusion was reached that the exact constitution of any list was of minor importance, but that it would be of great advantage if some list of widely used drugs were accepted by the various State boards as a basis upon which seventy-five to eighty per cent. of their examination questions should be asked. This would leave a wide margin within which the boards might ask questions upon any drug that they deemed of sufficient importance. If such an agreement were consummated, teachers of materia medica would devote most of their time and attention to a uniform series of standard remedies and yet would be at liberty to teach anything else they cared to teach.

Both teacher and student would then be relieved of the necessity of considering such a wide range of remedies as they must under present conditions, and by concentrating on a smaller number of important ones the student would have a much better opportunity of becoming familiar with their actions and uses. Such a compromise between the present necessarily superficial consideration of a large part of the official drugs on the one hand and possible dogmatic restriction on the other hand seems to be a very happy move in the progress toward "a more sane therapy."

THE STATUS OF CÆSAREAN SECTION.

Within the past decade Cæsarean section has grown from a procedure indicated only as a last resort, and regarded as one of but doubtful value save as a forlorn hope, to the position of being at least considered in practically every case of dystocia where the interference with spontaneous delivery is not amenable to the most ordinary instrumental assistance. The indications for Cæsarean section taken from Hirst's *Obstetrics*, edition of 1899, are as follows: "The indications for this operation are relative and absolute. By an absolute indication is meant some condition which admits of no other method of delivery; while by a relative indication is meant a condition that does admit of some other method of delivery, say by symphysiotomy or craniotomy. In a case of this kind the decision is difficult and should be left, in part at least, to the woman and her husband. Ordinarily the physician is instructed to select that form of operation least dangerous to the woman."

In striking contrast to these indications, Allen, in 1909, says that Cæsarean section should be performed in all cases where the mechanical obstruction to delivery is sufficient to jeopardize the life of the child seriously or to cause severe laceration and bruising of the soft structures of the mother, provided she is not already infected; whether the obstruction is produced either by the maternal pelvis or the fœtal head. Not only has the single, primary Cæsarean section reached the point of being almost generally selected in preference to a mutilating operation upon the fœtus, but more and more operators are reporting whole series of multiple elective sections, with a remarkable acceptance of the procedure by the patients and their families, and a very low mortality. Within the past month McPherson has published the report of thirty-nine cases, in thirty of which section was done for the second time, seven for the third time, and one each for the fourth and fifth time, with a maternal mortality of three and an infant mortality of one. It is apparent, then, that the indication for the elective Cæsarean section is growing wider day by day, and should the present trend of thought continue it will eventually entirely supersede the more severe and mutilating methods of delivery.

Obituary.

CHARLES STEDMAN BULL, M. D., of New York.

This well known ophthalmologist died on Monday, April 17th, in the sixty-seventh year of his age. He was born in New York and took his medical degree from the College of Physicians and Surgeons in 1868. He first practised as an ophthalmologist in St. Louis, but for a short time only. Returning to New York, he finished his career here. Dr. Bull was highly esteemed in the profession.

LEARTUS CONNOR, M. D., of Detroit.

Dr. Connor died suddenly of a paralytic stroke in Detroit on April 16th. He was born in Coldenham, Orange County, N. Y., in 1843, and was graduated master of arts at Williams College in 1865 and M. D. at the College of Physicians and Surgeons, New York, in 1870. He was for two years principal of the Mexico, N. Y., Academy. Since 1878 he had limited his practice to diseases of the eye and ear. He was professor of physiology and clinical medicine and of didactic and clinical ophthalmology at the Detroit Medical College, and also edited in succession several medical journals. He was a frequent contributor to the *Journal*.

JAMES BELL, M. D., of Montreal.

Dr. Bell died of pneumonia at the Royal Victoria Hospital, Montreal, on April 11th. He was born at North Gower, Ont., in 1852, and graduated from the medical department of McGill University in 1877, as Holmes gold medallist. He was surgeon in chief to the Royal Victoria Hospital, consulting surgeon to the Montreal General Hospital, and professor of clinical surgery at McGill University. At the time of the Northwest rebellion, in 1885, he accompanied General Middleton to the front as surgeon major in charge of the Field Hospital Corps and was favorably mentioned in dispatches. Dr. Bell was universally admired and esteemed and, at the time of his death, was probably one of the most distinguished surgeons in the Dominion.

News Items.

Changes of Address.—Dr. Charles Ver Nooy, to Hartley Hall, 485 Central Park West, New York.

Dr. W. Ross Thomson, from 118 West 130th Street, New York, to Warsaw, N. Y.

Dr. W. McDowell, to 208 Cobb Building, Seattle, Wash.

The American Society of Sanitary and Moral Prophylaxis.—A meeting of this society will be held in connection with the regular monthly meeting of the Medical Society of the County of New York, at the Academy of Medicine, Monday evening, April 24th, at 8:30 o'clock. The general subject for discussion will be The Health Department Control of Venereal Diseases. Papers will be read by Dr. J. Riddle Goffe, Dr. Prince A. Morrow, Dr. William M. Polk, and Dr. Ernst J. Lederle, Commissioner of Health of New York City. Among those who will take part in the discussion are Dr. E. T. Bristow, Dr. John H. Huddleston, Dr. James T. Warbasse, Dr. Hermann M. Biggs and Dr. S. Adolphus Knopf.

The Jewish Maternity Hospital Staff Holds Banquet.—The annual banquet of the medical staff of the Jewish Maternity Hospital, 272 East Broadway, New York, was held at Murray's on the evening of Saturday, April 8th. Dr. Nathan Ratnoff was toastmaster, and among those who spoke were Dr. J. Clifton Edgar, Dr. Ralph Waldo, Dr. Howard Lilienthal, Dr. Abraham Mayer, Dr. William S. Gottheil, Dr. A. J. Rongy, Dr. A. M. Hilkowich, Dr. I. S. Hirsch, Dr. Ralph Lewy, Dr. Joseph Bakst, and Dr. Leopold Jaches

The East Side Physicians' Association.—In the report of the March 23d meeting of this organization reference to a paper by Dr. William J. Robinson was inadvertently omitted. Dr. Robinson's paper was entitled Abortion—Its Social and Ethical Aspects, and formed an important part of the "symposium" on that subject which constituted the programme for the evening. The annual smoker of the society was held at Murray's on Saturday evening, April 1st. One hundred and sixty members and their friends were present, and an enjoyable evening was spent.

The Results of the Sale of the Red Cross Christmas Seals.—The State Charities Aid Association, agent for the sale of Red Cross Christmas Seals in New York State outside of New York city and Buffalo, has announced the result of the sale and the winners of the three prizes, in the school contest. Figures made public by the association show that as a result of the sale $31,160 is made available for antituberculosis work in New York outside of Greater New York and Buffalo. This is $9,500 more than the amount of the sale in the same territory last year.

Dr. Deaver the Guest of the Northern Medical Association.—At the sixty-fifth annual banquet of the Northern Medical Association, of Philadelphia, which was held on Tuesday evening, April 11th, Dr. John B. Deaver was the guest of honor. Dr. Thomas Shriner was toastmaster, and in addition to his speech, and that of Dr. Deaver, addresses were made by Dr. D. Riesman and Dr. H. C. Paist. The officers of the association are: President, Dr. O. L. Latchford; vice-president, Dr. Paul F. Bremer; treasurer, Dr. J. W. Millick; secretary, Dr. Lee Boyce; librarian and censor, Dr. H. F. Geisler; corresponding secretary, Dr. Thomas Shriner.

Honors for Dr. Welch.—Dr. William H. Welch, of Baltimore, professor of pathology at Johns Hopkins University, has been honored by Emperor William of Germany, who has conferred upon him the Crown Order of the Second Class. It is to be delivered in person by the German Ambassador at Washington. Dr. Welch's honors already are many. He has received the degree of Doctor of Medicine from five universities, four of which were German, the honorary degree also being bestowed upon him by the University of Pennsylvania, and six universities and colleges, including Yale and Harvard, have given him the degree of Doctor of Laws.

The Association of the Physicians Attending the Tuberculosis Clinics held a regular meeting at the Hofbräu Haus, Brooklyn, on the evening of April 12th. Dr. W. J. Pulley presided. The paper of the evening was read by Dr. S. Adolphus Knopf on The Life and Labors of Robert Koch. After the presentation of the paper, which consisted of a eulogy of the late Dr. Koch, Dr. Knopf presented to all present copies of a photograph of the great scientist which was given to him by Dr. Koch. An animated discussion of the work of the clinics followed, which was opened by Dr. B. H. Waters, chief of clinics, and the evening closed with supper and a social hour

Reunion of McGill Medical Graduates.—Some misunderstanding has been created by the announcement of the McGill University authorities of a general reunion of graduates from all faculties to be held in 1913. The special reunion of graduates in medicine will be held, as already arranged, June next, 7th, 8th, and 9th, on the same dates as the meeting of the Canadian Medical Association, when an opportunity will be given to inspect the beautiful new buildings of the medical department as well as to participate in the important meetings of the Dominion association. Graduates living in the metropolitan district should communicate with Dr. Wolfred Nelson, Astor House, New York, chairman of the local committee, if they intend to visit Montreal, so that reduced railway fares and other advantages may be secured it possible.

Articles of Incorporation of the Bronx Hospital Disapproved by the State Board of Charities.—The State Board of Charities has disapproved the articles of incorporation of the Bronx Hospital, which a number of physicians, fifteen of whom are residents of Manhattan, have been anxious to establish in the Bronx. The site selected for the Bronx Hospital was in the congested tenement district near Valentine and Wendover Avenues. The State Board of Charities also refused to grant a license to the Lenox Hill Clinic and Dispensary in Seventy-second Street east of Third Avenue.

A Permanent Committee of Revision of the French Pharmacopœia.—Announcement was made last month of the appointment of a permanent commission for the revision of the *Pharmacopée française*. This commission is composed of six subsidiary bodies, representing (1) Committee on Litigation and Medical Jurisprudence; (2) Committee on Materia Medica; (3) Committee on Medicinal Chemicals: (4) Committee on Galenical Preparations; (5) Committee on Sera and Physiological Products; (6) Committee on Veterinary Medicine. M. Adam is president and M. Generez, chief of the Bureau of Higher Education, is general secretary of the committee.

New Officers of the New York State Society.—At the one hundred and fifth annual meeting of this society, held in Albany on April 18th, 19th, and 20th, the following officers were elected to serve for the ensuing year: President, Dr. Wendell C. Phillips, of New York; first vice-president, Dr. Peter W. Van Peyma, of Buffalo; second vice-president, Dr. William P. Campbell, of Brooklyn; third vice-president, Dr. C. R. Hervey, of Oswego; secretary, Dr. W. R. Townsend, of New York; treasurer, Dr. Alexander Lambert, of New York. A change was made in the constitution of the society at last year's meeting which made it possible for the society to meet in other places than Albany, but the convention voted to hold next year's meeting in Albany, less than two-thirds of the delegates being willing to accept an invitation from Rochester.

Tuberculosis Day.—April 30th has been set aside this year as Tuberculosis Day, and it will be observed in about two hundred thousand churches in a manner similar to that of Tuberculosis Sunday in 1910. Statements of approval from prominent clerical, medical, and lay authorities have been received by the National Association for the Study and Prevention of Tuberculosis. In commenting on the question Dr. Lawrence F. Flick, of Philadelphia, says: "The work of stamping out tuberculosis is in such perfect harmony with the spirit of religion that it is but natural to ask the ministers of religion to cooperate by giving the use of their church organizations for the educational part of the campaign. Not until all the people have gotten a clear conception of what tuberculosis means and of what is necessary for its extermination will it be possible to inaugurate all the measures for prevention which science has demonstrated as practicable and feasible. Knowledge must come before action is possible and there is no agency on earth through which knowledge can be so quickly and so efficiently extended to all people as through the churches."

A Resolution on the Death of Dr. James Bell.—At a recent meeting of the Corporation of McGill University, Montreal, the following resolution in regard to the death of Dr. James Bell was adopted. It was moved by Dr. Ruttan and seconded by Dr. J. George Adami:

[illegible] mately associated with this university. After a brilliant career as [illegible] medal, and, after serving in the Montreal General Hospital as house-surgeon and as medical superintendent for eight years, for another eight years he was attending surgeon at that hospital until, in 1894, he received the appointment of surgeon to the Royal Victoria Hospital, then newly opened. This latter position he held until his death. His work as a teacher has been continuous from the time of his first appointment on the staff of the Montreal General Hospital. He attained professional rank in the medical faculty in 1891, and gained successive promotions until 1907, when, as professor of surgery and clinical surgery, he became the head of the surgical department of the university.

This corporation recognizes that his remarkable accuracy as a diagnostician, his wise conservatism in all surgical matters, and his extraordinary skill as an operator, in which he was almost without a peer upon this continent—these, together with his ability as a clinical instructor, added much to the reputation of McGill University, both at home and abroad. Indefatigable as a worker, conscientious, accurate, and thorough in everything he undertook, he was a most helpful and valued counsellor in all matters pertaining to medical education.

The corporation would convey to his family the sincere sympathy [illegible]

The Essex County, N. J., Medical Society met in annual session in Newark on Tuesday, April 4th, and elected the following officers for the ensuing year: President, Dr. H. J. F. Wallhauser, of Newark; vice-president, Dr. Thomas N. Gray, of East Orange, secretary, Dr. Ralph H. Hunt, of East Orange; treasurer, Dr. Frederick C. Webner, of Newark; reporter, Dr. Frank W. Pinneo, of Newark. There was a large attendance of members. An interesting feature of the programme was an address by Dr. Samuel E. Robertson, of Newark, the retiring president, on The History of the Science of Medicine. The deliberative body of the society, known as the council, is composed of the following physicians: Dr. Edward J. Ill, Dr. James T. Wrightson, Dr. Wells P. Eagleton, Dr. E. Z. Hawkes, Dr. Herbert W. Long, Dr. Frederick C. Webner, and Dr. H. J. F. Wallhauser, of Newark, and Dr. Thomas W. Harvey, Dr. Thomas N. Gray, and Dr. Ralph H. Hunt, of the Oranges. The Essex County Medical Society was formed in 1816 and until 1903 was known as the Essex District Medical Society.

Personal.—Dr. John H. Musser, of Philadelphia, accompanied by Mrs. Musser, sailed for London on April 13th. He attended the meeting of the International Permanent Committee, which met in London on April 21st and 22d, to make arrangements for the thirteenth International Congress of Medicine, to be held in London in the summer of 1913.

Dr. George Chaffee, of Brooklyn, has retired as head of the medical staff of the Bay Ridge Hospital. Dr. Bruce G. Blackmar succeeds him.

The loving cup, offered annually by the New Orleans *Picayune* for the most valuable gratuitous public service rendered by a citizen of that city, has been awarded for the year 1910 to Dr. Sarah T. Mayo, of the New Orleans Dispensary for Women and Children. Dr. Mayo is a native of Louisiana and a graduate of the Women's College of Pennsylvania. On May 8, 1905, with other women physicians of her city, Dr. Mayo organized the New Orleans Hospital and Dispensary for Women and Children.

The Harvard Cancer Hospital.—It is announced that the new cancer hospital at Harvard will be completed early in the fall. This hospital will be for all practical purposes a part of the medical school plant, but it will be administered by the Cancer Commission, which is composed of Dr. J. Collins Warren, chairman, and Dr. Henry K. Oliver, for the Caroline Brewer Croft fund; Dr. Henry P. Walcott and Dr. Arthur T. Cabot, for the corporation of Harvard College; Dr. William T. Councilman and Dr. Theobald Smith, for the Medical School; Dr. E. E. Tyzzer, director; and Dr. Robert B. Greenough, secretary. The movement leading to the building of the hospital began about twelve years ago, when Mrs. Caroline Brewer Croft, of Boston, established a fund of $100,000, the income of which was to be devoted to the study of cancer. The Cancer Commission was formed, and its efforts have been so successful that it has in hand or promised not only the amount needed for the construction of the hospital, but $250,000 additional. Large as this sum is, it is not sufficient for a permanent endowment. The commission estimates that $30,000 annually will be required for the support of the hospital. It hopes to obtain an endowment of $400,000.

The Medicolegal Society will hold its April meeting in joint session with the psychological section, at the Waldorf Astoria, in the evening of Wednesday, April 26th, at eight o'clock. Judge William H. Francis will preside. The programme includes the following papers: A Half Century's Progress in Medical Jurisprudence, by Frank T. Lodge, Esq., of the Detroit Bar; How Booth's Body was Hidden, by Dr. George L. Porter, of Bridgeport, Conn.; The Human Awakening, by Floyd B. Wilson, Esq., of New York, chairman of the psychological section; (a) Does not the Fact that the Embalming Fluid Did and Must Have Entered the Lungs of William M. Rice Demonstrate the Innocence of Albert T. Patrick of the Crime for which he was Tried, Convicted, and Sentenced to Death? (b) Did not the Medical Evidence given by the State that the Embalming Fluid Could Not Enter the Lungs Mislead Both Court and Jury, and was not the Result a Clear Miscarriage of Justice? by Clark Bell, Esq., of New York. A report of the progress in the case of Albert T. Patrick will be presented by the select committee. Prominent members of the medical and legal profession will be present and take part in the discussions.

Vital Statistics of New York.—During the week ending April 8, 1911, the deaths from all causes reported to the Department of Health of the city of New York numbered 1,756, corresponding to an annual death rate of 18.38 in a thousand of population, as compared with a rate of 18.88 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 20.15; the Bronx, 18.25; Brooklyn, 16.83; Queens, 15.46; Richmond, 11.65. There were 125 stillbirths. The deaths of children under five years of age numbered 521, of whom 308 were under one year of age. There were 16 deaths from suicide, 3 from homicide, and 64 due to accidents. Seven hundred and fifty-six marriages and 2,548 births were reported during the week.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending April 15, 1911

	Week ending April 8th		Week ending April 15th	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis (pulmonary)	553	195	480	174
Diphtheria and croup	17	3	338	12
Measles	85	3	1,045	10
Scarlet fever	60	3	200	9
Smallpox				
Varicella	200		157	
Typhoid fever	5	0	6	1
Whooping cough	14	2	65	8
Cerebro-spinal meningitis	7	1	8	2
Total	2,664	308	2,574	256

Gifts and Bequests to Hospitals.—Christ Hospital, of Jersey City, will receive one-third of a bequest of $50,000, through the will of Francis King who died recently.

By the will of Frederic W. Beinhauer, the Presbyterian Hospital, the German Hospital, and St. John's Guild, of New York, will become residuary legatees.

At the sixth annual donation day, at the Roosevelt Hospital, Philadelphia, held on March 15th, the cash donations amounted to $500. There were many gifts of clothing, food, and other useful articles besides.

By the will of Mrs. Alice A. Hicks, of Old Westbury, L. I., who died on February 17th, the Nassau Hospital Association will receive $100,000. The will also contains a bequest of $50,000 to the New York Association for the Improvement of the Condition of the Poor.

By the will of the late Mr. Charles Byrd, the Montreal General Hospital will receive $10,000, to be added to the endowment fund; the Protestant Hospital for the Insane at Verdun will receive $5,000 for the endowment fund; the Western General Hospital, Montreal, will receive $2,500; the Alexandra Hospital, Montreal, will receive $2,000 for treatment of infectious diseases.

The Marie Feodorovna Prizes.—The American Red Cross announces, in connection with the International Conference of the Red Cross which will be held at Washington, D. C., in May, 1912, that the Marie Feodorovna prizes will be awarded. These prizes, as may be remembered, represent the interest on a fund of 100,000 rubles which the Dowager Empress of Russia established some ten years ago for the purpose of diminishing the sufferings of the sick and wounded in the war. Prizes are awarded at intervals of five years, and this is the second occasion of this character. The prizes in 1912 will be one of 6,000 rubles, two of 3,000 rubles each, and six of 1,000 rubles each. The subjects decided upon for competition are: (1) Organization of evacuation methods for wounded on the battle field, involving as much economy as possible in bearers. (2) Surgeon's portable lavatories for war. (3) Methods of applying dressings at aid stations and in ambulances. (4) Wheeled stretchers. (5) Support for a stretcher on the back of a mule. (6) Easily portable folding stretcher. (7) Transport of wounded between men of war and hospital vessels and the coast. (8) The best method of heating railroad cars by a system independent of steam from the locomotive. (9) The best model of a portable Röntgen ray apparatus, permitting utilization of x rays on the battlefield and at the first aid stations. It rests with the jury of award how the prizes will be allotted in respect to the various subjects. That is to say, the largest prize will be awarded for the best solution of any question, irrespective of what the question may be. Further information may be obtained by addressing the Chairman Exhibit Committee, American Red Cross, Washington, D. C.

The Health of Chicago.—During the week ending April 8, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the city of Chicago: Typhoid fever, 8 cases, 0 death; measles, 333 cases, 4 deaths; whooping cough, 11 cases, 1 death; scarlet fever, 217 cases, 8 deaths; diphtheria, 126 cases, 75 deaths; chickenpox, 65 cases, 0 death; tuberculosis, 110 cases, 80 deaths pneumonia, 40 cases, 156 deaths. There were reported 7 cases of German measles, 1 of smallpox, 3 of influenza, 2 of cerebro-spinal meningitis and 80 of contagious diseases of minor importance, making a total of 1,003 cases, as compared with 999 for the preceding week and 1,161 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 42, and there were 34 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 184, of whom 123 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 681, corresponding to an annual death rate of 15.8 in a thousand of population, as compared with a rate of 16.2 for the preceding week and 15.1 for the corresponding week last year.

Society Meetings for the Coming Week:

MONDAY, *April 24th.*—Medical Society of the County of New York.

TUESDAY, *April 25th.*—New York Dermatological Society; Metropolitan Medical Society of New York City; Buffalo Academy of Medicine (Section in Gynæcology and Obstetrics); New York Medical Union; New York City Riverside Practitioners' Society; Valentine Mott Medical Society, New York; Washington Heights Medical Society, New York; Woman's Hospital Society, New York; Alumni Association of Seney Hospital, Brooklyn; Rome, N. Y., Medical Society.

WEDNESDAY, *April 26th.*—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society; The Medical Union, Buffalo.

THURSDAY, *April 27th.*—New York Academy of Medicine (Section in Obstetrics and Gynæcology); Hospital Graduates' Club, New York; New York Celtic Medical Society; East Side Physicians' Association, of New York; Bronx Medical Association; Brooklyn Society for Neurology.

FRIDAY, *April 28th.*—Academy of Pathological Science, New York; New York Society of German Physicians; New York Clinical Society; Manhattan Medical Society; Hospital Graduates' Club, Brooklyn.

Examinations for Assistant Surgeons in the Public Health and Marine Hospital Service.—A board of commissioned medical officers will be convened to meet at the Bureau of Public Health and Marine Hospital Service, Washington, D. C., on Monday, May 22d, at 10 o'clock a. m., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine Hospital Service. Candidates must be between 22 and 30 years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character. Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Promotion to the grade of surgeon is made according to seniority and after due examination as vacancies occur in that grade. Assistant surgeons receive $1,600, passed assistant surgeons $2,000, and surgeons $2,500 a year. Officers are entitled to furnished quarters for themselves and their families, or, at stations where quarters cannot be provided, they receive commutation at the rate of thirty, forty, and fifty dollars a month according to grade. All grades above that of assistant surgeon receive longevity pay, ten per cent. in addition to the regular salary for every five years' service up to forty per cent. after twenty years' service. The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information, or for invitation to appear before the board of examiners, address the Surgeon General, Public Health and Marine Hospital Service, Washington, D. C.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

April 13, 1911.

1. Forty-six Cases of Prostatectomy [illegible]. By [illegible] Davis
2. Vaccines in Puerperal Sepsis, By C. A. Eaton.
3. Intrathoracic Insufflation Anæsthesia; Apparatus and Cases By [illegible]
4. Enucleation of the Tonsil By [illegible]
5. Late Cæsarean Section. By [illegible]

1. Prostatectomy.—Davis summarizes his results in twenty-four cases of perineal prostatectomy as follows: In twenty-four cases of perineal prostatectomy two patients died; in neither case was death directly due to the operation. All the others left the hospital in good condition with obstruction relieved. In fifteen cases the end results were excellent in every respect, all that could be expected or desired. In two other cases the result was marred only by the loss of sexual power. One patient had a persistent cystitis which was symptomatically controlled by regular treatment, otherwise he was well. In four cases the results were not so satisfactory. In one there was poor control of the bladder, so that the patient preferred to wear a urinal. In one other there were at times, under stress, lapses of control. Two patients had persistent perineal fistulæ; in one of these there was also some cystitis present.

2. Vaccines in Puerperal Sepsis.—Eaton states urinal. In one other there were at times, under ister a multivalent preparation immediately after the diagnosis seemed definite, as determined by bacteriological tests and to repeat as necessary until the autogenous preparation was ready, about twenty-four hours later. The vaccines were prepared by use of the minimum degree of moist heat, a method apparently followed by better results than when the earlier method was employed. Careful watch was made to ascertain any possible injurious effects or aggravation, but even in the worst cases none such could be demonstrated. On the contrary, a number of patients who seemed to be almost without hope of recovery made very happy convalescences. No claim is here made that the vaccines should replace other generally recognized methods. On the contrary, they should be used to assist all others that have proved to be of value. Unfortunately, such procedures of proved value are as yet only too few. In the series reported, a hot vaginal douche has been usually employed; very rarely, in only one or two cases an intrauterine douche. Curettage has not been performed in any instance. The bowels have been maintained in an active condition and remedies have been used when indicated. He has strongly advised leaving the patient as free from manipulation or local treatment as possible and believes that the results well bear out these instructions. He prefers to draw no conclusions concerning the results of the treatment as a whole. Two facts may be given in conclusion: One is that no demonstrable harm has been often done to any person: the other, that patients have shown much improvement after the inoculations and have recovered when even the best clinicians have foretold a fatal termination. Out of the fifty cases reported there were only nine deaths, none of which can be fairly attributed to the use of the vaccine.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

April 15, 1911.

1. Chronic Pancreatitis, By John B. Deaver.
2. Intestinal Bacteriology, By Arthur I. Kendall.
3. Treatment of Suppurative Otitis Media (Scarlatina) by Bacterial Vaccines (Bacterins), By Paul G. Weston and John A. Kolmer.
4. Multiple Myeloma with Albumosuria, By Joseph M. King.
5. An Emergency Culture Medium for Use in Practice, By Frank M. Wood.
6. Systemic Blastomycosis, By Robert G. Washburn.
7. An Improved Tonsil Snare, By William D. Black.
8. Simple Drop Method of Giving Rectal Enemas of Normal Saline Solution, By John Egerton Cannaday.
9. Venereal Prophylaxis in the United States Navy, By Robert E. Ledbetter.
10. Furunculosis. By H. K. Gaskill.
11. An Epidemic of Typhoid Fever with Isolation of B. Typhosus and B. Coli from the Water Supply, By J. P. Simonds.
12. Bacterial Vaccines in Typhoid Fever, By John P. Fletcher.
13. Resection of Spermatic Plexus, By M. L. Harris.
14. Testing the Visual Fields for Color, By Tom A. Williams.
15. Simple Method of Cultivating the Morax-Axenfeld Bacillus, By William H. Peters.

1. Chronic Pancreatitis.—Deaver has to say concerning the treatment of this condition: The treatment of chronic pancreatitis begins with the amelioration of the predisposing cause or causes, if they can be determined. When gastroduodenal catarrh is present as a result of vicious habits of eating or drinking, a reform must be instituted in these respects. When it is associated with disease of the biliary passages, treatment should be directed toward that condition. Wohlgemuth has shown that the pancreas responds actively to a carbohydrate diet, and that if rest for the inflamed gland is desired it is necessary to be sparing in articles of that nature. Carnot is enthusiastic in advocacy of supplying the missing elements of digestion by administration of a preparation of the gland. Sailer also reports good results in two cases treated on this basis. While such measures may suffice for mild cases, or at times for more severe forms, there are others that go from bad to worse on careful medical treatment. Continued loss of weight, persistence of indigestion, recurring exacerbations, jaundice, or a lowered tolerance for carbohydrates as shown by transient glycosuria should cause the physician to advise operation. Especially binding is this obligation if there be associated disease of the biliary tract. In the surgical treatment of chronic pancreatitis, Mayo Robson occupies the same position as Fitz does to the development of our knowledge of the disease. He was the pioneer in showing that free drainage of the biliary tract, and through this outlet, drainage also of the pancreatic ducts, would in many instances enable the pancreas to cast off the infection and resume its normal function. This is, in a nutshell, the principle of the treatment, and though it may seem roundabout, its efficacy has now been demonstrated too often to admit of a question. The easiest and

most advantageous method of providing drainage is by a cholecystostomy. If for any reason this is impracticable, drainage of the common duct should be done. At times when the closure of the common duct is complete and likely to be lasting, a cholecystenterostomy may be best, but as a general rule external drainage permits subsidence of the swelling of the pancreas and a reestablishment of the functions of the ducts. Drainage should be maintained for three or four weeks at least. It is difficult to keep the fistula from closing too soon, and in cases of marked pancreatic disease it is best to make a cholecystduodenostomy. Just how long this opening will remain patulous is a question. It should not be forgotten, also, that cholecystduodenostomy is an operation of greater magnitude and slightly higher mortality than simple cholecystostomy. Send patients early before complications create a mortality.

3. **Vaccines in Otitis Media.**—Weston and Kolmer have drawn the following conclusions: 1. The best time, all things considered, for beginning vaccine treatment in cases of otitis media, is from the eighth to the sixteenth day of the discharge. 2. Continued high fever, nephritis, toxæmia, and various intercurrent affections are contraindications to the administration of vaccines. 3. Under vaccine treatment, three times as many patients are cured within thirty days and permitted to go home as under the usual treatment. This means that the average residence of a patient in the hospital has been considerably decreased. 4. In general, cases of otitis media offer a fruitful and encouraging field for the employment of vaccine therapy.

6. **Systemic Blastomycosis.**—Washburn reports a case and concludes from his study of it that the prognosis in cases of systemic blastomycosis is exceedingly unfavorable. Of the recorded cases, only four have recovered. The course of the disease is essentially chronic. Most of the cases have lasted from one to two and one half years. Only six of the cases have terminated in less than six months. Death has resulted in most instances from gradual exhaustion, due to chronic suppuration or to general dissemination of the disease through the various organs and tissues of the body. From this very unfavorable record of results, it may be assumed that the treatment of the disease is not very satisfactory. The only drug which appears to have any specific action on the disease is potassium iodide. The patients who have recovered have received it in large doses. Locally, the lesions should be treated like those of the purely cutaneous form of the disease. One of the best local applications is 1 per cent. copper sulphate solution in conjunction with the use of the x ray.

8. **Drop Method of Giving Enemas.**—Cannaday, to prevent expulsion of normal salt solution from the rectum, advises that the container be hung so that the solution is 8 or 10 inches above the level of the rectum. It should frequently be tested by a bath thermometer and the temperature kept about 100° F. A hot water bottle on either side of the douche bag or the frequent addition of small quantities of hot saline solution will serve to keep the temperature up. The most simple means of inducing the fluid to flow drop by drop is not a hæmostat but a hairpin and a match. An ordinary wire hairpin is passed about the rubber tubing so that one of its prongs extends on either side; the free ends are secured from spreading apart by a twist of the wire with the fingers. Three or four wooden toothpicks or a match trimmed down to a wedge shaped point are induced between the wire hairpin and the rubber tube and gently pushed in until the flow is just as desired. As a rule it is not wise to attempt to give too much fluid at a time; about 6 or 10 ounces every hour and a half or two hours will be sufficient. In giving saline solution regularly over a space of more than twenty-four hours one will find that more is usually absorbed at first than later after the system has been saturated with fluid. A soft rubber catheter in the rectum is better borne and causes much less irritation, as a rule, than a rigid nozzle. If this catheter is made after the type of the usual retention catheter or if it is secured in place by a strip of adhesive plaster passed across the buttocks the patient is saved from the annoyance of frequent introduction and removal. Aside from the well known value of saline solution by rectum in the treatment of shock, thirst, and hæmorrhage, it is perhaps of greater value still in the prevention of urinary irritation and suppression. Usually the operative patient is depleted of water by purgation and gets but little fluid for several hours prior to, during, and after operation. A considerable amount of toxic and highly irritant material is thrown undiluted on the kidneys and they may prove unequal to the strain. If these toxic bodies are highly diluted with water their elimination will be felt far less.

10. **Furunculosis.**—Gaskill summarizes his experience thus: Furuncles showing no causative factor in any kidney complication can be successfully treated by being opened with a sharpened cotton applicator dipped in phenol, with injections of multivalent staphylococcus vaccines and by applications of salicylic acid ointment from 5 to 15 per cent. strength; the inability of the physician to prepare autogenous vaccines on account of lack of time, laboratory facilities, and experience makes the stock vaccines prepared by trustworthy firms a much more desirable method of procedure in the average case; the pain on opening a furuncle is much less than with the knife, as phenol is slightly anæsthetic; the reaction is very slight after the first injection and is lessened by use of the dry cup; it is not necessary to record the index, as the dose may be regulated by the clinical manifestations.

MEDICAL RECORD

April 15, 1911.

1. Purpura, By J. S. Thacher.
2. An Unusual Case of Fracture of the Bodies of the Fourth, Fifth, and Sixth Cervical Vertebræ, with Injury of the Spinal Cord, By W. H. Swan, Charles A. Powers, and Howell T. Pershing.
3. Reports of Four Cases of Ureteral Calculus, By H. D. Furniss.
4. Metallic Foreign Bodies in the Tissues; A New Telephonic Searcher, By William S. Thomas.
5. Embolism and Thrombosis of the Pulmonary Artery. Report of Three Cases—One of Embolism and Two of Thrombosis. By John Funke.
6. Sterilization of the Skin by a New Iodine Solution, By Ethel McDonald.

7. Report of a Case of Congenital Cystic Degeneration of the Kidney, By H. Brooker Mills.
8. Short Talks with My Students and Others, By Robert H. M. Dawbarn.

1. **Purpura.**—Thacher, after discussing the nature of the disease, says of treatment: It is not satisfactory, although some interesting additions have been made in recent years to our means of overcoming some forms of hæmorrhagic disease. The older remedies have been of little help. Arsenic has sometimes appeared useful, as has also turpentine. In an extreme case of purpura, for which he had tried various remedies without result, the administration of turpentine was promptly followed by rapid improvement and complete cure. The interesting studies of Wright, and the enthusiastic reports which he and his followers have given of the effects of lime salts in shortening the coagulation time and diminishing the tendency to hæmorrhage, have been interesting and stimulating. Others, however, have used these salts in vain. The use of gelatin by mouth is of doubtful efficacy, its use hypodermically is of some danger, and Boggs's experiments failed to show that gelatin reduced the coagulation time of the blood. Weil, after showing that normal serum either from man or from animals, as well as pleuritic fluid, has a marked effect on the clotting of hæmophilic blood, tried the use of normal sera clinically in a few cases with fair results. Leary used normal rabbit serum, in doses of 15 c.c. intravenously, or 30 c.c. subcutaneously, obtaining in general favorable results. The most striking success with the serum treatment of hæmorrhagic conditions is that reported by Welch. He used normal human blood serum subcutaneously in nine cases of hæmorrhage of the newborn. In every case the hæmorrhages stopped promptly after the administration of serum. Compared with the high mortality in such cases, these results are very striking. It must, however, be remembered that hæmorrage of the newborn is in all probability of a different nature from purpura and hæmophilia. Transfusion has also shown a striking efficacy not only in hæmorrhage of the newborn, as in Lambert's case, but also in purpura.

6. **Sterilizing the Skin with Iodine.**—McDonald reviews the history of the revival of iodine as an antiseptic and states his personal preference for the fat dissolving antiseptic solution of carbon tetrachloride and iodine 2 per cent., which is a useful antiseptic, unirritating, and easily applied. It has the advantage of v. Herff's alcohol acetone mixture and of Grossich's tincture of iodine method. If it is desired to completely seal the skin, it may be done by solutions of resin in carbon tetrachloride, as chirosoter of v. Herff, a solution of wax in carbon tetrachloride, or the following solution: Benzin and resin damar, of each 10, ether 100, thymol 0.5. However, this is not as a rule necessary, unless to cover some adjacent suppurating or recent wound. In the sterilization of the skin, the value of antiseptic soaps and of spirits of soaps, as shown by Post and Nicholl, by Schumberg, and by Lenzmann, should be kept in mind; but the skin should be allowed to dry before iodine solutions are applied, as these will not penetrate and, in the case of the tincture, irritate the skin. It is believed that the carbon tetrachloride iodine solution is an efficient substitute for tincture of iodine in the preparation of the skin for operations.

BRITISH MEDICAL JOURNAL

1. Acute Emergencies of Abdominal Disease,
2. Chemical Composition and Mode of Formation of Renal Calculi and Metabolism of Calcium in Gout and Allied Conditions, By Benjamin Moore.
3. The Examination of Suspected Smallpox, By A. F. Cameron.
4. Renography: A Study of the Abnormal Movements of the Living Kidney, and a Hint of Its Bearing and Influence upon Renal Surgery, By E. Hurry Fenwick.
5. Anthrax and Fatalism, By William Mitchell.
6. The Infective Granule in Certain Protozoal Infections, By Andrew Balfour.
7. Note on the Therapeutics of Sugar, By Sir James Sawyer.
8. The Cardigan Cancer Cures, By G. M. Dawkin.

1. **Emergencies of Abdominal Disease.**—Moynihan sums up his conclusions thus: 1. The catastrophes which occur within the abdomen are not, strictly speaking, "acute"; they are, on the contrary, usually the result of the abrupt transition from a quiescent to an acute phase in a disorder of long standing. 2. An acute emergency can, therefore, be prevented by a timely recognition of the value and the significance of the early symptoms, so often ignored or misunderstood, of the chronic malady in which it is the final development. 3. The occurrence of a sudden attack of intolerable agony in the abdomen, associated with tense rigidity of all the abdominal muscles, indicates that there is an acute lesion which needs immediate surgical attention. These two signs, and these alone, are an urgent warrant, and compulsion to us to treat the case at once by operation. 4. A differential diagnosis is generally possible if strict attention be paid to the details of the anamnesis, and if the firm abdominal wall be searched for a tender area of supreme resistance. 5. Shock is not a symptom of perforation, for in the early hours after this disaster has occurred the pulse is very little altered in volume or in rate. 6. In all cases of abdominal pain, especially in children, the use of aperients should be avoided.

3. **Examination in Suspected Smallpox.**—Cameron says the invasion resembles that of other infections, but is more severe; pain in the back is characteristic, disappearing when eruption breaks out. Vesicles may appear in mucous membrane of mouth. Do not place too much reliance on "good" vaccination marks in excluding smallpox. The eruption may be an erythema, a purpura, or vesicles; patches of eruption have a tendency to coalesce. Purpura is noted mainly in the vagrant class, the debilitated, and in those who have not been confined to bed in the earlier stages of the disease.

4. **Renography.**—Fenwick, when he comes across a fixed dense kidney, with profuse hæmaturia, knows he has to deal with a carcinoma of the kidney that has passed through its capsule, and has fixed it so that there is no use operating; that he will not be able to get the kidney away without damaging the inferior vena cava or abdominal

aorta, or without getting a rapid recurrence by opening up planes along which the malignant growth has interpenetrated.

A fixed dense kidney shadow, high up under the costal arch, with profuse, intermittent hæmaturia, means a "too late" cancer, for it denotes a malignant kidney that has become glued, and is therefore inoperative.

A fixed shadow of a dense kidney, with stinking pyuria and shadow of pelvic stones, means nephrectomy, and, if the surgeon is wise, subcapsular nephrectomy by the lumbar incision, without touching or separating more of the pericapsular attachments than is just necessary to enucleate the organ and control its pedicle. The surgeon who acts thus will not lose these severe cases.

A fixed dense kidney shadow without stone, but with coli pyuria or staphylococcic pyuria, generally needs the simplest pelvic drainage through the loin without disturbance of the pericapsular area.

A dense fixed kidney shadow without pyuria needs serum treatment for the treatment of the corticitis. But the subject is too big to enter upon more fully. Time and space permit but to touch upon the fringe of it. The importance, not only radiographically, but clinically and operatively, of the use of forced expiration and forced inspiration with or without vertical posture of the patient is manifest.

7. **Therapeutics of Sugar.**—Sawyer observes that the profession is much indebted to Dr. Goulston for his paper in the *British Medical Journal* for March 18th, showing forth the good effects of the exhibition of sugar in certain forms of cardiac failure. His therapeutic suggestions rest upon sound physiological foundations, based upon recent experimental research.

The writer has used cane sugar freely and frequently during the last ten years or so with success in a variety of morbid conditions. In wasting disorders, in various forms of anæmia, in adynamic varieties of rheumatism, and especially in the neurasthenic manifestations of neurotic persons, he has found the continued ingestion of cane sugar markedly beneficial, increasing weight and power, and appearing to act not merely as a nutrient but also as a tonic in the best sense of that word—namely, as a very valuable medicine, "the continued administration of which in debilitated and relaxed conditions of the body imparts strength and vigor without producing any sudden excitement," and as a corroborant gently stimulating the vital energies to an aroused action by a kind of mild stimulation, slowly produced and permanent in effect. For an adult he has usually prescribed from a quarter to half a pound of lump cane sugar, to be slowly eaten daily, a lump or two to be taken at odd times through the day or night, but not just before a meal, the patient always carrying a little store of the remedy with him, and eating some of it when so disposed.

Now we shall have to think of members of the sugar group especially as sustainers and developers of the musculature of the heart, as in failure of compensation, and in a large variety of cardiovascular troubles. Our obstetric brethren might find the remedy useful in conditions of uterine atony, say as a particular nutrient during pregnancy. Cane sugar may be distinguished from other forms of sugar by its luminosity in the dark when two lumps are rubbed together.

LANCET

April 1, 1911.

1. Ankylostoma Infection, By A. E. Boycott.
2. Insanity. Melancholia, the Depressive Phase of Manic Depressive Insanity, By George M. Robertson.
3. The Diagnosis of Gallstones, By James Sherren.
4. Congenital Abnormity of the Heart: a Case of Cor Triloculare Biatriatum, By Jane I. Robertson.
5. Slight General Enlargement of the Thyreoid Gland as Found in School Children, By C. W. Hutt.
6. The Fading of Aniline Stained Microscopical Preparations, By Alfred C. Coles.
7. Extensive Blistering Occurring in an Infant; Diagnosis of Scurvy, By Stanley Bott.
8. Inhibition of Tumor Growth in Rats and Mice, with a Suggestion for an Empirical Treatment in Man, By Helen S. Grünbaum and Albert S. Grünbaum.

3. **Diagnosis of Gallstones.**—Sherren briefly states the points he wished to emphasize as follows: 1. Attacks of "colic" resembling those due to gallstones may be the result of movable kidney or of duodenal ulcer. It may be impossible to make a certain diagnosis without operation. 2. In the majority of patients with gallstones "indigestion" is present for several years before the first attack of colic. This indigestion has certain features which often enable a diagnosis to be made, but is sometimes suggestive of gastric or duodenal ulcer. An attempt should be made to recognize the condition early, so that operation may be performed at the ideal time, while the stones are still in the gallbladder.

5. **Enlargement of the Thyreoid Gland in School Children.**—Hutt says that the chief object with which this paper has been written is to call attention to the fact that slight general enlargement of the thyreoid is fairly common in some districts. The number of cases investigated unfortunately does not warrant any very definite conclusions. If, however, the investigation should be extended by operations on the subject, made in the course of routine medical inspection of school children in a fair proportion of districts, an amount of data might be obtained of sufficient value to aid in the elucidation of the ætiological factors. In these cases the enlargement of the thyreoid was not connected with such symptoms as anæmia, mental hebetude, increase of the pulse rate, fine tremors of the hands, or exophthalmos. A well known textbook on diseases of children states that in these cases of simple bronchocele the thyreoid is sometimes painful and tender. However, the condition in the cases seen by him did not give rise to any pain nor was the gland tender.

7. **Blistering Diagnosticated as Scurvy.**—Bott saw a case, while sailing through the Red Sea, of an infant with a huge blister on the left side, extending from the back of the neck to the whole of the surface under the chin, and from above downward between imaginary lines round the neck respectively, on a level with the angle of the jaw and with the clavicle; the case resembled one of scalding. Smaller blisters developed on other parts; the child was rickety. Later, there were tenderness over the shins and subcutaneous hæmorrhages.

Lime juice in large quantities was prescribed. Bott concluded that this was a case of scurvy, modified by the tropical climate. Sunburn could be safely excluded, for blisters occurred on unexposed parts and also after the child was sheltered from the sun. The distribution and behavior of the blisters were not in accordance with pemphigus. The action of the lime juice seemed to be remarkable.

8. Inhibition of Tumor Growths.—The Grünbaums, in their series of experiments, proceeded as follows: On the assumption that some kind of protective substance might be formed in animals affected with epithelioma, the serum of a mare having an epithelioma of the vulva was injected into some cases of cancer, more especially one of uterine cancer. A violent reaction followed each injection (which was made locally) and the case was modified from an inoperable to an operable condition. Both operation and further treatment were refused, and when the patient returned later to the workhouse infirmary renewed treatment with the serum from another mare failed to reproduce the former effect. Later experiments showed that in rats regression of inoculated growths may follow the injection of epitheliomatous horse serum and also of simple horse serum, and that this regression occurs in a greater proportion of treated than of untreated rats. Another quite different series of experiments revealed the curious and interesting fact that it was not possible simultaneously to produce immunity against cobra venom and to retain susceptibility to new growth inoculation in mice and rats, nor, conversely, after successful inoculation with tumor, to produce immunity to cobra venom. If the tumor were already present, and continued to enlarge, the animal succumbed to a few ordinarily sublethal doses of cobra venom. On the other hand, in those animals in which immunity could be established, growths which had already reached a size of 1 cm. in diameter would regress. The inference drawn from this series of experiments was that if the treatment caused the regression, such regression must be due to some antibody or antibodies formed as the result of this active immunization. If this were so, passive immunization with antivenom serum should produce similar effects. Therefore a series of animals with well grown tumors was treated with antivenom serum. The Grünbaums think that the results of these experiments warrant the extension of the treatment to human beings, and at the same time show that quite inoperable cases are not fair subjects for such trial, for it seems not unlikely that a similar limitation to that seen in rats will exist in the case of man. Since the experiments suggest that a growth can be influenced only if its weight be under a certain proportion of the body weight, it follows that the subjects suitable for its application will chiefly be those in whom the main mass of growth can be removed by operation, and it is the cooperation of the surgeons that they are now seeking. Any danger of dissemination of growth by operative procedure in advanced cases can be obviated in rats by a large dose of antivenom serum at the time of operation. Three human patients have already received treatment by combined passive and active immunization, but since the mass of tumor was large in each case and was not excised, they were not fair cases for the purpose, although they showed that the treatment in itself was harmless. It is not possible to state whether any lasting effect was produced on the growths, since the patients left the hospital too soon.

PRESSE MÉDICALE

February 15, 1911:

1. Tincture of Iodine in Antisepsis, [illegible]

February 18, 1911:

2. Small Bronchial Dilatations in Children, By [illegible]

February 22, 1911.

3. Malignant Pneumonia, [illegible]

February 25, 1911.

4. Meningitides and Tabes, By Tinel.
5. Organic Basis of Ereuthophobia and Its Treatment, By [illegible]
6. Immobilization in Tuberculous Osteoarthritides, By [illegible]

1. Tincture of Iodine in Antisepsis.—Reclus says that tincture of iodine has been too much neglected at the hands of surgeons until lately; its microbicide properties are marvellous, it is the easiest of the antiseptics to handle, the least dangerous, and the most powerful. Take a contused wound of the hand of a workman, for example; instead of the scrubbing, wrapping, soaking in alcohol, hydrogen peroxide, etc., usually carried out, one need only paint carefully with the tincture. This agent should revolutionize military surgery. Its painful, blistering, and poisonous effects have been grossly exaggerated. It has been used with great success in Africa in gunshot wounds, panther bites, phagedenic ulcers, etc. Reclus's experience with the tincture in a case of fulminating gangrene made a complete convert of him.

2. Infantile Bronchial Dilatations.—Hutinel says that the dilatations, far from being rare in children, are common after attacks of bronchopneumonia; they are not often fatal, but they diminish air space and render the subject liable to tuberculosis. They are never entirely cured. When the affected child coughs, cold compresses should be used, tepid baths, sodium benzoate, later the balsams. If the heart is weak, give camphorated oil hypodermically, with digitalis if necessary. In the intervals respiratory gymnastics is indicated with life in the open air. The writer sends affected children to the sulphur springs.

3. Malignant Pneumonia.—Rist says the black plague of the middle ages was characterized by a pneumonia, hæmoptysis being pathognomonic. Wherever pneumonia exists, there should be a sharp lookout for any excessive morbidity and mortality among rats, and the saliva should be carefully examined for the plague bacillus, particularly if the expectoration is markedly bloody. The plague has often started in Oriental ports disguised as pneumonia, the buboes appearing only at a later period; the plague form is distinguished only by an immediate painful swelling of the spleen and an absence of herpes, points so feebly diagnostic as to render bacteriological investigation imperative. The bacillus is easily discovered and cultivated.

4. Meningitides and Tabes.—Tinel says the relations between syphilitic meningitis and tabes

are becoming continually more evident. The cerebrospinal and tuberculous forms are too transient, disappearing or proving fatal too quickly to have any apparent effect on the posterior cord; but, asks the writer, would it not be wise to study the possible damage caused by these forms on the cord, particularly when they become chronic?

5. Ereuthophobia.—Hartenberg avers that ereuthophobia, or fear of blushing, causes much anguish to the sufferer; he has discovered in many cases considerable cardiac erythism, with dilatation and arterial hypotension. May not ereuthophobia be a masked Basedow's disease? As to treatment, suggestion has not proved successful. Proceeding upon statements of patients, who have noted that atmospheric conditions tending toward vasoconstriction, and the use of alcohol ameliorate their condition, Hartenberg uses galvanism, the positive pole around the neck like a cravat, the negative on the abdomen, the back, or elsewhere. Bromides are given internally and a régime as nearly salt free as possible. He has had two complete cures by this combination of methods.

SEMAINE MÉDICALE

March 1, 1911

1. Dorsal Percussion of the Heart; Grocco's Phenomenon, By Teissier.

March 8, 1911

2. Hexamethylenamine in the Treatment of Acute Biliary Infections and Typhoid Fever, By Chauffard.
3. Should Eclamptic Mothers Nurse Their Infants? By de Bovis.

1. Dorsal Percussion of the Heart; Grocco's Sign.—Teissier, percussing a young woman, twenty-nine years of age, suffering from pleurisy with effusion, drew the attention of his class to a region of dulness in the form of a right angled triangle, the base corresponding exactly with the lower line of sonority, the height with the line of spinal apophyses, and the hypothenuse with a line separating the area of normal resonance from that of subnormal. This is the triangle of Grocco, to which the latter drew attention in 1902 before a meeting of Italian physicians and surgeons at Florence. It reveals not only the presence of liquid in the pleural cavity of the side opposite to the main affection, as Grocco stated, but it may, instead, show a dilated heart or deviated mediastinum. A dilated right auricle is not uncommon in pleurisies of considerable extent.

3. Milk of Eclamptic Mothers.—De Bovis does not doubt that the eclamptic poison can enter the maternal milk, but if care is taken not to allow the baby to nurse at the mother's breast during the first week, especially if convulsions have taken place after birth, there will be no danger of poisoning to the child. If the child is hurried to the breast, however, the danger is grave. It is well known that infants born of mothers who have already had convulsions are not usually long lived.

BERLINER KLINISCHE WOCHENSCHRIFT.

March 13, 1911.

1. The Neurotropia of Salvarsan, By A. Geronne and C. Gutmann.
2. A Case of Lepra Treated with Salvarsan, By Isaac, Senator, and Benda.
3. Use of Collargol and Electrargol in the Sequelæ of Gonorrhœa, By Gennerich.
4. Experiences with Albargin in Practice, By G. Seegall.
5. A Place of Predilection for Spontaneous Fractures in Tuberculous Coxitis, By Otto Ehringhaus.
6. A Cured Case of Ichorous Pyopneumothorax from Swallowing False Teeth, By K. Nicol.
7. Modification of J. Holmgren's Method of Evacuation of Pleural Effusions Instead of Aspiration, By E. Aron.

1. Neurotropia of Salvarsan.—Geronne and Gutmann describe thirteen cases in which neurotoxic effects were produced by the use of salvarsan. The first patient showed symptoms of irritation of the meninges of the brain and spinal cord, the second, basal meningitis with paralysis of both facial nerves, the third, basal meningitis with double facial paralysis and involvement of both auditory nerves, the fourth, bilateral otitis interna, with optic neuritis of the right eye and homonymous hemianopsia, the fifth, facial paralysis, the sixth, oculomotor paresis, the seventh, otitis interna of the left ear, the eighth, optic neuritis with irritation of the meninges of the brain and spinal cord, the ninth, otitis interna of the left ear, the tenth, otitis interna of both ears, first in one and then in the other, the eleventh, bilateral otitis interna, the twelfth, otitis interna with preponderating affection of the vestibular nerve, the thirteenth, otitis interna with Menière's symptom complex.

2. A Case of Lepra Treated with Salvarsan.—Isaac gives the clinical history of this case, Senator describes the conditions found in the nose, and Benda the microscopical findings. The paper is not readily abstracted.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

March 21, 1911.

1. General Principles in the Diagnosis, Indications, and Treatment of Gallstone Disease, By Kehr.
2. Insufficiency of the Cardiac Muscle in Chronic Constipation, together with Remarks Concerning the Albuminuria and Cylindruria Associated with the Latter, By Ebstein.
3. The Use of Pantopon in Obstetrics, By Aulhorn.
4. The Technic of Inflation of the Stomach, By Bardachzi.
5. Muscular Dystrophy and Myotony after Accidents, By Brasch.
6. Eosinophile Intestinal Crises in Infancy, By Langstein.
7. The Isolation of Copper from the Urine and Perspiration of an Artisan Working in Brass, By Goodman.
8. The Valuation of the Pyocyanasis Treatment in the Persistence of the Diphtheria Bacilli, By Sœrensen.
9. Banti's Disease in Hereditary Syphilis and Its Treatment with Salvarsan, By Schmidt.
10. A Simple Apparatus for the Intravenous Injection of Salvarsan Fitted for Use in General Practice, By Hauptmann.
11. A Typical Rodel Injury, By Bertram.
12. The Technic of the Ring Test, By Schnitter.
13. Paratyphus Infections (*Concluded*), By Rolly.
14. Rudolf Ulrich Kroenlein, By Luening.
15. The Nutrition Therapeutics in the Institutions for Treatment of the Lungs, By Liebe.
16. The Cholera in Madeira, By Goldschmidt.
17. The Pestilence, By Loeb.

1. Gallstone Disease.—Kehr discusses the diagnosis, indications, and treatment of this disease very thoroughly in reply to four supposititious questions of a patient: Are gallstones present? Can they be felt? Must I be operated on? Is the oper-

ation dangerous? In reply to the last question he ascribes the mortality met with after the operation to two causes, 1, that many patients and many physicians delay seeking the aid of the surgeon until an extensive suppuration exists in the minute biliary passages, or an inoperable carcinoma has developed, when the death of the patient is ascribed to the operation, or to the operator; 2, that the operation is a rare one and is performed by inexperienced operators whose technic is not perfect. He claims that this operation when performed rightly and at the right time is without danger.

2. **Cardiac and Renal Symptoms in Constipation.**—Ebstein says that when the heart appears to be enlarged it is to be ascertained whether this is not due to a displacement of that organ by a high position of the diaphragm. If this is the case the cardiac symptoms, including insufficiency of the cardiac muscle, can be cured when it is possible to remove the causes that produce the high position of the diaphragm, especially when it is due to chronic constipation. A coincident chronic constipation should be relieved before a bad prognosis is made in cases of albuminuria and cylindruria, and then observations should be made to determine whether these symptoms then clear up. If they do an unfavorable prognosis is not warranted.

10. **A Simple Apparatus for Intravenous Injection.**—Hauptmann describes an apparatus which presents the advantages that a special mixing cylinder is done away with, either salt solution or salvarsan may be injected into the vein by the simple turning of a stopcock, and that with this instrument it is possible to make the injection without assistance.

GLASGOW MEDICAL JOURNAL.

April, 1911.

1. Note on the Treatment of Phthisis Pulmonalis in the Victoria Infirmary, By Alex. Napier.
2. Two Cases of Aneurysm of the Splenic Artery, By R. S. Taylor and John H. Teacher.
3. Additional Notes on the Treatment of Sciatica by Means of Saline Injections, By Archibald G. Hay.
4. The Protein Requirements of the Body, By E. P. Cathcart.

1. **Treatment of Phthisis.**—Napier finds that patients who eat freely of raw meat do best. Some take it easily; to others it may be given in thin bread sandwiches, duly peppered and salted, or mixed with an equal quantity of red currant jelly. As a soup it may be given stirred up in warm or lukewarm stock, with pepper and salt, and a little tomato catsup added as a flavoring agent. The diet list also includes plenty of milk and eggs, and when necessary stimulants. As regards active medicinal treatment: 1. Twice daily the administration after food of a tablespoonful of a 50 per cent. emulsion of cod liver oil, each dose containing 10 grains of glycerophosphates and 10 minims of pure guaiacol; 2. An inhalation or spray of cyllin; 3. A daily injection (subcutaneous) of a Pravaz syringeful, that is, 15 to 20 minims, of sterile almond oil containing in solution 4 per cent. each of iodoform and guaiacol.

This speedily saturates the system with the antiseptics it holds in solution, acts as an excellent expectorant, and deodorizes the sputum. 4. To control irritative or superfluous cough, that is, cough not required for the expulsion of sputum, dilute hydrocyanic acid and morphine acetate are given.

EDINBURGH MEDICAL JOURNAL.

April, 1911.

1. Treatment of Lupus Carcinoma, By Norman Walker.
2. Medical Examination of Employees, By H. G. Zangwill.
3. A National Medical Service. By James Dundae.
4. A Discussion on Duodenal Ulcer, By F. M. Caird.

1. **Lupus Carcinoma.**—Walker no longer uses x rays in treating lupus, as he thinks they lead to carcinoma; he curettes, uses carbon dioxide snow, chromic or arsenious acid.

AMERICAN JOURNAL OF SURGERY.

April, 1911.

1. Ulcer of the Duodenum; Spontaneous Closure of a Duodenal Fistula, By Robert T. Morris.
2. Operations for Fractured Femur, By John B. Walker.
3. Deformities of the Nasal Septum and Their Correction, By Claude Granville Crane.
4. The Surgery of the Thyreoid Gland, By J. E. Jennings.
5. Local Anæsthesia (*Continued*), By Arthur E. Hertzler.
6. Report of the Use of Bismuth Paste in Mastoid Surgery, By Charles Johnstone Imperatori.
7. Cholelithiasis and Cancer of the Gallbladder Involving the Abdominal Wall, By W. H. Luckett.
8. Supernumerary Ductless Glands, with the Report of a Case of Supernumerary Spleen, By Alexander W. Blain.

2. **Fractured Femur.**—Walker sums up his conclusions as to operation in this condition as follows: The operation should be performed as soon after the injury as it has been determined that reposition is possible by no other method. It is better to clear out the clots at once than to wait for absorption. The longer the delay the more the tissues contract and the chief difficulty in the reduction of fractures is the shortening of the tissues which so displaces the fragments. If a fracture be considered as a wound the sooner and more accurately the wound surfaces are brought together and retained in apposition the less will be the swelling, and the more perfect the healing. 1. The operative method is indicated for the immediate accurate reduction of displaced fragments of long bones whenever it is impossible to correct the deformity without operation. 2. For the removal of soft parts between the fragments. 3. When properly performed with suitable instruments it does not cause extensive laceration of tissue nor increase the risk of suppuration. It is absolutely necessary that asepsis be observed. 4. It diminishes the unfavorable results of conservative treatment; it simplifies the usual treatment, for extension is seldom required, and tight splinting is unnecessary. Physiological rest, so essential to rapid and uneventful healing, is frustrated by circular compression. It permits earlier massage and passive motion. 5. It is necessary in cases in which the fragments are irreducible or cannot be moulded into place or cannot be kept in place after a fair trial.

Proceedings of Societies

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting Held in the Borough of Brooklyn, February 6, 1911.

Dr. J. Scott Wood in the Chair.

Venesection and Saline Infusion in Pneumonia.—The first paper of the evening, with this title, was by Dr. James S. Waterman. Having referred to the usual plan of treatment in pneumonia in his service at St. Mary's Hospital, he said that the cases of which he desired especially to speak were those in which, late in the second stage when the crisis is due, instead of defervescence setting in, such alarming symptoms develop that death seems imminent unless something out of the ordinary routine of treatment is done. In discussing these he would endeavor to arrive at some fair estimate of the value of the attempts made to save the patient's life. He gave the details of eight cases, all apparently hopeless, five of which recovered and three died. In Case I venesection was performed on the fifth day with marked benefit, recovery following. In Case II, a man of sixty-one years, venesection was done on the fourth day. Marked improvement in the patient's condition followed, lasting twenty-four hours. Hypodermoclysis was done on the sixth day and was followed by improvement, which lasted until a complication set in, so that he died on the eight day. Case III was that of a woman who said she was forty-three years old, but who had the appearance of being much older. No definite date was determined regarding the pneumonic process, but it was judged to be about the seventh day. Venesection and intravenous infusion were followed by marked improvement as regards pain and distress, as well as some improvement in the general condition; but the patient died three days later. In Case IV, venesection and intravenous infusion on the eighth day, and a second venesection and infusion on the ninth day, were followed by recovery. Case V: Venesection and intravenous infusion on the eighth day; defervescence on the ninth day; recovery. Case VI: Venesection and intravenous infusion on the ninth day; defervescence complete on the fourteenth day; recovery. Case VII: Venesection and intravenous infusion on the seventh day; complicating nephritis; death. Case VIII: Venesection and intravenous infusion on the sixth day, followed by collapse, reaction, and recovery. Old people were said not to stand venesection well. The two oldest patients, while they stood venesection well, and improved after it, did not recover. Case VIII, with complicating nephritis, died. While several of the patients who recovered showed traces of albumin in the urine, this did not seem to have possessed much significance. The venesection relieved the engorged, overworked heart and removed a certain amount of blood loaded with toxic material. The quantity of blood drawn in the different cases varied from eight to twenty ounces. In the case in which two venesections were done, the first bleeding was of eighteen ounces and the second of eleven ounces. The intravenous injections were from twelve to sixteen ounces. The hot saline infusion diluted the toxic blood stream, and possibly acted as a stimulant to the heart and other organs. In all cases the infusion was followed in about two hours by a chill of varying severity, the physiology of which was obscure. In all but one instance the infusion was also followed by a profuse sweating, accompanied by a fall of temperature. The speaker said he was induced to use the saline intravenously because of the pain, discomfort, and uncertainty of absorption in hypodermoclysis.

Dr. Glentworth R. Butler said that, as we all knew, venesection was formerly universally practised in pneumonia; yet it was a fact that the results of the so called expectant method of treatment were more successful than this general venesection. It was commonly recognized, however, that there were some cases of the disease in which venesection was undoubtedly called for. In what kind of cases was venesection advisable? In pneumonia it was found that there were two prominent modes of death. The first was by reason of a vasomotor paralysis. This particular form of death was regarded as due to the action on the medulla of the toxine produced by the pneumococcic infection, and it was similar to the effect caused by section of the splanchnic nerve. The blood pressure was markedly lowered, and more or less blood accumulated in the splanchnic area. As the supply of blood became less and less in the heart, the intracardiac pressure became finally so reduced that the organ was rendered incapable of fulfilling its functions. Clinically, it was noted that the pulse grew rapid and feeble, and that often symptoms of syncope or collapse set in. There was apt to be delirium, and a not uncommon feature of the condition was tympanites. It was in this state of affairs, it appeared to him, that saline venous infusion, or, if that was impracticable, hypodermoclysis, was especially indicated. Sometimes the infusion might be repeated with advantage every two to four hours. The second mode of death referred to was from dilatation of the right ventricle. Here the respiration became peculiarly labored, the liver was usually swollen, and almost invariably œdema of the lungs resulted. This condition was more frequently met with than the first, vasomotor paralysis, and it was in these cases that venesection appeared to be strongly indicated. In some instances he did not doubt, however, that saline venous infusion or hypodermoclysis, in addition to venesection, might prove of value. Personally he had found that strophanthine, administered hypodermatically, was sometimes of great service where the right heart was dilated. In three cases this had produced a really startling change for the better, and he believed that in this agent we had a valuable addition to our therapeutic resources.

Dr. Raymond Clark said he thought that venesection and saline infusion should be separated. There were, it would appear, special indications for each, venesection being applicable in the case of plethoric patients and saline infusion in cases of the asthenic type. Venesection diminished the quantity of blood in the system, and thus removed from the circulation a certain amount of toxines.

The effect of saline infusion was to increase the body of fluid in circulation and to dilute the toxines, and it had been shown that the more diluted the toxines, the less powerful was their effect upon muscle protoplasm. Venesection relieved the strain upon the right heart. In all these cases the prognosis was very bad, but in two instances of asthenic type, with pulmonary œdema, he had seen great benefit result from the abstraction of a small amount of blood, followed by hot saline infusion; the œdema being promptly cleared up. The effect of saline infusion was to dilute the toxines, increase the arterial pressure, and excite the kidneys to activity. It also, by throwing the patient into a profuse perspiration, promoted elimination by way of the skin. Again, its effect upon the general vascular system was beneficial, bringing back the lost tonicity to the vessels, as well as to the heart itself. In many instances he believed hypodermoclysis was preferable to saline venous infusion. It was simpler to perform, and the means were not always at hand for the venous infusion. He had seen three cases with marked toxæmia in which hypodermoclysis had been followed by the best results. In all these cases, whatever the method of treatment adopted, this should be based on scientific reasoning. Intelligent selection was the secret of success.

Dr. Edward E. Cornwall said that he properly had no right to take part in this discussion, as, personally, he had never resorted to either venesection or saline infusion in pneumonia. He desired to state, however, that he would not hesitate to employ either or both of these in any case which seemed to demand it. If we could really abort the attack by an early venesection, it would seem the proper procedure, but as this was doubtful, he believed that bleeding would be of more value when undertaken later on. It would appear to be more logical to do the venesection at a time when the right heart had become overburdened. In his experience, patients died much more frequently from failure of the right heart than from vasomotor paralysis, death being preceded by signs of cyanosis. In these cases there seemed to be a septichæmia, a specific toxæmia. While the right heart was so apt to give way, it had frequently been noted that the left heart generally maintained itself well up to the crisis. As to saline infusion, this would be of no service at all if the right heart were unable to carry over the circulating fluid, no odds how large the quantity of the infusion given. Again, it had occurred to him that the profuse perspiration which had been described might be only a sign of the patient's extreme weakness. As a rule, he would suppose that saline infusion would prove to be of more value after venesection had been performed. In speaking of the routine treatment of pneumonia in his service at St. Mary's Hospital, Dr. Waterman had stated that creosote carbonate was employed. He was glad to learn that the dose given was only five grains, as this could do no harm, but he did not hesitate to say that this drug was of no value whatever in the treatment of pneumonia. On the other hand, he was pleased to hear Dr. Butler so enthusiastic over strophanthine, as he himself had also found it of the greatest service in maintaining the heart's action.

Dr. William J. Cruikshank referred to the significance of tympanites, and said the condition was frequently unrecognized. It was very apt to occur in serious cases of pneumonia, and it seemed to him that by carefully watching the abdomen we might often obtain valuable knowledge as to the real condition of the patient.

Dr. Homer Wakefield said that in this discussion no mention had been made of an agent of the highest value in pneumonia. It was his firm conviction, based on practical experience, that if ergot was judiciously administered hypodermatically, there would be no occasion to resort to either venesection or saline infusion. This drug fulfilled all the indications in these cases and generally had the effect of averting a fatal issue.

Dr. Reynold Webb Wilcox said that not long since, having been invited to speak on pneumonia before a medical society in New Haven, he had looked over some notes by members of his family who had preceded him in the profession. There he found that in 1819, when his grandfather was graduated from the Yale Medical School, the sole remedies employed in the disease were venesection and snake root. Thirty years afterward, when an uncle graduated from the same school, the same agents were used, but with the addition of tartar emetic in very considerable doses.

Polioencephalitis.—Dr. Joseph Merzbach, in this paper, said that an acute polioencephalitis not limited to children was first made known in 1881 by Wernicke, who described a superior hæmorrhagic polioencephalitis which he found in alcoholics. About ten years later acute primary encephalitis of the nonalcoholic was described by a number of observers. In spite of much work done since then, the pathology of the disease was as yet by no means definitely settled, and this was probably due to the fact that recovery takes place in a majority of instances; thus limiting the opportunity for post mortem study. It was probable, however, that hyperæmia and capillary hæmorrhages were the conditions present in the milder cases, while in the graver there were more extensive hæmorrhages, with subsequent softening of the brain. The process was not necessarily limited to the gray matter, as was formerly assumed, but might attack the white substance as well.

As to the ætiology, intoxications and infections had been found to be responsible, and influenza had been regarded as by far the most frequent cause. In the cases observed by himself no microorganisms of any kind could be identified. Those few cases of other observers in which the influenza bacillus was found, showed a mixed infection, and therefore could not be counted upon to verify this assumption. The symptomatology naturally varied with the location of the pathological process. The four cases observed were all in young male adults, whose ages varied from eighteen to twenty-two years, and one of the cases proved fatal. There had been no previous serious illness in any of them, and the state of nutrition was perfectly normal in all. The only prodromatory symptom was headache in two instances, lasting respectively one and two weeks. The onset was sudden in all four cases. In three cases there was a convulsion, and in the fourth, ver-

tigo and unconsciousness, changing into stupor later. More or less rigidity of the neck was present in all. There was headache in all the cases. In one it lasted for two weeks after admission to the hospital, and another for six days, and in the third for three days. Vomiting was also a feature. The mental condition was as follows: Case I, apathetic, dull, unconcerned; stupor deepening into coma, with Cheyne-Stokes respiration. Case II, conscious, but irritated at times. Case III, dull and listless, but could be aroused. Case IV, stupor, which could be interrupted; patient answering in a slow, hesitating manner. In two cases the reflexes were exaggerated; in one, normal, and in one normal at first, and later much diminished.

(*To be continued.*)

Letters to the Editor.

THE WEBSTER ROUND LIGAMENT OPERATION.

CHICAGO, April 12, 1911.

To the Editor:

In a recent issue of the *Journal of the American Medical Association* (February 18, 1911) is an article by Dr. J. M. Baldy entitled Operation for Retrodisplacement of the Uterus. I desire to point out that the procedure described is exactly that which was first published by me in that journal on October 5, 1900.

I am highly gratified that Dr. Baldy advocates the operation so strongly in his paper; but, though he refers to "Webster, who has for the same length of time performed an operation with exactly the same principles," his description is of such a character as to give readers the impression that the operation is Dr. Baldy's invention.

This is not the first paper by this writer in which a similar purpose has been evident. In your *Journal* (April 14, 1906) the same operation was described without the slightest reference to my share in originating it.

I now consider that it is time to point out what Dr. Baldy has really done and to correct some misrepresentations.

In his recent paper the following sentences occur: "The operation is not new. I first referred to it in a paper in 1902." These statements are incorrect.

The operation was originally described by me in the *Journal of the American Medical Association*, October 5, 1900, its essential features consisting in perforation of the broad ligaments, seizing the round ligaments with forceps and drawing them double under the uteroovarian ligaments, and stitching them to the back of the uterus.

In Dr. Baldy's first paper (*American Journal of Obstetrics*, May, 1902, p. 650), seven months later, he commends the principle of my operation, criticises my method of doubling back the round ligaments, and there describes his own procedure, which he regards as an improvement, viz., *to divide the round ligaments close to the uterus and to draw them through the broad ligaments, attaching them to the posterior surface of the uterus.*

Here, then, in clear language is Dr. Baldy's first published account.

I may say, in passing, that I carried out this procedure in a few cases several years ago, but abandoned it as unnecessary. Moreover, there is more liability to intestinal adhesions in connection with it, as some raw edges are apt to be left exposed.

Four years later he published an article in your *Journal* (April 14, 1906, p. 741) of a somewhat amazing character. I quote his own account:

"The operation which I am in the habit of performing for backward displacements of the uterus, and which is frequently designated *by my name*, is one which obtains its result through the use of the round ligaments. The broad ligaments are perforated from their posterior surface by forceps which, on emerging from the anterior surface, are made to grasp the round ligaments, which are then drawn through to the posterior surface with the forceps. The round ligaments are brought together and sutured both together and to the uterus. One who has not seen the result (of this operation) can have no conception of its completeness." Here is evidence of a complete change in the author's practice.

The operation which he lauds so highly is the very one which was described by me in 1901 and which was discarded by him in 1902. He has deliberately described my procedure as his own, and has not even mentioned my name in the entire paper.

Again, in May, 1909 (*Annals of Gynæcology and Pædiatrics*, pp. 142-146), he describes the operation without any reference to me.

It is not pleasant to the writer to carry a grievance into print, but he cannot remain silent while another claims credit which is not his due. Already my operation has been described in a foreign work by Hartmann, of Paris, as Dr. Baldy's, and I consider it time to interfere lest further misrepresentations should appear in medical literature. Moreover, I desire to make it clear that Dr. Baldy, having acknowledged the importance of the principle introduced by me in the surgical treatment of retrodisplacements, criticised my method of operation and recommended another procedure of obtaining the same result. He then abandoned the latter and, after four years, redescribed my original operation, praising it highly but giving me no credit for it. This line has been followed by Dr. Baldy in other papers to which I have referred, until the impression has been created in various quarters that he is the originator of the procedure.

J. CLARENCE WEBSTER, M. D.

Book Notices.

[*We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.*]

Hughes's Practice of Medicine. Including a Section on Mental Diseases and One on Diseases of the Skin. Tenth Edition, Revised and Enlarged. By R. J. E. SCOTT, M. A., B. C. L., M. D., Attending Physician to the Demilt Dispensary, etc. With Sixty-three Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xviii-878. (Price, $2.50.)

This compend of practice, which has always been

of special value to the student and to the physician for quick reference, appears in its tenth edition revised and enlarged by Dr. Scott, the fruits of whose experience and wide reading appear on nearly every page. The work is thoroughly modern and is particularly valuable for its discussion of diagnosis and treatment, an immense number of excellent prescriptions being incorporated under the latter head. It is, we believe, unique in including sections on mental diseases and diseases of the skin.

Atlas of Microscopic Diagnosis in Gynæcology. With Preface and Explanatory Text by Dr. Rudolf Jolly, Priv. Doc., Chief Physician of the Gynæcological Clinic, University of Berlin. Only Authorized English translation by P. W. Shedd, M. D., New York. With Fifty-two Lithographs in Color and Two Textual Figures. London: Kelman Limited. 1911. Pp. [illegible] Price, $[illegible]

With explanatory text, this atlas is a series of splendidly executed lithographs made from drawings. Beginning with the normal appearances, the various pathological conditions of the vulva, the vagina, and the uterus are taken up and each illustrated appropriately. As the author correctly remarks, gynæcology is dependent to-day upon microscopical findings for accuracy of diagnosis. Certainly this sumptuous atlas will be of benefit to those whose duty or whose pleasure lies in the study of microscopic tissues.

A Textbook of Surgical Anatomy. By William Francis Campbell, M. D., Professor of Anatomy, Long Island College Hospital, etc. Second Edition, Revised, with 310 Original Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. [illegible] Price, $[illegible]

The first edition of this valuable addition to our literature on topographical anatomy appeared in 1908 and was reviewed at that time in these pages. (We would refer our readers to our issue of April 11, 1908, page 740.) The new edition does not contain important alterations or changes.

Vaginal Cœliotomy. By S. Wyllis Bandler, M. D., Fellow of the American Association of Obstetricians and Gynæcologists, Adjunct Professor of Diseases of Women, New York Postgraduate Medical School and Hospital, etc. With 148 Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 450. (Price, $5.)

This monograph deals with the various manœuvres and procedures that can be accomplished by the so called vaginal route in contradistinction to ordinary cœliotomy. With many gynæcological operators, both the abdominal and the vaginal methods of operation are chosen as the particular circumstances of the case may dictate; some eschew the vaginal invasion of the peritonæum entirely—and certainly vision is not so clear nor palpation so accurate by this method; while still others prefer this manner of operating altogether. Be this as it may, Dr. Bandler has brought together the technique of this procedure in a very dispassionate manner, alleging not too much for it nor yet underrating its benefits and advantages.

Beginning with the simple vaginal incision in the posterior fornix for the indications very well established in gynæcological practice, he next discusses anterior vaginal cœliotomy. Here the author becomes properly conservative and would limit the application of the operation in ectopic gestation, in moderate sized or large cysts, in inflammatory disease with adhesions, in cases in which other intra-abdominal conditions require attention, and in the presence of pregnancy.

The author next takes up cystocele and vaginofixation and prolapse of the uterus. It is not necessary, we believe, for the bladder, in cases of cystocele, to be pushed back *into* the peritoneal cavity. Of course, this is necessary if a vaginal fixation or suspension of the uterus is to be done; but the ordinary cystocele can be cured as well by pushing the bladder back as far as the peritonæum and uniting the excised edges of anterior vaginal wall—the well known Wertheim-Schauta operation. It will probably always be a matter of dispute whether the Dührrsen method of vaginal fixation or suspension is a wholesome operation for a woman in the child bearing age. The same objection holds to the operation which Dr. Bandler describes for total prolapse of the uterus. We have no doubt that patients will be cured by it; but they will also be cured by less formidable procedures than the one he gives. In fact, a well known German author practises only anterior and posterior colporrhaphy in cases of prolapsus with alleged excellent results. But, if nothing else, Dr. Bandler's operation is certainly thorough.

The succeeding chapters deal with simple vaginal nephrectomy, with diseases of the annexa suitable for vaginal operation, with myomectomy in its various phases, and with vaginal Cæsarean section. We have derived much pleasure and considerable benefit from reading this monograph and we feel confident that others may do the same. While we have no desire to be captious, we confess to an inability to understand why 145 pages of a book on vaginal cœliotomy out of a total of 445 pages are devoted to descriptions of extensive plastic operations. It would have been better, we think, to include them in some other work.

The illustrations by Bosse are admirable—unusually clear and to the point; and the whole work bears the imprint of careful preparation and assiduous industry.

[illegible] *derer Berücksichtigung der Ermüdungserscheinungen.* Von W. Bethage, Halle a.S.: Halle a.S.: Carl Marhold. [illegible] Pp. 51

The author has, with a great amount of labor and industry, reviewed our knowledge of the influence of mental labor upon the body, and his work will be of interest not only to the physiologist but also to the practitioner.

MEDICOLITERARY NOTES

There are few rules without exceptions. Dr. Sara T. Chase, in an address at a Doctors' and Druggists' Get Together Meeting, at Traverse City, Mich., advanced the opinion that if a physician should send in a prescription calling for the mixture in a mortar of sulphur and potassium chlorate, the druggist, in order to keep his shop and himself intact, ought to be allowed the privilege of substituting something just as good.

In *Farm and Home* for April 1st a serial story, The Great Physician, begins; it is by the well known writer and botanist, Eben E. Rexford. The introductory chapters are pitched in a low key. As the hero and heroine, aged just over and just under thirty years respectively, are referred to as middle aged people, we presume that the story is intended for young readers.

* * *

Two quacks are *en route* through Connecticut with a proposition to make to the local physicians; they will advertise that their local representative is ready to administer a dose of salvarsan to all comers for a fee of twenty-five dollars, and will boom the remedy in true, flaring, *Quacksalber* style, guaranteeing a cure, or money refunded, and so on. The practitioner who is fool enough to compound with these knaves will receive five dollars for his trouble and acceptance of all the responsibility.

* * *

A friend writes us that these quacks managed to obtain an *entrée* into his office, considerably under the influence of liquor. It is characteristic that they presumed ignorance of salvarsan and of its history on the part of the physician. One of them explained gravely that the curious name 606 conferred upon it was due to the fact that the first six hundred and six patients treated therewith were "all cured."

* * *

It is worthy of note, particularly by young physicians, that the late Dr. Edward Gamaliel Janeway rose to a position in the medical profession in America surpassed by none without having passed any time in European clinics. The time when it was necessary to supplement an American training by study in France, Germany, or England has gone by; the clinical material furnished in New York, Philadelphia, Chicago, Boston, and Baltimore presents every conceivable aspect of disease, while the postgraduate teaching is now probably superior to anything Europe can offer.

* * *

We desire to draw the attention of the proper societies to the outrageous treatment of a dumb animal in Central Park on April 13th; on a snap diagnosis of colic the keeper of the trick elephant, Hattie, filled up the unfortunate pachyderm with a mixture of two ounces of laudanum and two quarts of whiskey and linseed oil. It is denied that maraschino cherries were added. Be that as it may, all antis, who are familiar with the designs and plans of Providence, well know that it was never intended to pour into an unsophisticated animal stomach any such combination of artificial compounds as laudanum and whiskey, with or without preserved fruit. The unhappy elephant resisted to the last, but in vain; some ten minutes after the vile dose she showed her agitation and annoyance by standing on her head and trying to play the *Jungle Rag* upon a small harmonica, the harmless gift of an admirer. In this case of experimental physiology no anæsthetic was previously used and it was performed in the presence of young and previously innocent children, many of whom were led to indulge in remarks of an irrelevant and ribald nature.

NEW PUBLICATIONS.

Moullin, C. Mansell.—Enlargement of the Prostate: Its Treatment and Radical Cure. Fourth Edition. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. ix-176. (Price, $1.75.)

Ehrlich, Paul, and Hata, S.—The Experimental Chemotherapy of Spirilloses (Syphilis, Relapsing Fever, Spirillosis of Fowls, Frambœsia). With Contributions by H. J. Nichols, J. Iversen, Bitter, and Dreyer. Translated by A. Newbold, and Revised by Robert W. Felkin, M. D., F. R. S. E., etc. With Thirty-four Tables in the Text and Five Plates. New York: Rebman Company, 1911. Pp. xv-181.

Plaut, Felix.—The Wassermann Serodiagnosis of Syphilis in its Application to Psychiatry. Authorized Translation by Smith Ely Jelliffe, M. D., Ph. D., and Louis Casamajor, A. M., M. D. New York: The Journal of Nervous and Mental Disease Publishing Company, 1911. Pp. vii-188. (Price, $2.)

Norris, George William.—Studies in Cardiac Pathology. With Eighty-five Original Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 233 (Price, $5.)

Aikens, Charlotte A.—Hospital Management. A Handbook for Hospital Trustees, Superintendents, Training School Principals, Physicians, and all who are Actively Engaged in Promoting Hospital Work. Illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 488. (Price, $3.)

Anders, James M., and Boston, L. Napoleon.—A Textbook of Medical Diagnosis. With 418 Illustrations in the Text and Twenty-five Plates, Seventeen of Them in Colors. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 1195. (Price, $6.)

Ferrero, Gina Lombroso.—Criminal Man. According to the Classification of Cesare Lombroso. Summarized by his Daughter. With an Introduction by Cesare Lombroso. Illustrated. New York: G. P. Putnam's Sons. 1911. Pp. ix-322.

Jessner, S.—Die Praktische Bedeutung des Salvarsan (Dihydrodiamidoarsenobenzol) für die Syphilistherapie. Mit 3 Abbildungen. Würzburg: Curt Kabitzsch. 1911. Pp. 73.

New and Nonofficial Remedies, 1911. Containing Descriptions of the Articles which have been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association, Prior to January 1, 1911. Chicago: Journal of the American Medical Association, 1911. Pp. 282.

Billings, Frank, and Salisbury, J. H.—The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Volume I. General Medicine. Chicago: The Year Book Publishers, 1911. Pp. 405.

Kocher, Theodor.—Textbook of Operative Surgery. Third English Edition. Authorized Translation from the Fifth German Edition. By Harold J. Stiles, M. B., F. R. C. S. Edin., and C. Balfour Paul, M. B., F. R. C. S. Edin. With 415 Illustrations. In Two Volumes. New York: The Macmillan Company; London: Adam and Charles Black, 1911. Pp. xxiv-723. (Price, $12.)

Czerny, Ad.—Ueber die Bedeutung der Inanition bei Ernährungsstörungen der Säuglinge. Halle a.S.: Carl Marhold, 1911. Pp. 24.

Litora Aliena. By Medicus Peregrinus. (Reprinted from the Boston Medical and Surgical Journal.) Boston: W. M. Leonard, 1911. (Price, 50 cents.)

Gemmel.—Theorie und Praxis in der Beurteilung der Gicht auf Grund einer Erfahrung in 6000 Fällen. Jena: Gustav Fischer, 1911. Pp. 104.

Boruttau, H., und Mann, L.—Handbuch der gesamten medizinischen Anwendungen der Elektrizität einschliesslich der Röntgenlehre. In drei Bänden bearbeitet von Prof. Dr. A. Alexander in Berlin, Priv. Doz. Dr. F. Battelli in Genf, Prof. Dr. J. Bergonié in Bordeaux, et al. Mitherausgeber für den Röntgenband: Prof. Dr. med. M. Levy-Dorn, Leifender Aerzte am Rudolf-Virchow-Krankenhause in Berlin, und Prof. Dr. med. P. Krause, Direktor d. medizinischen Universitätspoliklinik in Bonn. Zweiter Band, erste Hälfte, mit 15 Abbildungen und einer Tafel. Leipzig: Dr Werner Klinkhardt, 1911. Pp. 499.

Forty-fifth Annual Report of St. Francis's Hospital, New York. For the Year 1910. Pp. 46.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, plague, yellow fever, and smallpox were reported to the surgeon-general of the United States Public Health and Marine Hospital Service during the week ending April 14, 1911:

	Date.	Cases.	Deaths.
Cholera.			
[illegible]	[illegible]	[illegible]	[illegible]
Bombay	Feb. 12-18	[illegible]	[illegible]
Calcutta	[illegible]	[illegible]	[illegible]
Presidency—Akyab, Hospital	[illegible]	[illegible]	[illegible]
Presidency—Mandalay, Hospital	[illegible]	[illegible]	[illegible]
Presidency—Rangoon, Hospital	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Mar. [illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Russia—Riga, Libau, Windau	[illegible]	Present	
[illegible]	[illegible]	[illegible]	[illegible]
Plague.			
[illegible]	Jan. [illegible]	[illegible]	[illegible]
[illegible]	Mar. [illegible]	Present	
[illegible]	Feb. [illegible]	[illegible]	[illegible]
Manchuria	Feb. 26-Mar. 4	[illegible]	[illegible]
Manchuria—Harbin, Manchuria	Feb. 26-Mar. 4	Present	
Manchuria—Harbin, Manchuria, suburbs	Feb. [illegible]	368	311
[illegible]	Feb. 19-Mar. 4	[illegible]	[illegible]
[illegible]	Feb. [illegible]	[illegible]	[illegible]
[illegible]	Feb. 26-Mar. 4	[illegible]	[illegible]
[illegible]	Feb. 26-Mar. 4	[illegible]	[illegible]
Indo-China—Saigon	Mar. [illegible]	Present	
[illegible]	Mar. [illegible]	[illegible]	[illegible]
Peru—Lima	Mar. [illegible]	[illegible]	[illegible]
[illegible]	Mar. [illegible]	[illegible]	[illegible]
[illegible]	Jan. 1-Feb. [illegible]	[illegible]	[illegible]
[illegible]	Mar. [illegible]	[illegible]	[illegible]
Venezuela—Caracas	Mar. [illegible]	[illegible]	[illegible]
Yellow fever.			
[illegible]	Mar. 26-Apr. [illegible]	[illegible]	[illegible]
[illegible]	Feb. [illegible]	[illegible]	[illegible]
California	Mar. 27-Apr. [illegible]	[illegible]	[illegible]
[illegible]	Mar. 26-Apr. [illegible]	[illegible]	[illegible]
Louisiana—New Orleans	Mar. [illegible]	[illegible]	[illegible]
[illegible]	Mar. 26-Apr. [illegible]	[illegible]	[illegible]
Utah	Feb. 1-28	[illegible]	[illegible]

Smallpox—Foreign.

Argentina—Buenos Aires	Jan. [illegible]	[illegible]	[illegible]
Argentina—Rosario	Jan. [illegible]	[illegible]	[illegible]
[illegible]	Feb. [illegible]	[illegible]	[illegible]
[illegible]	Feb. [illegible]	[illegible]	[illegible]
Brazil—Para	Mar. 12-18	[illegible]	[illegible]
[illegible]	Feb. [illegible]	[illegible]	[illegible]
Brazil—Rio de Janeiro	Mar. [illegible]	[illegible]	[illegible]
Canada—Fernie	Mar. 27-Apr. [illegible]	Epidemic	
Canada—Fort William	Apr. [illegible]	[illegible]	[illegible]
[illegible]	Feb. [illegible]	[illegible]	[illegible]
[illegible]	Feb. 20-Mar. 12	[illegible]	[illegible]
[illegible]	Feb. 26-Mar. [illegible]	[illegible]	[illegible]
[illegible]	Jan. [illegible]	[illegible]	[illegible]
[illegible]	Feb. 7-Mar. [illegible]	[illegible]	[illegible]
[illegible]	Feb. 7-Mar. [illegible]	[illegible]	[illegible]
Egypt—Port Said	Mar. [illegible]	[illegible]	[illegible]
[illegible]	Mar. [illegible]	[illegible]	[illegible]
[illegible]	Feb. [illegible]	[illegible]	[illegible]
[illegible]	Feb. 19-Mar. 4	[illegible]	[illegible]
[illegible]	Feb. [illegible]	[illegible]	[illegible]
[illegible]	Mar. [illegible]	[illegible]	[illegible]
[illegible]	Mar. [illegible]	[illegible]	[illegible]
Italy—Turin	Mar. [illegible]	[illegible]	[illegible]
[illegible]	Feb. [illegible]	[illegible]	[illegible]
Mexico—Mexico	Mar. 5-11	[illegible]	[illegible]
[illegible]	Mar. 14-20	[illegible]	[illegible]
[illegible]	Mar. [illegible]	[illegible]	[illegible]
[illegible]	Feb. [illegible]	[illegible]	[illegible]
[illegible]	Feb. [illegible]	[illegible]	[illegible]
[illegible]	Mar. [illegible]	[illegible]	[illegible]
Spain—Valencia	Feb. [illegible]	[illegible]	[illegible]
Straits Settlements—Singapore	Mar. [illegible]	[illegible]	[illegible]
[illegible]	Mar. [illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending April 15, 1911.

ARMSTRONG, J. F., Passed Assistant Surgeon. Detailed to represent the Service at the meeting of the American Association of Pathologists and Bacteriologists to be held in Chicago, Ill., April 14 and 15, 1911.

ASHFORD, E. A., Passed Assistant Surgeon. Granted two days' leave of absence, April 5 and 6, 1911, on account of sickness.

BAILEY, C. A., Acting Assistant Surgeon. Directed to accompany the staff of the U. S. Immigration Service from St. John, N. B., to Quebec, P. Q., for the inspection of arriving aliens.

CANNON, C. C., Pharmacist. Granted fifteen days' leave of absence from April 15, 1911.

FOSTER, M. H., Passed Assistant Surgeon. Leave of absence for seven days from April 3d, as ended to read "four days from April 3, 1911."

HOLT, E. M., Pharmacist. Granted one day's leave of absence under paragraph 204, Service Regulations.

HOTCHKISS, J. S., Acting Assistant Surgeon. Granted thirty days' leave of absence to be taken at such times as may be approved by Surgeon B. W. Brown.

LYON, R. H., Assistant Surgeon. Granted two days' leave of absence, April 6 and 7, 1911, on account of sickness.

MCCLINTIC, T. B., Passed Assistant Surgeon. Directed to proceed to Delaware Breakwater Quarantine Station on special temporary duty.

MCKRON, F. H., Passed Assistant Surgeon. Relieved from duty at the Immigration Station, San Francisco, Cal., and directed to report to the commanding officer of the Revenue Cutter *Rush* for duty.

NAULTY, C. W., Jr., Acting Assistant Surgeon. Granted three days' leave of absence from March 7, 1911.

RAMUS, CARL, Passed Assistant Surgeon. Granted six days' leave of absence from March 13, 1911, on account of sickness.

RUSH, J. O., Acting Assistant Surgeon. Granted four days' leave of absence from April 17, 1911.

SPANGLER, L. C., Pharmacist. Directed to proceed to Delaware Breakwater Quarantine Station on special temporary duty.

STIMPSON, W. G., Surgeon. Directed to proceed to Marcus Hook, Pa., and Delaware Breakwater Quarantine Station on special temporary duty.

TEASK, J. W., Assistant Surgeon General. Granted two days' leave of absence, April 7 and 8, 1911.

VOGEL, C. W., Passed Assistant Surgeon. Directed to proceed to Marcus Hook, Pa., on special temporary duty.

WARREN, B. S., Passed Assistant Surgeon. Granted fourteen days' leave of absence from April 8, 1911, on account of sickness.

Casualty.

MCLAUGHLIN, A. A., Acting Assistant Surgeon. Died March 24, 1911.

Boards Convened.

Board of medical officers convened to meet at the Bureau April 11, 1911, for the examination of Assistant Surgeon J. R. Hurley, and reconvened, April 24, 1911, for the examination of Assistant Surgeon W. M. Bryan, to determine their fitness for promotion to the grade of Passed Assistant Surgeon. Detail for the board: Assistant Surgeon General W. J. Pettus, chairman; Assistant Surgeon General L. E. Cofer; Passed Assistant Surgeon I. J. Lumsden, recorder.

Board of medical officers convened to meet at San Francisco, California, April 24, 1911, for the examination of Assistant Surgeon A. J. Lanza, to determine his fitness for promotion to the grade of Passed Assistant Surgeon. Detail for the board: Surgeon Rupert Blue, chairman; Passed Assistant Surgeon M. W. Glover; Passed Assistant Surgeon Friench Simpson, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Department of the Army for the week ending April 15, 1911.

BOLTS, CHARLES J., Lieutenant, Medical Reserve Corps. Ordered to active duty, and will proceed to Plattsburg Barracks, N. Y., for that purpose.

CARRINGTON, LOUIS W., Colonel, Medical Corps. Relieved from duty in the Philippines Department and will proceed from Manila, P. I., to San Francisco, Cal., about September 15, 1911, and upon arrival at the latter city to report by telegraph to the Adjutant General of the Army for further orders.

DE LANEY, M. A., Major, Medical Corps. Ordered to proceed to Philadelphia, Pa., on official business pertaining to the Medical Corps of the Army.

HARMON, DANIEL W., Lieutenant, Medical Corps. Upon being relieved from duty at Fort Davis, Alaska, by First Lieutenant Roberson, will proceed to Seattle, Wash., for further orders.

MCENERY, DOUGLAS W., Lieutenant, Medical Reserve Corps. Ordered to active duty and will proceed to San Antonio, Texas, for duty with the Manœuvre Division at that place.

MCMILLAN, C. W., Lieutenant, Medical Corps. Relieved from duty with the Manœuvre Division, San Antonio, Texas, about July 1, 1911, and ordered to Fort St. Michael, Alaska, for duty.

RAGAN, CHARLES A., Captain, Medical Corps. Assigned to permanent duty at the Walter Reed General Hospital, Takoma Park, D. C.

ROBERSON, HORACE M., Lieutenant, Medical Corps. Relieved from duty with the Manœuvre Dixision, San Antonio, Texas, about July 1, 1911, and ordered to Fort Davis, Alaska, for duty.

TURNBULL, SAMUEL J., Lieutenant, Medical Reserve Corps. Ordered to active duty, and will proceed to San Antonio, Texas, for duty with the Manœuvre Division at that place.

UPSHUR, ALFRED P., Lieutenant, Medical Reserve Corps Ordered to active duty, and will proceed to San Antonio, Texas, for duty with the Manœuvre Division at that place.

WHALEY, ARTHUR M., Captain, Medical Corps. Upon being relieved from duty at Fort St. Michael, Alaska, by First Lieutenant McMillan, will proceed to Seattle, Wash., for further orders.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending April 15, 1911:

AMES, M. H., Passed Assistant Surgeon. Detached from the Naval Hospital, Olongapo, P. I., and ordered to temporary duty on board the *Albany*.

BROWN, E. M., Assistant Surgeon. Detached from the naval proving ground, Indian Head, Md., and directed to await orders.

COOK, F. C., Surgeon. Ordered to command the Naval Hospital, navy yard, Puget Sound, Wash.

CROW, G. B., Assistant Surgeon. Detached from the naval station, Guam, M. I., and ordered home to await orders.

ELMORE, B., Acting Assistant Surgeon. Ordered to the marine recruiting office, district of the Pacific coast, Seattle, Wash.

ELY, C. F., Passed Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, and ordered to the naval proving ground, Indian Head, Md.

HALE, G. D., Passed Assistant Surgeon. Detached from the *Idaho* and ordered home to await orders

HALTON, E. P., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the naval station, Guam, M. I.

HART, S. D., Assistant Surgeon. Detached from the *Mohican* and ordered to the *Barry*.

HOWARD, J. V., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *Supply*.

MANCHESTER, J. D., Passed Assistant Surgeon. Detached from the naval recruiting station, Chicago, Ill., and ordered to duty at the Naval Hospital, naval training station, North Chicago, Ill.

MEARS, J. B., Passed Assistant Surgeon. Detached from the *Franklin* and ordered to the Asiatic Station.

OHNESORG, K., Surgeon. Detached from the *Prairie* and ordered home to wait orders.

O'MALLEY, J. J., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the Asiatic Station.

OMELVENA, J. G., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the Asiatic Station.

PRATT, L. L., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the Asiatic Station.

PUCK, R. F. S., Pharmacist. Detached from the naval medical supply depot, Canacao, P. I., and ordered home.

SMITH, W. B., Passed Assistant Surgeon. Orders of March 17th modified; ordered to duty at the Naval Hospital, Annapolis, Md.

STUART, D. D. V., Jr., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *Idaho*.

THOMAS, G. E., Assistant Surgeon. Detached from the Naval station, Olongapo, P. I., and ordered to temporary duty on board the *Saratoga*.

TOULON, A. J., Assistant Surgeon. Detached from the *Supply* and ordered home to await orders.

TURNER, H. W. B., Assistant Surgeon. Detached from the *Barry* and the Asiatic torpedo fleet and ordered to the naval station, Olongapo, P. I.

Births, Marriages, and Deaths.

Died.

CHASSAGNE.—In Washington, D. C., on Friday, April 7th, Dr. Eugene J. Chassagne.

BULL.—In New York, on Monday, April 17th, Dr. Charles Stedman Bull, aged sixty-six years.

CONNOR.—In Detroit, Michigan, on Sunday, April 16th, Dr. Leartus Connor, aged sixty-seven years.

FITCH.—In Porto Bello, Brazil, on Thursday, April 6th, Dr. Arthur C. Fitch, formerly of Washington, D. C., aged forty-four years.

HART.—In Jersey City, New Jersey, on Monday, April 10th, Dr. Edward P. Hart, aged thirty-seven years.

HILL.—In Oakland, California, on Thursday, April 6th, Dr. Robert L. Hill, aged sixty-nine years.

HOLLINGSWORTH.—In Mountairy, North Carolina, on Tuesday, April 11th, Dr. Joseph M. Hollingsworth, aged forty-three years.

JOHNS.—In Lexington, Kentucky, on Thursday, April 6th, Dr. Emory B. Johns, aged sixty years.

JOHNS.—In West Chester, Pennsylvania, on Thursday, April 6th, Dr. Jacob Rohrer Johns, aged forty-nine years.

LARSON.—In Chicago, Illinois, on Friday, April 7th, Dr. C. L. Larson, aged thirty-five years.

MILLER.—In Elkton, Virginia, on Sunday, April 9th, Dr. Hiram H. Miller, aged seventy-one years.

NAMMACK.—In New York, on Monday, April 17th, Mrs. Mary Halpin Nammack, wife of Dr. Charles E. Nammack.

O'BRIEN.—In Fillmore, Indiana, on Thursday, April 6th, Dr. Charles A. O'Brien.

OLIVER.—In Philadelphia, on Sunday, April 9th, Dr. Charles A. Oliver, aged fifty-seven years.

PUTNAM.—In Auburn, New York, on Wednesday, April 5th, Dr. Frank D. Putnam, aged sixty years.

RADEMAKER.—In Washington, D. C., on Wednesday, April 5th, Dr. Robert C. H. Rademaker, aged thirty-eight years.

RAE.—In Portageville, New York, on Saturday, April 1st, Dr. Robert Rae, aged seventy-six years.

REASONER.—In Colorado Springs, Colorado, on Friday, April 14th, Dr. Richard W. Reasoner, aged forty-nine years.

RUDDIMAN.—In Chicago, on Tuesday, April 4th, Dr. Louise Ruddiman, of Detroit, Michigan, aged sixty-seven years.

SNIVELY.—In Cleveland, Ohio, on Sunday, April 9th, Dr. Addison Snively, aged sixty-six years.

STEWART.—In Toledo, Ohio, on Thursday, April 6th, Dr. William D. Stewart, aged sixty-three years.

STRANAHAN.—In Erie, Pennsylvania, on Tuesday, April 4th, Dr. Chester West Stranahan, aged sixty-five years.

STYLL.—In Newport News, Virginia, on Monday, April 10th, Dr. Richard Thomas Styll, aged fifty-seven years.

VREELAND.—In Stony Point, New York, on Saturday, April 8th, Dr. Isaac S. Vreeland.

WAGNER.—In Indianapolis, Indiana, on Sunday, April 9th, Dr. Theodore A. Wagner, aged sixty-two years.

WRIGHT.—In Atlanta, Georgia, on Sunday, April 9th, Dr. Henry S. Wright, aged fifty-two years.

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THERAPEUTICS OF SYPHILIS,

*Including Preliminary Observations with the Ehrlich-Hata Preparation, Dioxydiamidoarsenobenzol or Salvarsan.**

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Mr. President, and Fellow Members of the Medicosurgical Society of New York:—It is a peculiar pleasure and honor to be invited to read a paper on so important a topic as the therapeutics of syphilis before a society like ours, comprising personal, professional friends who have reached or are reaching positions of prominence and importance in the medical community of our city. This paper is based on personal experience gained in genitourinary work in the outpatient department of the New York Hospital and the House of Relief, and as attending genitourinary surgeon at the People's Hospital, New York. It seems, therefore, fitting to suggest a series of practical points on the subject with more or less the authority of a specialist. By your leave, therefore, the paper will be planned on this basis.

The first point of practical moment for every practitioner to remember is, as already pointed out in another paper (1), by the writer: "In general, the treatment of syphilis must recognize the three broad types of invasion met with, namely: First, the benign form from which patients fully recover, go on to have healthy children, and live fully unaffected by the disease. Second, the relapsing form not infrequently benign in general characters, but severe and uncertain enough to tend toward recurrence of symptoms, unless the patient is careful of himself and the physician is duly watchful. Third, severe form of infection leading to great deterioration of health and not infrequently to death, more or less attributable to the syphilis itself, its complications or its sequels. In modern days, owing to early diagnosis and better management, this form is fortunately uncommon. Hereditary syphilis is the product of the last two forms as a rule."

It is to be remembered that the second or relapsing, and the third or grave form of syphilis may defy all known forms of treatment or their combinations or correlations.

The second dictum for full recognition by all is, that the treatment of syphilis is not merely a matter of medication, but also a matter of management. In other words, it is better to treat the patient as a diseased human being than to treat the disease as having a certain victim in its clutches. Someone has aptly said "It is well to realize not only what kind of disease the patient has, but also what kind of patient the disease has got": very bad English, but a very great truth. This means that in managing a syphilitic, various details must have constant attention by physician and patient. In general, the life habits must be in moderation those of the athlete as to regular hours, exercise, diet, etc. Bad habits should be reduced to their minimum, with special reference to alcoholism, smoking, and eating. The hours of exercise, work, and sleep should be, as far as possible, well balanced. The systemic condition of the patient should ever be a matter of concern. Strength and resistance should be maintained at the highest possible level, and nutrition, exemplified by body weight and the condition of the blood, should be fully in mind. Tonics in the form of medicinal and nonmedicinal measures should always be available.

In all patients the facts of loss of weight, the onset of anæmia, and the invasion of nephritis should be observed and known. Of the several guides as to how the patient is doing clinically, the foregoing, therefore, are the most important in the early stages. The weight of the patient should be observed every week; later every fortnight, and finally once a month. The blood should be similarly examined for anæmia, and also for that new blessing, the complement fixation test discovered by Wassermann, and greatly improved by Noguchi. The nephritis of syphilis is a much more constant and important entity than even syphilographers appear to recognize. This is not due to medication as many claim; otherwise one would see hardly any escape in common experience. The writer has frequently observed patients with marked kidney lesions before any treatment of the syphilis had been taken which improved or even disappeared under treatment and relapsed with a decline of treatment and with a return of the syphilis; also cases which never develop nephritis no matter how hard the mercurial and iodide treatment is pushed; also cases of nephritis which, like the syphilis itself in the given patient, is comparatively unaltered by treatment either to increase or decrease the symptoms. Various German authors have also reported cases of nephritis of nonsurgical type greater in one kidney than in the other during active syphilis. A third practical point which I have proved to my satisfaction is that in the general management of syphilitics better progress is made if the so called alkaline measures of treatment are applied, namely, the drinking of the various alkaline mineral waters with or without well known alkaline mixtures.

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This probably seems to recognize the fact that alkaline is the normal reaction of the body fluids in the main and that an increase thereof or a maintenance thereof to the full normal strength augments the body resistance against disease.

The fourth warning to be given the general practitioner is that the diagnosis of syphilis is of importance. Without offense to the title and aim of this paper, it is well to point out that there are four stages of syphilis, requiring careful recognition: a. The primary or chancrous period, usually easy of determination from clinical appearances, the presence of the *Treponema pallidum*, the Noguchi or Wassermann reaction in the blood, and early lymphangeitis and lymphadenitis.

b. The secondary period, likewise easy of recognition from the presence of signs of syphilis in the skin, mucous membranes, lymphatic glands, blood, and the like.

c. The tertiary period, likewise diagnosticated easily, if symptoms are present. Usually a positive serum diagnosis is very helpful.

d. A fourth or parasyphilitic period is aptly described by French authors, in which the infection of syphilis as an entity is absent, but in which the body damage and late sequels of syphilis are positive and absolute.

The most momentous period of all in syphilis as to diagnosis is that which, beginning with the second period and extending through the fourth, has no symptoms in virtue of competent and energetic treatment. This period is called the most dangerous because it is exactly the period when so many family practitioners deny the existence of syphilis at any time in the patient, because at the moment of examination there are no symptoms of the disease. This leads the patient into a position of false hope and not infrequently to the insane asylum, or to his grave, when a continuance of the treatment might totally change or save him. I believe that the most important warning of this evening's paper is to have all understand that the diagnosis of syphilis should be accepted and confirmed by a good history, carefully taken, in virtue of which it has been ascertained that the previous diagnosis was given by a competent observer or in a first class institution. A diagnosis thus established is absolutely and amply proper grounds for a continuation of the treatment. Absence of clinical symptoms and even in many instances of a positive Wassermann or Noguchi test are not grounds for withholding treatment, if the usual two or three years' duration thereof have not been fulfilled.

5. The fifth axiom for the general practitioner concerns diagnosis also. He should realize that diagnosis of syphilis means not only a proof of the presence of the disease, but also an estimate of the effect that this dreadful scourge is having on the body of the patient. This repeats what has been said a moment ago that diagnosis, if conscientiously made, must comprise knowledge of the presence of the organism of syphilis, *Treponema pallidum*, serodiagnosis, variations in body weight, changes in the quality of the blood, and in the condition of the kidneys, and finally a reasonable measure of the response by the constitution to treatment.

This appreciation of the effects of treatment is in a certain sense the most important detail, because without it, many elements in the subsequent treatment and management are not controlled.

The sixth principle to state for general application is that every syphilitic must have a most careful physical examination, which cannot possibly be considered complete unless all details are duly investigated. This physical examination cannot be recorded as conscientious and final, unless it includes bacteriology, hæmatology, and urology, together with a minute investigation of the body as a whole, beginning with the skin and ending with the nervous system. One need not take time in this paper to describe the details of such an examination; it should be borne in mind, however, that it cannot be made too conscientiously and searchingly. It is very easily possible to make it superficial, hasty, and negligent of some little thing which may mean much to the patient and the doctor. In the end result, due attention must, therefore, have been given to the general condition, nutrition, and digestion, lungs, heart, vessels, blood, lymphatic system, skin, and nervous system, which includes the various reflexes of the pupil, ocular muscles, and fundus. A rapid and convenient suggestion, though not proof of anæmia, may be made with Tolquist's scale. If the findings of this method so indicate, a more positive and scientific proof of anæmia may be secured.

The seventh title for discussion in the interest of the nonspecialist concerns the time of beginning treatment. Probably many in this audience were taught never to begin the treatment of syphilis until the appearance of the rash proved the diagnosis beyond controversy, This was sound doctrine for the days when it was established, respected, and taught, namely, in the prebacteriological epoch. Although for centuries syphilis has acted the part of a bacterial disease the nature of the organism was not proved until the *Treponema pallidum* (*Spirochæta pallida*) was discovered by Hoffmann and Schaudine in 1906. To-day, therefore, it is as sound doctrine to delay treatment of tuberculosis until signs of systemic loss of ground by the patient against the disease are present, as to delay treatment of syphilis until the signs of systemic invasion are present as exemplified in skin and mucous membrane lesions. I would lay down the rule that no one should attempt to treat syphilis at all who has not in his office a first class microscope with a dark field illuminator, or a bacteriological outfit, suitable for staining the *Treponema pallidum*. This diagnosis must be made at the first visit if possible. If there is doubt, a thin section of the lesion of a chancre or a deep scraping of a mucous patch duly mixed with one per cent. sodium citrate in sterilized salt solution, may be sucked into a capillary tube and sent to a competent pathologist for confirmation. Thus treatment may be begun on the day of or within a very few days of the first visit. Combined with the finding of the organism there should be present also by preference a Noguchi or Wassermann complement fixation test, and clinically a more or less typical lymphadenitis and lymphangeitis. How terrified would you and I feel if we were told to-day that we were the victims of syphilis, but that treatment would have to be delayed from six to seven weeks until the organism had spread through our systems

and had their sequelæ and [illegible] but everywhere in the body. Gentlemen, I regard the old doctrine of delay until the secondaries are established as a crime, in virtue of the modern scientific diagnosis of syphilis.

The eighth element in our title is properly a brief review of the various methods of treatment. So far as my experience goes, these should be arranged in their order of merit as follows:

(a) Ingestion;
(b) Inunction;
(c) Fumigation;
(d) Injection;
(e) Combined or alternating;
(f) Mixed treatment.

If reports of literature all over the world based on about one year's experience with the Ehrlich-Hata arsenical compound, dichlordioxydiamidoarsenobenzol (salvarsan) are correct, this should be at the top of the list in merit, at least in the acute and subacute degrees of the disease.

As to the ingestion method, the following facts may be briefly touched upon. Of the common preparations the following are most usually employed in tablet, pill, or powder form. The best in my opinion are in their order of merit mercury and chalk, bichloride, tannate, and cyanide; of less merit are calomel, the biniodide, and protiodide of mercury. If the ingestion method is adopted, it is of primary importance to bear in mind that alkalies should always be given with any of the foregoing preparations and also various digestive aids. For this purpose, pepsin and pancreatin are of great value. Frequent interchanges among the various forms of mercury available should be made, in order to prevent failure of the digestive tract to absorb any one form after a time. Thus, a tannate is usually a good reserve against the advent of diarrhœa from any of the other forms. The chalk present in mercury and chalk is a good antacid and renders this preparation perhaps the best of all internal medication, especially if alkalies, such as sodium bicarbonate in vichy water, are given with it. The so called tonic dose of mercury was developed as a part of the ingestion method. It is determined as follows: the dose of mercury is advanced rapidly from day to day until the earliest signs of diarrhœa or salivation appear. The tonic dose is half the dose required to produce these unfavorable symptoms. The therapeutic ladder by which this determination is reached is as follows: for the first day or two usually one grain of mercury and chalk for example are ingested three times a day, for the second day or two the noon dose is raised to two grains while the morning and evening doses remain at one grain; for the next day or two the morning and evening doses are raised to two grains while the noon dose is decreased to one grain; for the fourth day or two all the doses are two grains each. If slight symptoms of overdose do not now appear, the increase is resumed by the same method, a grain at a time, until said symptoms do occur. Comparatively little can to-day be stated in favor of the ingestion method, beyond the facts that it is most convenient and if properly balanced, usually causes the patient little inconvenience, [illegible] all methods, but it is probably the least effective, because one cannot tell how much ingested medicine of any kind is really absorbed by the body. On account of its convenience and relative inexpensiveness, in that the patients once having had a prescription, do not report frequently to their doctor for observation, the ingestion method has become that which is most commonly employed. If the writer's observation carefully made in clinical and private practice is a guide it may be said that 75 per cent. of all syphilitics have received chiefly the ingestion method. I think, therefore, that the question is normally and properly raised, Is not the ingestion method at least in part responsible for the present status of society, with regard to syphilis in the following points?

(a) That it is steadily spreading throughout the world:

(b) That it accounts for fully 25 per cent. of insanity by statistical records in asylums;

(c) That it accounts for fully 50 per cent. of all organic nervous disease besides insanity;

(d) That thus syphilis has become a more potent factor in the death rate of the community, than any one has yet attempted to compute statistically;

(e) That to-day any patient who has had syphilis and is later the victim of another disease almost invariably requires consideration of this fact in the treatment of said other disease.

The inunction method of treating syphilis is very efficient, but invariably it is also one of the most laborious and dirty processes. It is very difficult to get a patient who is able to rub the salve into his own body conscientiously. Hence the loss of mercury through this fact is indeterminate. If a masseur can be engaged for the rubbings, there is a loss also upon the gloves or hands of this operator, unless he is careful and conscientious. Not many patients, therefore, will give this method its proper, fair trial. I believe it is second in the ascending scale of merit. If the inunctions are to be undertaken the zones of the body, described by Taylor (2), should always be respected, changing from zone to zone, night after night, until the entire body has been covered once or twice, after which the skin should be given a week's rest, when another period of rubbing may be undertaken just like its precedent. I consider highly unfavorable to the inunction method individuals who have a great deal of hair on their bodies, as an unavoidable result is a general folliculitis. Commonly the blue ointment is employed; it may be diluted with or replaced by ammoniated mercurial ointment if the skin becomes intolerant.

Fumigation would be the ideal method but for the fact that it requires special apparatus, is rather expensive, and involves loss of time to the patient. It also takes the patient more away from the observation of the doctor than in my opinion is desirable. Convenient volatilizing lamps for these medications are on the market; likewise patent cabinets which remove some of these difficulties. In fumigations we do not know how much of a given dose is absorbed by the skin and how much lost through dissipation within the cabinet or through its crevices, nevertheless for rapid mercurialization it remains one means of choice.

Injection as a method of treatment is undoubtedly the best of all if the physician will only study the proper details and if the patient can be convinced that the pain it sometimes causes is worth while. Is it not in a sense significant that the Ehrlich-Hata preparation is to be given by injection? To discuss minutely the various advantages of injection in syphilis would make this paper repeat a previous contribution (1). It is fitting to say, however, that the gluteal region is the region of choice, and that it should be divided into eight or ten points of injection, two inches apart, each to be taken in turn from dose to dose so that it is ten or twelve weeks before the starting point is used again. I regard it as professional stupidity to use much the same point repeatedly at frequent intervals. Necrosis or abscess formation must occur in such instances, sooner or later. Since writing the foregoing article, the writer has decreased the interval between the doses from seven to four or five days, and has increased the strength of suspension of salicylate of mercury from 10 per cent. to 66⅔ per cent. or 10 grains in one c.c. Thus, a tenth of a c.c. (one and one half drop) of the suspension will deliver one grain of the medicine. The quantity of fluid injected and the secondary nodes are greatly decreased.

Combined or alternating method of treatment is the term applicable to that form which recognizes that all other forms must be employed in turn for some patients in order to keep them controlled. For example, if a given injection is painful beyond the usual experience, one may turn to ingestion or inunction until the painful node disappears. I have seen patients in whom this alternation was enacted week by week and who did not do well in any other way. It is extremely important to remember this, otherwise the patients will not improve at all under treatment, or, becoming discouraged, pass to the care of another practitioner.

Mixed treatment is the term commonly applied to the addition of potassium iodide to the mercury in whatever form the latter has been exhibited. I believe that under this heading there should also be included the addition of arsenic to the mercury alone or to the mercury and potassium iodide or to the potassium with the mercury excluded. I am personally, however, apt to give mercury with the iodide followed by mercury with arsenic the next week, thus alternating the iodide and the arsenic more or less regularly from week to week. This is particularly valuable in patients whose digestions are rapidly upset by the iodide. The period at which mixed treatment is commonly taken is the later months of the secondary period and practically always in the tertiary period. Many then omit mercury altogether in the later manifestations of the disease. I believe this to be a mistake and am urgently of the opinion that whenever the diagnosis of syphilis has been established, mercury should always be administered, as it is up to the present time the one fully established curative measure against the disease, aside from the great possibilities of dichlordioxydiamidoarsenobenzol.

The therapeutic ladder for giving potassium iodide is no doubt so familiar to all as hardly to bear repeating. Nevertheless, in consultation work I find so many practitioners who do not climb this ladder carefully that the following points must usually be described: The usual initial dose is five grains three times a day. After this has been well borne the dose is increased one grain each day until the total increase of ten grains is reached, thus: first day five grains, second day six grains, third day seven grains, etc., until fifteen grains are given on the tenth day three times. A recession of five grains is then made a grain at a time day by day so that on the fifteenth day ten grains three times a day are being taken, thus: eleventh day fourteen grains, twelfth day thirteen grains, thirteenth day twelve grains, fourteenth day eleven grains, fifteenth day ten grains three times a day. From this point of ten grains another ascent of ten grains is made so that on the 25th day twenty grains three times a day are being taken. Then a descent of five grains is made in just the same way as previously. The writer adopts the little plan of not increasing the dose for a whole week whenever a total advance of thirty grains is made—the patient uses the dose thus secured, by fixed advances of thirty grains each. In this way is it possible gradually to give large doses of iodide without disordering the digestion. Not uncommonly one finds patients who suffer iodism from small but not from large doses of the iodides. In such individuals it is well to begin the medication with thirty grains, from which ascent is then made as described.

It is true in the periods of temporary indigestion from medication of this kind that good management plays itself a part in holding the patient up to the discipline of good treatment and in controlling the disease indirectly. This statement means that the patient will not be discouraged by temporary indigestion. In this management the use of alkalies must not be forgotten.

Periods of rest from the treatment of syphilis have for many years been prescribed. I believe in such periods of rest but am reasonably convinced that most practitioners exaggerate their necessity. I believe the indication for the period of rest lies not in some theoretical rule but rather in observing the signs given from patient to patient, as to the effect of the medicines upon his system and the disease. Again we repeat the rule that we treat the patient as well as the disease. I believe that one may thoughtfully ask the question, May not the terrible record of syphilis as to insanity or organic nervous disease in the community be partly due to the blind following of such rules which would of course mean entirely deficient treatment? Are we not dealing with an infectious disease, a veritable scourge on the face of the earth comparable to tuberculosis in its ravages? We do not give the tuberculous periods of rest from treatment, excepting for special indications furnished by the disease and not by theoretical rules. Why should we deviate from this rule of common sense in syphilis? Personally, therefore, I give the medicines continuously until, for a given reason directly furnished by a given patient, it seems advisable to cease the treatment temporarily or to modify it. In this way I find that the average patient has about one month's rest from treatment in the year.

which is ample, and, being determined by direct indications, is in my opinion wiser and safer than guesswork or arbitrary rules.

This brings us to the final subdivision of this paper which I trust will be accepted in the spirit of a preliminary report on personal observations with the new arsenical preparation of Ehrlich-Hata, dichlordioxydiamidoarsenobenzol.

Historically, to Professor Conrad Alt, of Uchtspringe, in September, 1909, were delivered specimens of this arsenical preparation. Bertheim, a colleague of Ehrlich, chemically produced the substance; a Japanese, Hata, a pupil of Kitasato, established the effect of the preparation on animals. Especially, Hata established the facts that a single injection will cure relapsing fever in rats and mice and that syphilis in rabbits is wonderfully relieved. The odd term "606" arose from the fact that previously 605 different preparations of the same chemical class had been tried and discarded. In man the first injection was given in Uchtspringe by Hoppe. The scientific precaution, however, was taken to try it first on a larger animal, a dog, as to toxicity. To the honor of our profession be it noted that two physicians without the disease received a dose of the medicine by injection in order to prove still further its harmlessness in man. Fortunately all they suffered was pain and swelling for several days. Ehrlich's description is probably correct that the drug has active parasitotropic powers but is not organotropic.

It seems to me that the logical points of this part of this paper must include forecare of the patient before the injection, the preparation of the drug for the injection, the surgical technique of the injection, the range variations and repetitions of doses, the reactions to the injection, the aftercare of the patient, and finally a brief description of the cases within the writer's experience, which will include a brief discussion of the effects of the drug on the various stages of syphilis as reported in literature.

(a) Forecare of the patient is so closely synonymous with selection of the patient as proper for the injection that we will not divide these two topics. It is needless to add also that all the points given under the previous topics of diagnosis and management, in brief, that everything which can possibly be known about the syphilitic patient must be known before dichlordioxydiamidoarsenobenzol is exhibited. The present consensus of opinion from existing experience is that this preparation should not be given in the presence of advanced progressing organic disease: a true statement which includes particularly organic lesions of the heart, arteries, kidneys, and nervous system. The reason is probably that syphilitic lesions of this type have already produced cellular changes which no power on earth can improve or alter. Another reason, particularly with regard to advanced nephritis, is that the action of the kidneys in eliminating the arsenic may induce an exacerbation of the disease and death may follow. Ehrlich did wisely and well in not giving the drug prematurely for universal use by the profession, simply because had he done so no such careful discussion of cases as proper to receive it would ever have been reached. "We could not see the woods for the trees," in other words the records of accidents and failures would have been so numerous that this drug, which may be wonderful in its benefits to man, would have been distrusted if not discarded.

(b) The preparation of the drug is important. At the present time that recommended openly by Ehrlich is a modification of the original method of Alt. This I employ in the following manner: Every implement is sterilized in boiling distilled water for at least five minutes; the drug is then rubbed up carefully with ten c.c. of the recently boiled distilled water until a perfect solution is obtained. This requires fully ten minutes of patient work and is greatly aided by the hot pestle and mortar and the hot distilled water. After this preliminary solution has been obtained, sterilized normal sodium hydrate solution is added, about 2 c.c. for a dose of 0.6 gramme of the drug. The sodium hydrate solution throws down a peculiar stringy precipitate, looking a little like yellow vaseline in water. The mixture is then rubbed up until all precipitation stops. After that the sterilized normal sodium hydrate solution is again added, drop by drop, until the fluid is perfectly clear. This requires at least another five minutes, and is again greatly facilitated by the hot pestle and mortar.

From time to time, more hot, boiled, distilled water may be added until the total fluid is increased to 20 c.c. An injection of more than 10 c.c. into each buttock adds greatly to the pain. For this reason I use a 10 c.c. antitoxine syringe for the purpose of measuring the fluids used in preparing the drug and then for the injection, with the result that I now usually give a trifle less and never more than 20 c.c. total.

While the last stage of preparing the medicine is being completed the skin of the patient should be cleansed, preferably with tincture of green soap, alcohol, and iodine. The iodine is daubed over an area about one inch in diameter at a point one inch above the imaginary horizontal line passing through the upper limit of the intergluteal cleft, about three inches outward from the cleft. This, in my opinion, is the safest point to use, as the injection is then well above the exit of the great sacrosciatic nerve. One may parenthetize the statement that cases of paralysis of this nerve have been reported due to injecting mercury too deeply and too low down into the buttock.

The position of the patient is preferably flat on his face, and a precaution never to be forgotten is that one finger of the operator must be on the gluteus about to receive the injection, determining whether the patient hardens the same or not. If the muscle is held rigid the injection must cease momentarily until the patient relaxes it. Injection into the rigid muscle is extremely painful and moreover forces the injection within the muscle into the fat and in part even upon the skin. Just after the injection, gentle massage for about twenty minutes should be given the part by the nurse. The patient should then lie in bed for an hour or two. The balance of the aftercare will be discussed later. I use a No. 18 needle with a pyramidal point, three inches long under head, as described in my paper concerning the injection treatment of syphilis. The penetration secured with this needle de-

pends on the size of the individual, the amount of fat, etc., all of which are matters of common sense.

The range, variation, and repetition of dose are not yet determined. The consensus of opinion, however, is that the safe rule to follow is 0.6 gramme for adult male and 0.4 gramme for women. Factors in this decision are obviously activity of the disease, general health of the patient, previously known susceptibility to other drugs. The reported limits of dose are 0.3 gramme, and 1.0 gramme in a few cases. Repetition of dose, according to Schreiber, may be safely 0.5 gramme. A case referred to me through courtesy of Dr. Noguchi received 0.6 gramme on the 2nd and 26th of October by Dr. Noguchi, and the same dose by me December 13, 1910. Further notes on this case are later given in this paper. A most important detail is that it is better to err on the side of a full dose than of a deficiency, the theory being that the spirochætæ become arsenofast unless the dose is sufficient to destroy them at once. This is with reference to arsenic, a dictum which I hold to be the fact with regard to mercury in the internal treatment of syphilis, namely, the amount of mercury absorbed during the first few weeks of the disease is so little that the *Treponema pallidum* becomes more or less indifferent to the mercury and the disease goes on. The best region for the injection is undoubtedly the buttocks, although the back below the scapula has been used and the abdomen when the subcutaneous method was in vogue. The intravenous method is very active, but seems to have had less favor with Ehrlich and most authorities than the intramuscular, chiefly because the absorption and the elimination of the arsenic are so rapid. The first five of my cases received the intravenous method largely from the fact that Dr. Krug, of Magdeburg, Germany, agreed with Neisser's dictum in preferring this method. Dr. Krug was presented to me through one of my former associates and had only a few days on shore before returning. Since then I have given the medicine subcutaneously once and intramuscularly twenty times.

(c) Reactions to the injection are both immediate and remote. The latter come on after a few days. In their order of onset, the reactions are pain, swelling, fever, digestive disturbances, nervous irritation, and cutaneous eruptions.

The pain may be unbearable and require morphine. The more slowly the injection the warmer the preparation up to body heat, the more accurately neutral the solution, and the greater the softness of the gluteus, the less will be the pain, as a rule. One element in the pain, concerning which I have written Professor Ehrlich, is whether or not the use of a normal salt solution in distilled water is not preferable to plain distilled water. No chemical reaction can occur, as the salt is already the dichlordioxydiamidoarsenobenzol. As pointed out in my paper on the injection method of treating syphilis, gentleness and deliberation in the injection of the material will greatly decrease the pain. Radiating pains, which are occasionally observed down the backs of the legs, may possibly be due to the proximity of the injection to the sacrosciatic nerves. After the first few hours of active pain it is replaced by a dull distress; thus the whole process simulates the pain of a severe bruise. In fact, that is what it is, with certain chemical reactions added.

The swelling is of two classes, superficial and deep. If the injection has been properly landed within the muscle, only the deep swelling appears, feeling much like a hæmatoma just after the blood is clotted and before it breaks down within the muscle. If the injection has been subcutaneous or, what means the same thing, forced by a rigid muscle into the subcutaneous region, a severe inflammatory reaction may occur, greatly resembling a phlegmon in its early stages. The tissues about the points of injection may become swollen, boggy, and tender over a very large region, as described in one case. These subcutaneous masses are readily movable on the deeper parts as a rule, and commonly break down into aseptic abscesses, that is to say, no germs are found in them, although detritus and pus from fat necrosis are found.

Fever is not frequent, the range being that commonly seen during the first twenty-four hours after most aseptic surgical procedures, 100° to 101°. In some cases fever may be sharp and severe during the first twenty-four or forty-eight hours and then quickly or slowly fall to the normal.

Digestive disturbances are seen at times. Constipation is the most common, perhaps due to the rest in bed. Diarrhœa has been reported. In one of my intravenous cases, there was vomiting of a fluid which closely resembled the medicine injected into the patient. Unfortunately it was not preserved by him for me to see.

Nervous irritation, such as headache, restlessness, thirst, hysterical fear, and the like, have been seen. Eruptions of the skin directly of the arsenical type in patients who did not have an eruption at the time of injection seem to have been reported. Changes, however, in syphilitic eruptions are remarkable. A roseolar syphilide increases its congestive redness and size and may add to it macular spots. Papular syphilides show a kind of red zone surrounding them and look irritated.

The Jarish-Herxheimer phenomenon is peculiar. It consists in increased redness and swelling of macules and the papules. Its significance has not yet been determined. Inasmuch, however, as it is a manifest disturbance of the lesions, Wechselmann's view may be correct, namely, that too little of the drug has been given to destroy the *Treponema pallidum*, hence its obvious activity in the lesions in resisting the drug.

The clinical effect of salvarsan should be considered in series as to the period of the disease under treatment. In open lesions the *Spirochæta pallida* may disappear in from one to seven days. Siesskind, Gérrone, and Huggenberg and Neisser have observed that during this period their common characteristics of activity, form, refringence, coils, and the like become altered. The serum test is all important in watching the disappearance of the infection; as a rule, the change is constant and regular and in from two to six weeks a positive becomes negative. In the nervous lesions this change is a little less marked.

Chancres, condylomata, and other secondary lesions of syphilis heal with great rapidity. Secondary signs upon the skin disappear as a rule with a

similar promptness. Forms, however, with mixed infection, such as rupial syphilides, are much slower and require local treatment in addition. Tertiary lesions, particularly gummata, heal with renewed activity. Tertiary lesions with pain, such as periostitis and in the nervous system, appear to be little affected by the injection unless it be that the process is brought to a standstill. Even if this proved to be true in the future, the method will be acknowledged one of great value because in cases with early diagnosis subsequent ravages of syphilis in the nervous system will be stopped. All this, however, seems to be too good to be true. Time and only time will tell. Syphilis of important organs, particularly the liver and the kidneys, is undoubtedly benefited by injections of 606 according to the literature. When the eyes are attacked, the medicine may not be advisedly given in all forms. The theory that optic neuritis prevented its administration was probably evolved from the fact that some injections were harmful. It has been found, however, that these injections usually contained wood alcohol which was used in some of the original methods for preparing the medicine for injection.

In hereditary syphilis the medicine seems to be of value. Pregnant women, nurslings, and syphilitic children of tender years have been injected. The writer has had four cases, in two husbands and their wives, all giving positive blood tests and a history of repeated miscarriages of syphilitic children. It is too early to give the final data concerning these cases so far as the results are concerned.

(To be continued)

THE PRESENT STATUS OF SALVARSAN THERAPEUTICS.*

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The last decade stands preeminent for the many manumental advances that scientific medicine has made in the studies of syphilis. Within the brief expanse of six years, there took place Metchinkoff's and Roux's[1] discovery of the transmissibility of syphilis to animals, the immortal discovery of *Spirochæta pallida* by Schaudinn and Hoffmann,[2] the discovery of the inoculability of syphilis to other animals besides the ape species, by Bertarelli and Neisser,[3] etc., the discovery of the complement fixation test by Wassermann,[4] and finally, it seems possible, we are on the very threshold of the realization of the dream of sanitarians for ages, namely: the conquest of syphilis.

For a long time Ehrlich has been working on the theory, that there exists a specific chemical affinity between specific living cells and specific chemical substances. This idea is embraced in the term chemotherapy, a new invader in the domains of medicine, and one that is destined to loom mighty and powerful in the medical advances and achievements that the future has in store for the human race.

While Ehrlich is working along these lines, Uhlenhuth[5] and others are successfully experimenting with atoxyl in the treatment of certain protozoon infections, particularly, dourine (a trypanosome infection of horses), chicken spirillosis, and syphilis. For the latter disease, both human and animal, they found injections of atoxyl to possess both a prophylactic and curative effect, but on account of its high toxicity and the frequency of optic nerve atrophy and blindness, it had to be used with extreme caution. Ehrlich now appears upon the scene, and determines to remove its toxic effect and improve it in every possible manner. He first worked out its true chemical constitution, which was entirely different from that which Bechamp its discoverer, thought it to be. He discovered also that it was a very stable compound and capable of numerous modifications by the addition of various substitution compounds. In all he has made and tested about six hundred and thirty different substitution products, of which only four possess the requisite parasitotropic properties without at the same time being organotropic. Of these, three have as their chief constituent arsenic. They are acetylatoxyl, arsenophenylglycin, and dioxydiamidoarsenobenzol.

It is obvious that, without animals, pharmacological investigation of this character is neither possible or justifiable, and herein lies the importance of the discoveries of Metchnikoff and Roux, of Schaudinn and Hoffmann, of Neisser, and others. Bertheim,[6] a coworker of Ehrlich, first made the preparation, and Hata[7] carried out the first experimentation on animals, showing that in mice one injection was sufficient to cure relapsing fever and the disappearance within twenty-four hours of *Spirochæta pallida* from the scrotal chancres of rabbits. Alt and Hoppe,[8] of Uchtspringe, after trying the drug on dogs as a precautionary measure, were the first to inject human beings. They injected twenty-three patients, mostly syphilitic paralytics. Schreiber[9] was the first to use the compound for recent syphilis, injecting in twenty-seven cases. Since that time Ehrlich has sent out about forty thousand doses of salvarsan to over five hundred physicians in various parts of the world with the request that they use it in human syphilis.

The full chemical name of salvarsan is paradioxydiamidoarsenobenzol dihydrochloride. Its formula is C_{12} H_{12} O_2 N_2 As_2 HCl. It occurs as a sulphur yellow powder and is put up in sterile sealed tubes, as it is affected by exposure to the air. When dissolved in water the hydrochloride is decomposed with the liberation of hydrochloric acid, so that the solution is strongly acid, the injection of which is very painful. On this account sufficient alkali is added to combine with the hydrochloric acid of the salt, to liberate the base arsenophenolamin which is insoluble and is injected in the form of a suspension in water or oil, or, if we continue the addition of alkali, we obtain a clear solution, due to the conversion of the acid salt into the sodium salt. As the solutions are not stable, and cannot be resterilized, they must be prepared and injected extemporaneously.

The methods of injecting the drug are three, viz.: subcutaneously, intramuscularly, and intravenously. Some use acid, some neutral, others the alkaline solution; some administer it in watery suspensions; others use oily liquids as vehicles. Each has its advantages and disadvantages. In the neutral suspension, according to the method of Wechselmann,[10] the injection is made subcutaneously. The advantages are that the method is more simple, and the injection is painless if the suspension is exactly neutral. The disadvantages are its slowness of action, liability of abscess formation, and coagulation necrosis. Furthermore, experience has shown that the results by this method are not as good as obtained by the other methods. Practically all of our poor results were obtained by this method. The intramuscular injections of Alt[11] and Lesser[12] are more effective. They are usually given in the gluteal regions, usually half the solution on either side, on account of the bulk of the liquid. These injections are usually exceedingly painful. Lancinating and shooting pains develop within one to several hours, last three to four days, or even longer, and gradually subside. One of our patients was unable to walk for eight days following an intramuscular injection. At the site of the injection there develops a diffuse swelling, which is red, tender, markedly indurated, and lasts about eight days. Abscess formation is rare and the pain and infiltration usually yield to rest, and hot or cold applications. By the intravenous route, if performed properly, there is absolutely no pain, the action is very prompt, and the results are brilliant.

The disadvantages are the more severe and rapidly developing reactive phenomena, which, however, are not serious and last but a short time. The chief disadvantage and the one on which most everybody dilates, is the supposed rapid elimination of the drug (three to four days). It is contended that in the advanced stages of syphilis, owing to the intrenchment of the *Spirochætæ pallidæ* by the pathologicoanatomical changes present, the drug, on account of its rapid elimination by the intravenous method, fails to encounter large numbers of encapsulated spirochætæ. This observation of Fisher and Hoppe[13] is not borne out by clinical experience, because, long after the expiration of this time, we still note continued and progressive improvement of the syphilitic processes. Furthermore, Bornstein[14] has shown experimentally in guineapigs that following intravenous injections of salvarsan, even after one and a half hour, the greater percentage of the preparation has disappeared from the circulation and is deposited in the form of arsenic in the various internal organs, *viz.*, liver, spleen, kidney, muscles, etc., whence it is gradually given off. This applies also to human beings, as he had the opportunity of examining the organs of a man who died fourteen days after an intravenous injection of salvarsan, of an intercurrent affection, and was able still to find considerable amounts of arsenic in the liver, kidneys, spleen, etc.

TECHNIQUE.

In the beginning we employed the cannula method, which is exactly similar to the operation done for venous transfusion of normal salt solution. More recently, we have been employing the original Schreiber method,[15] reserving the cannula method for those rare cases where the Schreiber method is impracticable.

ACTION.

The action of salvarsan is very interesting. If you add salvarsan solution to spirochætæ in a test tube it has no effect, and it is only after it gets into the body fluids and tissues and there undergoes certain reduction processes that it becomes effective. It is theorized that in this state it kills a certain number of spirochætæ, in consequence of which there occurs a liberation of endotoxines which cause a large antibody formation, sufficient to kill the remaining *Spirochætæ pallidæ* and the healing of the syphilitic processes.

Ehrlich[16] believes that salvarsan is specific and advances the following reasons: 1. The disappearance of *Spirochætæ pallidæ* in twenty-four to forty-eight hours. If they do not disappear one of three conditions obtains: the dose has been insufficient, or there has been defective absorption, or we are dealing with a strain of spirochætæ that are arsenic fast.

2. The building of specific antibodies. The first observations of this character were reported by Taege[17] and Duhot,[18] who favorably influenced a congenitally syphilitic child by the injection of salvarsan solution into the mother. Examination of the mother's milk showed no trace of organic arsenic and only minimum amounts of inorganic arsenic. Marinescu, Meirowsky,[19] Plaut,[20] Scholtz,[21] Michaelis, and others, have shown that the serum of patients cured with salvarsan has a curative effect on syphilitic processes, especially of the newly born. Ehrlich[22] says that this method of treating congenital syphilis, *viz.*, through the agency of the mother's milk or the injection of patient's serum should be recommended, because if you inject a solution of salvarsan the tremendous reduction of *Spirochætæ pallidæ* may cause the liberation of too much endotoxine, which might result fatally.

3. Its effect in causing the abolition of the Wassermann reaction.

4. Its effect in relieving pain. The severe pain in certain luetic conditions of the throat and tongue, etc., is relieved in a few hours following the injection. The only explanation is that there must have been a neutralization of the secretion products of the spirochætæ, just like a toxine by an antitoxine, as in that brief interval sufficient anatomical repair could not have taken place.

DOSAGE.

We do not yet know how much it is possible to give human beings without causing harm. If we could judge by animal experimentation it would be possible to give as high as five to six grammes without causing injury. But it is probable that man is more susceptible than the most susceptible of animals, and three grammes will be as high as will ever be given with safety. If this proves true, we can readily realize how ridiculously inadequate the present dosage is, varying between 0.3 and 0.8 gramme. As high as 1.2 gramme has been injected intravenously in one dose without causing any untoward effect. Many observers vary their doses according to the lesions and the stage of the disease, giving large doses in primary and secondary

lesions, small doses in malignant and tertiary lesions.

In some of the primary cases, especially those with the hard indurated chancre, it may be necessary to give a second injection on account of the obliterative endarteritis present, which prevents the salvarsan from reaching every part of the lesion. There is no objection to repeating the injection, as was first thought, should it become necessary. Early in his work Ehrlich learned that if you give repeated small injections of a drug, the organisms soon develop a toleration for the drug, which is also transmitted to the progeny. On this account he has labored to produce a compound, which would with one blow kill all of the organisms, and at the same time leave the body free and uninjured; in other words, parasitotropic, but not organotropic. This he has called his *Therapeia sterilisans magna*. Margulies[23] has made repeated attempts to produce a tolerant strain of *Spirochætæ pallidæ* to salvarsan and has failed. Furthermore, he has not noted any development of supersensitiveness in animals who have received repeated injections of the drug. This holds true also for human beings. As high as seven injections have been given to a human being without harm resulting. In our own work we have noted that the reaction is much less intensive after the second injection. On this account if the reaction was not very marked at the time of the first injection, at the time of the second we give a larger dose.

Kromayer[24] and, more recently, Lesser,[25] think Ehrlich's *Therapeia sterilisans magna* is impractical. Unlike recurrent fever, in syphilis the organisms are not mostly in the circulation, but in the position of spirochætæ rests in various portions of the body, and you need a prolonged, protracted effort in order to get at the spirochætæ deposits. In order to prolong the effect, Kromayer gives intramuscular injections of salvarsan 0.1 to 0.2 gramme in paraffin oil every day or every other day until 1.2 gramme is taken. Ehrlich[26] states that in advanced stages of recurrent fever, extensive tissue changes are present, and one dose is sufficient to sterilize. Therefore, the same should hold true of syphilis.

REACTIVE PHENOMENA FOLLOWING THE INJECTIONS.

These consist of chills, fever, sweats, headache, nausea, vomiting, diarrhœa, thirst, rapid pulse, leucocytosis, etc. We have not observed Herxheimer's reaction in any of our seventy-five intravenous cases, but have seen in several the development of various kinds of eruptions. One patient developed a diffuse generalized eruption, which exactly simulated measles. Another developed at the site of the intramuscular injection a diffuse urticarial rash, another showed a general urticarial eruption. The leucocytosis which follows the injection may reach as high as thirty-eight thousand. Neisser[27] avers that the development of fever following the injection is due to the liberation of endotoxine, and that in nonsyphilitics the administration of salvarsan will not cause any rise in temperature.

In our series the best results were obtained in those patients who had the most constitutional reactions. In the latent cases the reactions were very mild and the temperature low, between 99° and 100° F. In none of our cases did the thermometer record more than 102.5° F., although it may rise as high as 105° to 106° F.

[illegible] ON THE WASSERMANN REACTION.

The effect of salvarsan on the Wassermann reaction is very interesting; Ehrlich[28] lays great stress on its importance. Following an injection one of two things occurs; it either persists or becomes negative. If the reaction persists, notwithstanding the absence of lesions, the result must be considered a failure, and your patient is a candidate for another injection. If it becomes negative, one of two possibilities obtains; either your patient has been cured, as will be evidenced by the persistence of the negative reaction, or we are dealing with a passing negative phase. It is possible that the number of spirochætæ are greatly lessened, and the remaining ones are not sufficient to cause reaction. Later, when they increase, the reaction might again appear. The new positive reaction indicates a recurrence and even without the development of any visible manifestations of the disease, the patient should get another injection.

In apparent opposition to these observations is the fact that in some cases, early stage of primary infection, and in occasional cases of malignant syphilis, the reverse course would be observed, *i. e.*, a beginning negative reaction would become positive. It is explained that in such cases the number of spirochætæ are too small to produce a Wassermann reaction, but that after the reduction of the spirochætæ following the injection, the resulting endotoxines are sufficient to produce the reaction.

The percentage of negative reactions obtained varies with the different observers. Schreiber,[29] by systematic reinjections, has been able to obtain negative reactions in nearly one hundred per cent. of his cases. Isaac,[30] by employing oil emulsions, 0.1 gramme, repeated six times at weekly intervals, produced a negative Wassermann reaction in one hundred per cent.

Gennerich[31] has been able to produce negative reactions in all but three of eight-one severe cases of lues. In our own series[32] we have obtained negative reactions in about seventy-five per cent. of our cases. Weintraud has been able to produce negative reactions in practically one hundred per cent. of the cases by his method of giving three intravenous injections of salvarsan within a period of six weeks. Gerrone[33] offers some interesting figures in this connection. In one hundred and twenty-four patients, following the first injection in fifty-seven the Wassermann reaction became negative, while in sixty-seven it persisted. Following the second injection twenty-five of the thirty-two became negative. From this it is apparent that with systematic reinjections it should be possible to get negative reactions in about ninety per cent. of the cases. It is quite possible that there are certain strains of spirochætæ arsenic fast, and that in these the addition of courses of mercury and potassium iodide will still reduce the percentage of negative reactions. There is no objection to combining mercury and potassium iodide with the salvarsan injections. On the contrary, Ehrlich[34] himself has insisted on the greater advantage if we attack the organisms from all possible sides. It is Neisser's[35]

practice to give three injections of salvarsan within a period of three to six weeks, and at the same time administer a vigorous mercury cure. It has always been the consensus of opinion among the better thinking element of the profession, that while one or two injections of salvarsan will exert incalculable good in combating the affection, it will be only by the reinforcement of the injections by vigorous mercury and potassium iodide administrations (six months to two years) that freedom from recurrences and permanency of cure will obtain. The failure to carry out this routine has been due to the studied attempt to afford salvarsan an unhampered opportunity to prove its real worth and value.

THERAPEUTICAL EFFECTS OF EHRLICH'S REMEDY.

The drug is effective in all syphilitic lesions, primary, secondary, and tertiary. The rapidity of the cure in primary cases depends upon the character of lesion present. Sores of the erosive type heal within four to five days, whereas it takes seven to twenty days to heal the indurated sore. The effect upon the secondaries is even better. I have seen the eruption show a tendency toward recession in less than twenty-four hours following the injection, and entirely disappear in forty-eight to seventy-two hours. Mucous patches of the most resistant type heal and become spirochætæ negative in twenty-four to forty-eight hours. The prophylactic importance of this cannot be over estimated. The effect upon tertiary lesions is almost miraculous in some cases. This sounds paradoxical, but is due to the fact, as explained by Ehrlich, that there are already in the circulation a large number of antibodies, and the injection of salvarsan stimulates the system in a wonderful manner. It may also be due to the fact that we have in this stage a weak strain of spirochætæ and the specific acts with brilliant effect. Gummata disappear and deep ulcers become clean and granulating in a few days. The pain is often relieved in a few hours. The effect of salvarsan on parasyphilis, *e. g.*, tabes dorsalis, varies. In the early stages, before extensive destruction of tissue has taken place, it often acts with astounding effect. In one of our cases of early tabes, the patient, an invalid, shortly after the injection was able to pursue his occupation of insurance collector. Another case of early tabes with oculomotor paralysis, improved wonderfully after the injection of salvarsan; it previously resisted active mercury and potassium iodide medication. The girdle pains are sometimes relieved as if by a hypodermic of morphine and often permanently. But, in advanced stages, we cannot expect salvarsan to replace the fibrous tissue with normal healthy substance.

PRELIMINARY EXAMINATION BEFORE TREATMENT WITH SALVARSAN.

Before administering salvarsan certain preliminaries are necessary. The patient's heart, arteries, lungs, and abdominal organs should be carefully examined. If there is the slightest suspicion of optic nerve involvement, an ophthalmic examination ought to be made. The blood should be tested for the Wassermann reaction, and lesions, if present, should be examined for spirochætæ. Ehrlich advises a careful selection of the patients and rigidly excludes from treatment serious and advanced diseases of the central nervous system, myocarditis, arterial degeneration, aneurysm, previous apoplexy, old age, severe nephritis, diabetes, stomach tumors, etc. Visceral affections of syphilitic origin offer no obstacle to the administration of the drug. On the contrary, splendid results have been reported following the injections in syphilitic diseases of the liver, kidneys, etc. In the beginning, he advised against using it in eye affections. Since, however, it has been administered in all kinds of syphilitic eye affections with good and even brilliant results. (Igerheimer,[36] Schanz,[37] Hirsh,[38] Wechselmann and Seeligohn,[39] v. Grosz[40].)

COMPLICATIONS.

Quite recently a few reports (Rille,[41] Wechselmann,[42] Spiethoff,[43] Kowalewski,[44] Matzenauer,[45] Stern[46]) have been appearing in the literature concerning certain eye and ear disturbances following injections of salvarsan. Up to the present time about forty thousand cases have been treated, with five reports of blindness. Two of these, supposedly from the Lesser clinic, Ehrlich found devoid of foundation, a third was transient, lasting ten minutes, a fourth was in a case of tabes, and the fifth, reported by Finger,[47] was in a patient who had previously received an energetic arsacetin and four intensive enesol cures. Concerning the auditory disturbances, he says: 1. They were confined to patients who received the subcutaneous injection, and were not reinjected; without exception, to patients in the early stage of the disease, two, to six, to eight months after the injection. In the majority of them the Wassermann reaction was negative. The same eye and ear disturbances reported by Finger, have been known to follow mercury and potassium iodide cures in recent syphilis, as reported by Urbantschitsch,[48] Benario,[49] and others.

2. These eye and ear disturbances were not reported by those who were using very large doses (Gennerich,[26] Duhot,[50] Weintraud[26]). With atoxyl and arsacetin the toxic effects are noted in proportion to the size of the dose.

3. The disturbances improved promptly after subsequent antiluetic treatment or following another injection of salvarsan.

4. Temporary ear affections may be due to swelling at the point of exit from the bony foramina by the development of Herxheimer's reaction.

From these considerations Ehrlich concludes that the conditions are nerve recurrences caused by poor circulation, which prevent the salvarsan from reaching them and are not caused by the toxic effects of salvarsan. My colleague, Dr. Geraghty,[51] has had an eye recurrence following intravenous injection; this is the only one I am familiar with following this method

DEATHS.

Up to the present time about twelve to fifteen deaths have been reported following injections of salvarsan. These were mostly in patients who were being treated in general medical clinics or were inmates of insane asylums and the injections were given in the hope of prolonging life. There is only one report[52] in the literature of death occurring in a patient who was in good physical condition at the time of injection, and in which the technique was

faultless. This patient had a gumma of the larynx, and death was supposed to be due to the shock caused by the pain of an intramuscular injection of the acid solution. Fraenkel and Grouven[68] reported a death following intravenous injection of salvarsan. They injected 0.4 gramme of salvarsan diluted in only 20 c.c. of normal salt solution. They did not add any alkali. On account of this death they advised against intravenous injection. Géronne aptly says he would no more follow their logic than their method of injection.

Schreiber and Iversen have treated intravenously over one thousand cases without any deaths or complications. In our own reported series of eighty-five cases we have not any complications excepting an occasional local reaction following the careless displacement of the needle from the vein. Ehrlich knows of five cases where the injections were postponed and the patients died in the meantime. Three were paralytics, one was a case of malignant syphilis and the fifth death could not be accounted for; post mortem examination showed only arteriosclerosis. If the injection had been given, owing to the negative post mortem findings, the death would have undoubtedly been blamed on salvarsan.

[illegible]

What percentage of cases is going to be cured by salvarsan, only the future can tell. That there will be some is undoubtable. With the present inadequate dosage it is possible that one injection will suffice in only the very early cases, before the general dissemination has taken place. Ehrlich believes that *Therapeia sterilisans magna* will be obtained only when a sufficient dose can be given, and in support of this claim he cites the experience of Raven, of Togo, in treating sleeping sickness with arsenophenylglycin, whose action is similar to salvarsan, except that it is more toxic. His results are entirely in proportion to the dose, complete and absolute in large doses and diminishing as the dose is decreased. Interesting in this connection is the work of Ehrlich and Herxheimer, who, in 1907, treated sixty-seven cases of syphilis with arsenophenylglycin. Only twelve could be reexamined, nine had recurrences. Three remained free. Of these two were malignant, and the other was hereditary lues. Alt[54] has been able to observe a negative Wassermann reaction one and a half year after treating tabetics with arsenophenylglycin. Furthermore, Schreiber and Milian have each reported a case treated with salvarsan which subsequently developed new sores at different sites of the genital apparatus with renewed positive Wassermann reaction, presence of *Spirochætæ pallidæ*, etc.

RECURRENCES.

While it is yet too early to speak of the ultimate results concerning the percentage of recurrences, it is noteworthy that there are already reported quite a large number of cases with relatively few recurrences. Alt, in a very large number of cases, has seen only three recurrences in the form of reappearing Wassermann reaction, Gennerich has seen four in eighty-one cases; Duhot, three in four hundred and eighty-five; Doerr, in seven months' experience, has seen only seven recurrences in two hundred cases treated. Fabry has seen six in three hundred and eighty-five cases. Schreiber, by his intravenous methods, has seen only four in over eight hundred cases. In his early experiences with intramuscular injections he had nineteen recurrences in a not large number of cases. In our own series, in over eighty-five cases, we have had one recurrence, although our experience covers only a period of four months. While as time progresses the percentage of recurrences is going to increase, the few reported to date have exceeded our fondest expectations, especially when we consider the large number which either entirely resisted mercury and potassium iodide or recurred while under treatment with these drugs.

CONCLUSIONS.

From our studies and experience, we feel justified in drawing the following conclusions:

1. Salvarsan possesses wonderful symptomatic efficiency; one injection is equivalent to at least four or five months' course of combined mercury and potassium iodide treatment.

2. Intravenous injection is practically harmless, gives rise to neither pain nor complications, and is productive of better results than are obtained by either the subcutaneous or intramuscular methods; furthermore, it produces results more quickly than can be attained by either mercury or potassium iodide, and very often cures lesions where heroic doses of mercury and potassium iodide have failed.

3. On account of its wonderful spirillocide action, syphilis will be less prevalent and there will be less liability to tertiary manifestations and the development of parasyphilis, after the proper method of treatment has been fully ascertained.

Whether this be the "chronic" injection treatment of Kromayer, the combination method of Iversen, the triple intravenous injection method of Weintraud, the triple injection plus mercury method of Neisser, the injections every forty days as long as the Wassermann reaction persists, or the reinforcement of injections by courses of mercury and potassium iodide, for six months to two years, only the future can tell.

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DANGERS AND CONTRAINDICATIONS OF SALVARSAN.

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Although the medical literature of the day is literally flooded with hundreds, even thousands, of articles, brochures, *Arbeiten*, and elaborate treatises on the astoundingly beneficial results obtained from the use of salvarsan in syphilis, it is a rather significant fact that one has to delve deeply into the literature for reports dealing with the other side of the question, namely, the dangers and deleterious effects of the new remedy. It is but natural that the strikingly favorable phenomena observed from its use should so far outshine the unfavorable results, that the good overshadows the bad, until the latter is almost lost sight of; and, in the general enthusiasm, the dangers and contraindications of the drug are likely to be neglected and even ignored.

One real danger would seem to exist in the misconception that salvarsan can cure syphilis after the administration of one or several doses of the drug. Once permit the lay public to get this notion into its head, more cases of insufficiently treated syphilis will be turned loose into the world than has ever been the case under the régime of mercury and the iodides. The truth of this assertion has already made itself manifest among dispensary patients, both here and abroad, who, upon seeing the visible lesions of the disease disappear, consider themselves cured and fail to report for further treatment. Patients of this type are not prone to worry themselves concerning the outcome of the Wassermann test.

The dangers associated with the administration of salvarsan may be grouped under two captions: First, those due to the *local effects* produced by the introduction of the drug into the body; second, those due to the *systemic effect* of the drug on the syphilitic patient.

Local effects: The local effects manifest themselves, to a greater or less extent, in all cases in which the subcutaneous and intramuscular methods of introducing the drug into the system have been employed. No local effects, however, follow the intravenous administration of the solution if it is correctly performed. In considering the unfa

vorable local reactions following the intramuscular method of administration (the subcutaneous method having been abandoned), we must take into account the chemical constitution of the fluid to be injected. We must reckon with the pain, immediate or subsequent, produced by the injection; the danger of injuring a large nerve trunk (as the sciatic); or of infiltrating a large nerve with the salvarsan solution, causing a transient, or more lasting, loss of function in the parts supplied by that nerve. The danger of puncturing large bloodvessels, and the constant danger of embolism must be borne in mind.

Lastly, we have to deal with the more or less severe local reactions often resulting in highly inflamed tumefactions, painful and extensive infiltrations, necrotic masses of tissue, and ulcerating areas, produced by the salvarsan solution at the site of injection. These lesions, although they are usually sterile primarily, are sluggish and indolent, may become infected subsequently, and are always slow to heal. They may result from the use of acid, alkaline, or neutral solutions of the drug, and, to a lesser extent may follow the use of paraffin or oil suspensions; demonstrating the fact that in the chemical constitution of the salvarsan itself lies the essential cause of the local manifestations of the injection.

Other factors which must be considered in searching for the cause of these local manifestations are, first, the susceptibility of the patient; and, second, the region of the body in which the fluid is injected. As is the case with mercury injections, where some patients will stand dozens of injections without the slightest discomfort, others will suffer severely after a single injection. The region of the body into which the needle is introduced, and the depth of the puncture, also play important rôles in the production of local phenomena. As already cited, infiltrations which involve the sciatic nerve will cause severe manifestations resulting from pressure on or injury to that nerve. Injections given in the subscapular region seem more prone to inflammatory after effects than intragluteal injections. In a recent paper, read at the New York Academy of Medicine, Dr. Meltzer strongly favored the lumbar muscles as a site for the introduction of the salvarsan solution.

Systemic effects: Of much more import than the local disturbances produced by the administration of salvarsan, are the general or systemic effects of the drug acting on the body of the syphilitic patient. These systemic effects may vary to a remarkable degree in different individuals, depending upon the manner of administration, the magnitude of the dose of arsenic, and the susceptibility and idiosyncrasy of the patient to the drug.

The intravenous infusion of the drug in some cases is devoid of unfavorable sequelæ, and the patient may show few, if any, signs of systemic disturbance; in other cases, a chain of symptoms presents itself, characterized by a rise of temperature, vomiting, and diarrhœa. In these, within one or two hours after the infusion, the patient experiences a chill and the temperature may rise to 101° to 104° F., and even higher. In uncomplicated cases the temperature drops down to normal within twenty-four to thirty-six hours. This rise of temperature has been ascribed to various causes; the infusion *per se*, the arsenic content of the drug, and the disintegration of the spirochætæ, together or separately, may play parts in the production of the fever. Diarrhœa and vomiting are frequent after effects of the intravenous administration, symptoms which must be reckoned with in patients suffering from cardiac or arterial diseases. The gastrointestinal manifestations also vary greatly in different patients, and are usually more intense after the first dose of the drug than after subsequent doses. As to the probable cause of the gastrointestinal disturbances, they must be ascribed to the toxic effects of the salvarsan on the mucosa, the intensity of the symptoms being, in a measure, dependent upon the magnitude of the dose.

The pulse, in some patients, shows but little variation; in others it becomes small and rapid, becoming normal again with the drop in temperature. Dizziness and headache may be the chief subjective symptoms for twenty-four to forty-eight hours after the infusion.

The chain of symptoms following the intramuscular injection also shows great variations in its intensity, not only in different patients, but even in the same patient after repeated doses. The temperature may remain normal on the first day, rising to 100° to 104° F. on the second or third day, and gradually dropping to normal in two or three days more. The pulse usually remains rapid until the temperature falls to normal. The gastrointestinal symptoms may be entirely absent or they may be trifling in character.

The urine, in many cases, exhibits a transient albuminuria, and cases presenting symptoms of hæmorrhagic nephritis have been reported, though these symptoms were usually of short duration. Suppression of urine, followed by polyuria, has been frequently reported, and disturbances of bladder function, dysuria, tenesmus, and retention have often been observed. The cause of these vesical disturbances has not been determined; but, in those cases in which the salvarsan has been administered by the intragluteal method, they may be due to the mechanical pressure of the injected material on the pudendal nerve plexus.

The study of the deleterious effects of the drug upon the nervous system has received a large share of attention, chiefly because of the unfavorable results following the use of atoxyl and arsacetin on the optic and auditory nerves. Ehrlich himself counsels the withholding of salvarsan from all patients presenting nonsyphilitic lesions of the eyes and ears. Cases of optic nerve atrophy, although few in number, have been reported, some authors contending that this dangerous result may have been caused by a previously administered arsenic compound, such as arsacetin, enesol, or atoxyl. Iritis, neurochorioretinitis, chorioiditis, oculomotor paralysis, and neuritis of the vestibular and cochlear nerves have been reported by numerous observers as following the administration of salvarsan. Labyrinthine deafness, dizziness, nystagmus, and disturbances of the sense of equilibrium have occurred from within a few hours to several days and weeks after treatment. Two cases have been reported by Finger, in which disturbances of the labyrinth occurred nine and twelve weeks after the injections

were given, the Wassermann reaction being negative in both, and the patients showing no signs of secondary syphilis. The author believes these cases to be examples of toxic neuritis of the auditory nerves, directly due to the salvarsan.

In the parasyphilitic diseases, tabes dorsalis and progressive paralysis, the use of the drug at the present time is limited to cases in which the diseases have existed but for a short length of time; *i. e.*, in the early stages. During these early periods, the use of salvarsan has shown some promising results. In the later stages, however, in which degenerative changes have already taken place, the drug is strongly contraindicated, as, in the majority of such cases, the existing symptoms not only have shown no improvement, but have unfortunately evidenced a decided aggravation of the disease, and in some cases death[1] has followed the administration of the drug. The unfavorable effects in diseases of the central nervous system have been ascribed to the influence of the drug upon syphilitic brain lesions, in that it may cause a marked irritation in the cerebral tissues; this irritation resulting in inflammation and œdema within the cranial cavity, causing the alarming pressure symptoms observed in these patients, and sometimes ending fatally.

Recently, a great deal has been written in connection with the effect of salvarsan upon the circulatory system. Several deaths have followed the intravenous administration,[2] the reports of which induced Ehrlich to publish several articles, in which he reiterated his cautions against using the drug in cases of arteriosclerosis, functional diseases of the heart, and, particularly, angina pectoris. In the early stages of cardiac disturbances which are directly due to syphilis itself, and in which the symptoms of the disease are limited to disturbances of the pulse rate—arrhythmia and tachycardia, salvarsan may be cautiously administered, provided there are no indications present of weakening of the heart muscle itself. But in advanced cases of dilatation, especially when coincident with insufficiency, the drug is strongly contraindicated. Heart murmurs alone (according to Karl Grassman), when not associated with marked insufficiency, permit of the use of Ehrlich's remedy, cautiously given in small doses. But in all cases of late syphilis, in which the heart disturbances are characterized by bradycardia, the drug must be withheld, this class of cases presenting the strongest contraindication to the use of the remedy in circulatory disturbances. According to the same author, the exhibition of salvarsan is permissible in cases of syphilitic aortitis, sclerosis of the coronary arteries, and aneurysm of luetic origin, although great care must be exercised in its administration. In nonsyphilitic disturbances of the heart, as in cases of well compensated valvular lesions, the drug may be given a trial in properly selected cases. On the other hand, the drug must never be used in any case of acute inflammatory heart affections, nor in any case of chronic insufficiency, in which degenerative changes of the parenchyma obtain, as arsenic itself produces parenchymatous degeneration of the heart muscle. In cardiac weakness following pulmonary emphysema and in chronic bronchitis, the administration of the drug may result in the gravest consequences. Nor is it advisable to employ the remedy in heart lesions due to chronic nephritis of luetic origin until a larger number of such cases have been reported as reacting favorably to the treatment.

Observations by expert clinicians in all parts of the world on the thousands of cases of syphilis treated with salvarsan, have permitted the formulation of more or less well defined contraindications to the employment of the remedy. The importance of recognizing and of constantly bearing in mind these contraindications cannot be overestimated, especially during the period in which the enthusiasm, both of the profession and the laity, is at white heat. Discrimination in the selection of appropriate cases and withholding the remedy from unfavorable cases, are *sine qua non* to the firm establishment of salvarsan in our antiluetic armamentarium.

Contraindications: As is the case with nearly all remedies, the actual contraindications to the use of this arsenic compound must be designated under two captions, the absolute and the relative. Among absolute contraindications, the majority of observers include the following:

Aortic insufficiency, aortic stenosis, aneurysm.

Diseases of the heart muscle, myocarditis, angina pectoris.

Arteriosclerosis of the peripheral bloodvessels.

Diseases of the central nervous system affecting vital organs, especially when associated with degenerative changes. Cases prone to cerebral hæmorrhage.

Severe cases of retinal and optic nerve lesions.

Advanced cases of pulmonary disease (excepting tuberculosis), and of renal disease of nonsyphilitic character.

Diabetes and gastric ulcer.

Among the relative contraindications may be included:

Well compensated cardiac lesions in the earlier stages of syphilis. Neuroses of the heart.

Diseases associated with fever (acute infectious diseases).

Cachexia; chronic debilitating diseases; old age.

Pregnancy, during the last four or five months.

Cases previously treated with enesol, atoxyl, arsacetin, arsenophenylglycin, hectin, etc.

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[1] Frankel and Gronwen, *Wiederholter tödtlicher Ausgang bei Ehrlich-Hata*, *Berl. klin. Wochenschrift*, No. 34.

[2] Ehrlich, *D. Med. Ztg.*, No. 4.

A NEW APPARATUS FOR ADMINISTERING SALVARSAN ("606") INTRAVENOUSLY.

By Edgar G. Ballenger, M. D.,
Atlanta, Ga.

Ehrlich now says that the intravenous injection of salvarsan is far superior to the subcutaneous and intramuscular methods, and consequently recommends that it be given in this manner unless otherwise distinctly contraindicated. When so given, if a second injection is necessary—and I think it always is—it may be administered only with the certainty that most of the first dose has been eliminated; otherwise we may have grounds to fear that

a store of it is still unabsorbed at the original site of the injection. Ehrlich thinks the possibility of a permanent cure is greater if salvarsan is given intravenously. Much less pain is experienced, too, when it is introduced into the vein, provided none of it escapes subcutaneously around the vein from an imperfect entrance of the needle into its lumen. Sometimes the flow of blood through the needle is so free that the operator feels convinced it is exactly in the right position until he sees a swelling under the skin, which shows that there is an escape of fluid, which causes the patient both immediate and subsequent pain.

After having treated a few patients intravenously with about half of them exhibiting the before mentioned difficulty, I decided to try to improve my technique, and herewith submit a plan which is both simple and effective in determining *if the flow of fluid through the needle into the vein is satisfactory.* The patient's arm is rendered thoroughly free from infection and ligated so as to block the venous blood. The salvarsan, previously dissolved, is mixed with a



expensive.

warm, chemically pure, sterile physiological salt solution and poured through a filter into an ordinary infusion apparatus. The rubber tube from this is then connected to a "three way aspirating stop cock"; into it is connected a 16 or 18 gauge needle. Another glass infusion retort, containing warm, sterile physiological salt solution, is connected by a rubber tube to the third opening in the three way cock—a glass tube being connected near the cock to show by the flow of blood into it when the needle has entered the vein. The air is thoroughly excluded from the tubes, cock, and needle; the stop cock is turned so as to note the direction of the flow when in different positions, and finally adjusted so as to shut off the salvarsan and leave open the way from the needle to the salt solution. A clamp is placed upon the tube leading to the physiological salt solution to prevent its escape while the needle is being introduced. When the needle is thought to be in the vein this clamp is released and the retort holding the salt solution is lowered below the patient's arm. If blood is seen to flow freely through the glass part of the tube near the cock, we may assume that the vein has been entered. The ligature around the patient's arm is then removed and the salt solution elevated and allowed to flow to see if the passage into the vein is free or if a leak occurs from an imperfect entrance. If no swelling appears around the needle after 50 c.c. of the salt solution have been allowed to flow, the cock may be so turned as to allow the salvarsan solution to pass into the vein. This is admitted slowly and discontinued if any untoward symptoms should develop or a leakage under the skin appear during the administration.

This method prevents any loss of blood and eliminates the pain which would follow a subcutaneous escape of the salvarsan solution before the leak was discovered, while the salt solution does not cause pain or leave an induration.

Schreiber and others have previously suggested the injection of a physiological salt solution, but the plan I have described renders easy this preliminary test and there is no danger of displacing the needle while injecting the solutions.

If the vein is not prominent, or if several unsuccessful attempts at introducing the needle have been experienced, cocaine is injected, an incision made through the skin, and the vein exposed so that the needle may be accurately inserted. After the salvarsan has been administered the wound is closed with one or two stitches and covered with a sterile dressing.

The writer has administered one hundred and thirty-six injections of "606," one hundred and eight intravenously and twenty-eight subcutaneously and intramuscularly. He much prefers the intravenous method, although it is technically more difficult for the surgeon. The patient is more willing to take the necessary subsequent treatment. No ill effects have been noticed so far, and the curative results have been uniform.

[illegible] BUILDING

THE INTRAVENOUS INJECTION OF SALVARSAN

By W. Ross Thomson, M. D.,
Warsaw, N. Y.

The intravenous method of administration of salvarsan has the advantage in every possible respect over the intramuscular route. Reports from all over Europe as well as this country bear out this statement, and yet we find many who still persist in giving the intramuscular injections. Many authorities at first believed this method to be a satisfactory one; personal experience and clinical reports, however, have convinced most syphilographers that the results were not nearly so trustworthy as when the salvarsan was given in the vein.

Kopp, of Munich, writes of being discouraged by the frequent local necrosis following subcutaneous injection. He now uses the intravenous route ex-

clusively. In his experience necrosis followed in twenty per cent. of his cases. Since adopting the intravenous method he has not had any unpleasant results.

Marshalkof warns us that subcutaneous and intramuscular injections have no lasting curative action. In patients under observation from two to four months, he found recurrences in fifty per cent. He thinks that salvarsan given by the intravenous route, supplemented by mercury, is the technique of the future.

Among others who now believe that the intravenous method should be used are Schrieber, of Magdeburg, Weintraud, of Wiesbaden, von Notthaft and Wechselmann, of Berlin, and Ehrlich himself.

The preparation of the solution for intramuscular injection is a very tedious, slow process of neutralization; the solution for intravenous injection, on the other hand, is quickly and easily prepared. One hundred c.c. of hot distilled water will promptly dissolve the salvarsan, without the use of the glass beads; two hundred c.c. of hot normal salt solution is added. To this is now slowly added four and two tenths c.c. of four per cent. sodium hydroxide solution until the mixture is clear.

If the apparatus has been thoroughly flushed in every part with distilled water after sterilization, and the sodium hydroxide has been kept in a glass stoppered bottle, there will be absolutely no sediment. All preparations can be easily completed within a half hour.

The unfortunate who submits to the intramuscular injection has just cause to regret it immediately the irritating fluid reaches the tissues. The intense pain, swelling, œdema, and exquisite tenderness last for days, very often for weeks. During the past month I have investigated two cases in New York City in which a general septic condition developed after local necrosis. One patient died, and the other will probably not recover.

Compare this picture with the results of the more modern intravenous method. The patient notices nothing in the least uncomfortable during the operation. I require him to lie still for several hours, after which he may walk about the hospital. Within forty-eight hours he usually goes home.

It has been my custom to cocainize the skin and make an incision one and a half inch long over the median basilic vein. A sharp needle is used and the vein is not ligated afterwards. Two stitches close the skin. The apparatus, consisting of a twenty c.c. glass syringe, a stop cock, and a graduated cylinder, has proved more satisfactory than any gravity contrivance, because the solution is more surely under instant control, and, most important of all, the solution can be kept at a constant temperature, while the fluid in the gravity apparatus becomes considerably cooled before the operation is completed, especially as the fluid is injected very slowly in order to obtain the best results.

It is my belief that the chills reported after the injection of salvarsan were due to the solution being used too cool. The same chill follows the intravenous injection of normal salt solution unless the proper temperature is carefully maintained.

The cases of [illegible] and optic neuritis reported have been due to the administration of doses of over five tenths of a gramme of salvarsan. Some instances of facial paralysis are more than probably due to minute emboli, which of course reflect on the operator's technique.

Prolonged bad effects from the intramuscular injections are very frequent, a very considerable proportion causing enough necrosis to require incision.

To obtain satisfactory results from chemicotherapy in bacterial diseases, a maximum dose must be exhibited at each treatment. Small doses given frequently will soon cause the specific organism to become tolerant to the action of the drug. Then even the largest doses are without effect. Arsenic is easily demonstrated in the necrotic masses following intramuscular injection. It has been found as late as three months after it was used. The hard masses are at best very slowly absorbed, cicatricial tissue almost invariably lasting more than three weeks, even in the most satisfactory cases.

In other words, the intramuscular injection allows a slow absorption of salvarsan in small doses, continued over weeks. The spirochætæ are apt to become arsenic fast (tolerant to arsenic). Realizing this, it is not surprising that Marshalkof reports relapses in fifty per cent. of his cases before he adopted the intravenous method. The recurrences after the intravenous injections have been estimated at four per cent. It is usual to give a second injection about four weeks after the first.

Nearly all authorities agree that it is advisable to administer mercury as a routine measure after salvarsan has been given. I intend to report, later, several cases which had had a very thorough course of mercury salicylate injections without satisfactory results. These cases promptly cleared up under salvarsan alone. In the majority of cases, however, mercury is a valuable adjuvant.

RABIES:

[illegible] Has Been Accomplished; Diagnosis and Treatment.

By George Gilbert Rambaud, M.D.,

New York.

In the April 8th number of the *Journal*, there appeared, under the title Rabies, by John A. McLaughlin, D.V.S., a paper which had been read before the Hudson County, N. J., Practitioners' Club, on February 20, 1911. Upon glancing at the conclusions, in which the author stated that "the laboratory has not made good," and that "the diagnosis of rabies is pure guesswork," I thought that the reading of the whole article might prove as refreshing as that of one of our regretted Mark Twain's stories. But I was disappointed; I found nothing of interest from a humoristic or scientific point of view.

However, when a reporter from one of our large dailies came to interview me on this very article, I realized that the subject was of more import than I had attributed to it. At first I declined to comment on the opinions expressed by Dr. McLaughlin, but finally decided to contradict a few points. In fact, we must never forget that one of our fore-

most duties, as physicians, is to educate the public in all matters pertaining to the prevention of disease. When certain statements are made in a medical publication of the standing of the *New York Medical Journal*, they are very likely to be accepted as true, if not by most of the members of the profession, at least by those laymen into whose hands that publication may happen to fall. The subject of rabies is one about which there still exist a great many false conceptions and beliefs, even, I must be permitted to say, among ourselves. That is why I judge it quite proper to make here a few comments on the article which was recently given space in these columns, and not because I merely wish to pick up the gauntlet apparently thrown down to the laboratory men. They will convey no new knowledge to those who are familiar with the subject, but they may offset, as they should, the impression which may have been created, especially among the Practitioners' Club and among the laity, by Dr. McLaughlin.

I shall not stop to question whether it is scientifically correct for the author to "assert the right to cling fast to *apparent* facts until they are disproved, even though these *apparent* facts run counter to accepted beliefs and laboratory conclusions." I had, till now, been firmly convinced that, nowadays, laboratory conclusions were based upon *well observed* facts. I shall simply take up the few points of the article which need to be placed in their proper light.

Although the object of reporting the different cases mentioned in Dr. McLaughlin's paper is not quite clear to me, I believe that I am right in arriving at the conclusion: that the doctor's idea of the Negri bodies is somewhat uncertain; that the "bite of a rabid dog is absolutely harmless to man"; that the diagnosis of rabies is "pure guesswork."

As for the Negri bodies, which are put under a very severe fire, the doctor seems to base his remarks on six cases (in dogs) he had occasion to observe. In four cases Negri bodies were found in the brain; they were absent in the two other cases. In three of the cases with Negri bodies Dr. McLaughlin evidently did not believe that the animals were suffering from rabies; in the fourth case he does not commit himself. In the two cases in which no Negri bodies were found, one was diagnosticated as distemper by Dr. McLaughlin; as to the other, he does not say. In all these cases it is not stated whether experimental inoculation was resorted to in order to substantiate the microscopical findings. Therefore, a laboratory man would conclude that they meant absolutely nothing. Dr. McLaughlin, nevertheless, says he does not want us to forget that "where the Negri bodies were found in profusion but one symptom was in evidence, and when this one symptom was in greater evidence, the Negri bodies were absent!" Good shot! Mr. Laboratory Man is badly hit! Then, Dr. McLaughlin adds: "I wish to justify myself by this circumstance to ask a question of very serious import, to wit: If, when present in abundance, in but *one* instance, the Negri bodies produce but *one* symptom, [illegible] other symptom? And this question leads to another: If Negri bodies produce but *one* symptom, what is it that produces the symptoms of furious rabies, in which form of rabies this particular symptom is always absent? And this leads to still another: What symptoms, if any, are produced by the Negri bodies?" Well, well! if Dr. McLaughlin had looked up a little the recent literature on rabies, his "task," which he tells us was "no sinecure for a busy everyday practitioner," would have been much lighter in every sense and he would have saved himself the trouble of propounding questions of such "serious import." Let me answer them briefly.

No one has ever maintained that the Negri bodies caused any symptoms. We know from thousands of observations made in dozens of scientific laboratories by trained pathologists, veterinarians, physicians, and biologists, that the Negri bodies are present in the brain of about ninety per cent. of rabid animals. The exact nature of these bodies is not yet positively known, some observers maintaining they are the pathogenic agent of rabies, and others, the majority, asserting they are the product of degeneration of the nerve cells caused by the organism of rabies. In very rare cases, about one in 200, they have been observed when rabies was apparently not present. (In the several hundred cases examined at the New York Pasteur Institute we have not observed one such case.) They are found equally in the two forms of rabies: dumb and furious. They are more readily found in the dumb form, because in the latter the animals are not killed until they exhibit symptoms of paralysis. In the furious form of rabies, when dogs are sometimes killed very early in the disease, the Negri bodies may be absent or very small. But they are found without trouble when the animals have died of the disease or when they have been killed in the paralytic state following the furious stage. Lastly, the number of Negri bodies found in the slides under the microscope does not indicate anything. Whether they are numerous or scarce, they prove that rabies is present; it may have been the furious form or the dumb variety.

Dr. McLaughlin's second assertion is: "as far as my personal experience goes, the bite of a rabid dog is absolutely harmless to man." It seems trivial to refute such a statement, and yet it must be done, when, within the last three days we have had occasion to see two cases of rabies, one in a man bitten on February 7th and who died of it on April 17th, the other a little girl bitten about three months ago and who died yesterday (April 18th). In both cases life would have been saved if those concerned had not shared Dr. McLaughlin's views. In the article on rabies which I contributed to the recent *American Practice of Surgery* I mentioned that some years ago Tardieu and Bouley, in France (the one a world known surgeon, the other a famous veterinarian, dean of the Alfort School, and at one time president of the *Académie des sciences*), had collected 855 cases of persons bitten by rabid dogs; of these, 399, or 46.6 per cent., died of rabies. More recently, in 1908, in India, the Kasauli Institute reported that among 108 persons bitten by supposedly rabid dogs and not treated, 44 died; [illegible] bitten by supposedly rabid jackals and not treated, 18 died [illegible]

over 35 per cent., died of rabies! Will Dr. McLaughlin continue to base his conclusions on the three cases which came within his personal experience? As to the person whom he mentions as having died after receiving the Pasteur treatment, what does it prove? If the patient died of rabies, it simply proves that the Pasteur treatment is not infallible, and we all know that. I just mentioned the Kasauli Institute of India: In 1908, when they collected the ninety-two fatal cases referred to, 1,398 cases were treated at the institute, with a mortality of 3.6 per mille. It oddly compares with the mortality of almost thirty-six per cent. among the nontreated persons. Here, at the New York Pasteur Institute, 2,032 persons received the Pasteur treatment from 1900 to 1910. Rabies was proved in the animals inflicting the bites, either by the presence of Negri bodies or by experimental inoculation, in 1,110 cases, and in 253 cases rabies had been pronounced by veterinarians. In the remaining 669 cases the disease was suspected but no examination had been possible. Among these 2,032, four died of rabies in spite of the treatment—a failure of 1.9 per mille. It not infallible, the Pasteur treatment may be alleged to be quite efficient, may it not?

In taking up the third assertion of Dr. McLaughlin: that "the diagnosis of rabies is purely guesswork," that "if it is impossible for an experienced veterinarian to diagnosticate rabies in the dog, it is just as impossible (I came near saying presumptuous) for the physician to attempt its diagnosis in man," I shall not raise any question of propriety, for "silence is golden." Let me say, however, that the diagnosis of rabies in man is one of the easiest to be made in the field of medicine. Anyone who has ever seen one case can diagnosticate the second one almost at a glance without being presumptuous. As to the diagnosis of rabies in dogs by veterinarians, I would refer Dr. McLaughlin to one of his confrères, Dr. J. F. De Vine, who read a paper on the subject before the First District Branch of the Medical Society of the State of New York, at Newburgh, on October 27, 1910. Dr. De Vine gave an excellent and very full description of the symptoms of rabies in dogs in both its furious and dumb forms. They can be, as he showed it, very clearly defined, instead of being "a pneumonia, inflammation of the bowels, distemper, a cold, any old thing!" We quite agree with Dr. McLaughlin that "in our present state of knowledge it is impossible to say a dog has or has not Negri bodies while he is alive," and I don't see that we should care as long as the dog does not bite anyone and is apparently well. But when Dr. McLaughlin says "the laboratory has not made good" we must differ. Ever since Pasteur's discovery, the laboratory *has* "made good." At first, we had as the only resort to clear up the mystery experimental inoculation. When a dog had been killed, after having shown no symptoms of rabies, or only suspicious symptoms, we had to take a piece of its brain to inoculate guineapigs and rabbits. The process was slow, for the inoculated animals could show no symptoms for from ten to fifteen days or more. This test, however, has always been absolutely positive and trustworthy; it is now the only infallible one. In 1900, Van Gehuchten and Nelis found in rabies microscopical lesions which are quite specific, if not in nature, at least in their location. The characteristic changes in the pyramidal cells of the cerebrospinal ganglia enabled us to make a correct diagnosis in at least eighty-five per cent. of the cases. In 1903 Negri helped to make the diagnosis of rabies still easier for laboratory workers; the bodies described by him, and which now bear his name, are present in ninety per cent. of the cases of rabies in dogs and other animals. In the remaining ten per cent. negative cases we still have to resort to experimental inoculation. Therefore, if the laboratory can "make good" in clearing up the diagnosis of rabies within a few hours in ninety per cent. of all cases, and in several days in the remaining ten per cent., what more can Dr. McLaughlin want?

I might dissect more elaborately Dr. McLaughlin's paper, but it would serve no useful purpose. The doctor evidently meant well, and was surely to be complimented when he was so interested as to take a sick dog with him to bed every night to watch him. I must confess that I never carried the love of science so far.

In conclusion, I agree with Dr. McLaughlin when he says that "in rabies, the human general practitioner must join hands with the veterinary everyday practitioner to clear up the diagnosis of rabies" (I leave out the mystery and confusion part of it), for the physician who has not seen the dog which bit the patient coming to him for treatment and advice, needs the veterinarian's opinion on the dog's condition whenever there is something abnormal. But I must add:

I.—The laboratory *has "made good,"* and when an uncertain or no diagnosis was made during the life of an animal submitted for examination, it can, within a few hours, in ninety per cent. of the cases, clear up the case.

II.—The Negri bodies, when present, prove in 199 cases out of 200 that the animal was rabid. Their absence means that, with a probability of ninety per cent., the animal was not rabid. Then, experimental inoculation will settle the case within twelve to twenty days.

III.—The bite of a rabid dog is harmful to man in proportions varying from ten to ninety per cent., according to different conditions.

NEW YORK PASTEUR INSTITUTE

HICCOUGH: A FEW REMARKS AS TO TREATMENT.

By Howard D. King, M.D.,
New Orleans, La.

Few conditions present a more complex problem than does hiccough, and for that reason the writer believes a short review of the subject would not be untimely or out of place.

Frequent disputes among lexicographers as to the term justify the writer in tracing briefly its etymology. The spelling "hiccough" is recent, being a combination of the syllables "hic" and the latter term of "cough," which is without either physiological or etymological basis; the pronunciation, with perhaps the rarest exceptions, is still that

of the older form "hiccup," earlier given variously as "hickup," "hickupsnickup," "hickhop," "hickcock," "hichcock," and "hickett," with quasi diminishing suffixes, ock, et; but the "hick," a syllable aptly expressive of the spasmodic sound produced by the conditions giving rise to the particular disturbance, is found in all references to the origin of the term to which the writer has been able to obtain access. The term singultus is rarely used.

Before any intelligent discussion on the question of treatment can take place, it is necessary that the physiology or mechanism of the hiccough be appreciated. Hiccough may be described as an involuntary sudden contraction or descent of the diaphragm, whereby a vacuum is formed in the chest, into which outside air attempts to rush, but is denied entrance by the sudden closing of the glottis, the impact causing a characteristic sound. The impressions to the respiratory centre are afferent and efferent (though the former may be peripheral or central in origin), while the direct cause of the spasm is the transmission of efferent impressions to the diaphragm through the agency of the phrenic nerve and the laryngeal branches of the vagus to the glottis, resulting in sudden closure as the air is inspired.

Passing now to the practical significance of the subject, this sudden, spasmodic, diaphragmatic contraction, which is often regarded as of small moment, may become one of the greatest importance in certain acute or chronic diseases. The attacks vary in duration and, as a rule, are short, but may be experienced for days or weeks, even months—the prolonged attacks rapidly exhausting the sufferer; they are attended with considerable distress and greater annoyance. Fortunately, in the great majority of cases, the causes responsible for its presence are quickly and easily eliminated.

The remedies offered for the alleviation of this distressing condition are almost innumerable; some are valuable, but the majority are useless. Before resorting to any measures for the relief of hiccough, the causation or the type of the condition should be determined. The condition may be:

A. Gastrointestinal: 1. *Irritative,* as when the spasm is caused by swallowing hot or dry food; œsophageal disease; gastric or intestinal disorder. 2. *Inflammatory;* under this subdivision would be embraced all organic or functional diseases of the abdominal organs, as gastritis, appendicitis, peritonitis, hernia, and strangulation. 3. *Reflex;* singultus gastricus nervosus, a neurotic condition of the stomach, extremely rare, according to Bassler,[1] the cause of which is primarily situated in that organ giving rise to involuntary contractions of the diaphragm as a reflex manifestation.

B. Specific, in which the condition is secondary to abdominal or diaphragmatic abscess, gastric carcinoma, mediastinal malignancy, gout, diabetes, nephritis, pneumonia, typhoid fever, and other severe acute infections.

C. Neurotic or Reflex, occurring in hysteria, epilepsy, cerebral tumor, shock, emotional disturbance, peripheral irritation, and other organic or functional diseases of the nervous system.

D. Miscellaneous Causes, such as alcoholism, overeating, excessive smoking, pulmonary gangrene, cardiac trouble, and pregnancy.

Hiccough is associated in so many and varied conditions that to give a complete list would prove of little practical value, as it may occur in almost any exhausting disease—acute or chronic. Diaphragmatic inflammation, be it either parietal or pulmonary, is often a serious complication. Hiccoughing in typhoid fever is of ominous import, indicating, as a rule, perforation or the onset of peritonitis; it is also regarded as a grave prognostic sign in yellow fever. The remedies to be employed, therefore, depend largely on the cause of the symptom.

In the larger number of cases of hiccough, a physician is never summoned until all the ancient family remedies have been tried and proved futile. The milder cases are rarely seen by the physician unless they assume a chronic type.

As a rule, in mild cases, the spasm may be arrested by one of the old fashioned remedies. Whether or not relief is ever due to psychic suggestion the writer is unable to state. The following are the favorite modes of treatment among the laity: The swallowing of ice, salt, lemon juice, vinegar, strong spirituous liquors; holding the breath a minute or two; forcible traction on the tongue for several minutes; and, taking large draughts of water while holding the breath.

The last named seems to have the strongest hold on popular favor and incidentally has antiquity to recommend it, for Eryximachus, physician to Aristophanes, is said to have used it whenever his master ate too much and realized his indiscretion in the hiccough. It is worthy of a trial, however, and may be found of assistance. The trick, as we may call it, is best accomplished by having the sufferer press the thumbs firmly over the right and left ears, respectively, while the reliever's index fingers simultaneously exert pressure over the nares, thus preventing any air entering the respiratory chamber. At the time this pressure is applied over the ears and nares, the patient is ordered to swallow a large draught of water. Two or more trials may be necessary before relief is experienced. The writer wishes it understood that he does not vouch for this as a positive cure, but is disposed to consider it with much favor in view of his own success in a number of cases. Holding the breath keeps the diaphragm still and forces it to rest awhile.

Should the foregoing prove futile and the spasm is not relieved, musk, in a dose of five to ten grains in a solution of starch water should be given a thorough trial. In the administration of musk, caution, of course, must be observed. To obtain musk pure is exceedingly difficult, as most of the musk carried by the pharmacists is either impure or not musk at all. Another drawback is the cost of the remedy. It should not be employed more than once or twice, as beyond that its power becomes almost nil. In case the musk fails, the writer tries other remedies in succession, remembering always that none is infallible and that the proper one may be ultimately found.

It is wise to ascertain certain facts as to the dietary and the bowel movements of your patients. If there be gastric or intestinal irritation, do not

hesitate to use an emetic or purge; in severe cases, clearance of the alimentary tract is imperative, and should not be neglected.

In the severe cases any of the following procedures may be resorted to with success: Lavage, passing of the œsophageal sound, prolonged pressure over the abdomen and epigastrium, forcible traction on the tongue, abdominal massage, constriction around the lower thorax, cold pack, hot packs, applications of blisters on each side of the cervical spine over the roots of the third, fourth, and fifth nerves. Of the internal remedies, the number is legion and only a trial can prove their worth. The following have been suggested and used: Nitroglycerin, cocaine, spirit of chloroform, codeine, tincture of capsicum, spirit of camphor, tincture of valerian, amyl nitrite, jaborandi, asafœtida, the bromides, and numerous other drugs. Morphine, hypodermatically, is not of much value, as the effect is shortlived. In event success should follow the use of any certain procedure or drug, the physician is apt to conclude he has discovered the sovereign remedy for the condition. The extent of such misapprehension will probably be shown by his disappointment in his next case.

Ether narcosis is always best in cases of hysterical origin, the spasms seldom recurring after return to consciousness. Faradaization or galvanism is very often the last resort and is of no value unless applied by experienced hands. Application must always be made over the epigastrium or the phrenic nerves.

When the hiccough has persisted to the point of exhaustion and the patient's life is jeopardized, the following must be given by rectum and, if necessary, repeated:

Potassium bromide,	5i;
Tincture of opium,	5ss;
Water, to	5viii

The induction of sleep is, generally, attended by a cessation of hiccough.

Hiccough accompanying uræmia is best treated by hot pack, always guarding against shock or sudden depression by fortifying the patient with a hypodermic injection of strychnine.

Telling the sufferer from hiccough some (feigned) ill news or other information tending to cause shock or great fright should never be employed. The sudden scaring of nervous subjects also should never be resorted to. These methods of attempting to cure hiccough cannot be too severely condemned for reasons which should be obvious.

Postprandial hiccough is usually of a chronic type and is especially so among hearty eaters. Attention to the diet is of prime importance. Heavy eaters should be made to modify their diet. Alcohol should be interdicted. Excessive smoking should be forbidden. Condiments, sauces, and dishes of a greasy and savory character should be sedulously avoided. The bowels should be kept open, and moderate exercise indulged in. Tincture of nux vomica in combination with one of the mineral acids also proves helpful in chronic cases.

Surgical intervention is necessary in that type of cases in which the condition is secondary to abscess formations, malignant and other growths.

SEE 662, PERFIN

USES OF THE "COLD CAUTERY," ESPECIALLY IN DERMATOLOGY.*

By Leonard D. Frescoln, A. M., M. D.,
Philadelphia,
Assistant Chief Resident Physician, Philadelphia General Hospital; Fellow of the College of Physicians

As we know the term, "cautery" has been used to denote an appliance for giving a high degree of heat to a part so as to parch that part, or cut it. We can, therefore, apply a red heat and bake superficial parts, or, with a higher degree, use a white light, high enough to penetrate deeply and quickly, but not melt platinum. The control of hæmorrhage by means of cauterizing has been in use many decades.

Disturbances in the cells and blood cells of living tissues are often manifestations of different degrees of temperature. It is true, some disturbances of cells are galvanic changes. Now, when we have much disturbance, as in acute local inflammations, reduction of temperature may be accomplished by using varying degrees of cold. Likewise artificial heat is used to affect tissues locally when indicated. And so in the practice of medicine there is made use of the hot poultice, hot fomentation, the Leiter ice coil, the ice cap and ice collar, hot water bottle, fly blister, Paquelin cautery, counterirritation, etc. We also use the galvanocautery, the galvanic battery, the x rays, Finsen light, radium, and therapeutic bath, to effect cell changes.

Taking up the question of local temperature, just as gradual or rapid alterations and destruction take place under different degrees of heat (above body temperature), so with cold; and we have a rather rapid method of freezing now in practical use in carbon dioxide "snow." This is collected by having the gas escape from under pressure into a chamois bag that has been wrapped over a ruler for convenience. The valve of the iron container should be lower than the rest. The gas is heard to crackle and becomes deposited in a few seconds and may be moulded into the form of a cone or packed in a pill box.

This substance rapidly draws heat from its surroundings and gradually melts away; it does this on the skin rapidly enough to cause vesication, just like extreme frost bite, but not as rapidly as high degrees of heat, nor does it accomplish as rapid destruction of tissue as does a knife or a strong chemical such as fuming nitric acid.

This so called "snow" is made use of, as you know, in the freezing microtome, and it is very convenient to take a specimen, e. g. a bit of cervix, and rapidly harden it by freezing and make what we call a "frozen section" which can be covered with acacia, mounted, and cut with the microtome so that a diagnosis can be given at once. The surgeon thus ascertains whether the part is to be removed *in toto* as for malignancy, or in part. A special microtome is ordinarily required for this work.

Again, cold is a very important factor in modern day medicine in preserving specimens, bacterins, toxines, and antitoxines, especially in transportation. The use of cold, locally, has been in vogue

*Read before the Philadelphia County Medical Society, January,

for a long time for anæsthetic purposes. Abscesses may be opened after freezing with ice or ethyl chloride. Very recently the carbon dioxide has been used instead of ethyl chloride; it hardens the part but is said to exert a rather beneficial influence in the after treatment.

I wish to dwell in this paper, however, more particularly upon the use of carbon dioxide in the treatment of moles, nævi, warts, senile keratosis, lupus erythematosus, and skin epithelioma. This substance was first used in dermatology by Pusey, of Chicago, and he wrote upon the subject in *The American Medical Journal*. It is a substance similar to liquid air. Morrow also used it at the London Hospital in 1909 and described its use in *The Lancet*.

When first used it was ordinarily applied not longer than about ten seconds on a part, but now we often use twenty, thirty, or more seconds and under considerable pressure. This causes some pain in the part which becomes numb and hard, and is found, upon removal of the block, to be coated with a thin white, shrunken coat which soon becomes darker. There is considerable anæmia of the part. Within a hour or so a bleb may form even with light pressure and brief exposure; this is replaced later by a crust which falls off in ten days. If the vesicle or the bleb is near the eye it often causes much accumulation of lymph in the tissues and the swelling hides the eyeballs. It is well to protect one's own fingers with gauze or asbestos in handling the bit of "snow." We should not treat large areas at one sitting. Sometimes a petrolatum dressing is applied to the part after it has been treated, or a dusting powder containing bismuth. A few days after an exposure there may be left no evidence whatever of the disease nor of the treatment, if it is light, other than the cure of the case. At other times a clean, smooth, white scar may be seen after the crust has disappeared.

The temperature of the solid stick is —79° C., and may be made lower if the solid is dipped in ether. A block of the snow is readily prepared and may be kept about an hour for use on patients. Patterson advises against using it for a long period of time on an alcoholic or on diabetics, those suffering from arteriosclerosis, and on lesions just over bony prominences. In treating a nævus, e. g., on the forehead, with much pressure, from fifteen to twenty seconds generally suffice to cause bleaching and fading of the lesion, whereas forty seconds may cause a gangrenous spot needing treatment. The paramount action of the "snow" is destructive and its action must be guarded, just as must the action of x rays.

In reporting cases photographs should be taken before treatment and after when the cases themselves cannot be shown. This has been done in our practice at the hospital in different lines, but often one hastens to the treatment of a case possibly on a bad day and the preliminary picture is neglected; or in other cases the neglect is in taking the final photograph.

In addition to simple cases of warts (verrucæ), lupus, nævus, favus, etc., that have been successfully treated, there are a few cases of interest the notes of which I wish to quote. Tattoo marks, [illegible] may later show some advance in treatment and clear up difficult problems by judicious use of treatments along these lines. Permit me to cite a few cases that I have treated recently by this method.

Case I. J. W., a carpenter, had been troubled with a thick crustaceous lesion on the right side of his face for [illegible] months; he was told that [illegible] was advised to take x ray treatment. [illegible] without any results. He was then given the freezing mixture for about twenty seconds on August 21, 1910, and was much improved; two days [illegible] second exposure and diachylon ointment dressing applied. A few days later you could not tell upon which side the senile keratosis had existed.

Case II. R. B. This was a similar case but of some years' duration, and the lesion resembled a small patch of lupus vulgaris. The patient likewise feared malignancy. He was cured completely in three treatments and has remained so for many weeks.

Case III. E. M. B. This was a case similar to Case II as regards rapid improvement. The lesion was in the nature of a mole and was cured completely by one treatment.

Case IV. M. R., a woman, a case similar to the preceding, cured by two treatments. She also had a horny growth on the back of the right hand, the top part of which was first excised and then the base treated; this required three or four treatments and she went out of the hospital before completely cured.

Case V. J. K.; a case diagnosticated as lupus, about cured after two applications.

Case VI. J. W.; had part of the right side of his face removed for rodent ulcer; he was also given about seventeen or more x ray exposures. Recurrence took place and he was operated upon again. He was now given a cancer serum made from the ground up cells of cancer mass in salt solution, and after this nothing remained but some excessive granulations; these were treated by the "snow" method, and the patient is apparently cured.

Cases VII, VIII, IX and X. These were also cases of superficial malignancy treated in addition with x rays and touched with such drugs as silver nitrate, carbolic acid, camphor, collodion, etc. These patients, too, have been cured or nearly so, and for some time.

It has been observed that certain cases are more amenable to this form of treatment than are others. Rodent ulceration seems to be not benefited or only in connection with other means. The same may be said of hard horns.

I have not had sufficient experience yet with nævi nor with lupus erythematosus to corroborate the extraordinary results obtained, but have seen something of these results.

Recently Harman, of London, has been using from fifteen to thirty second exposures of the material on cases of trachoma. Hawkin has shown its destructive influence on microorganisms. Out of 900 cases of capillary nævi one author cites ninety per cent. of cures. There are no doubt other classes of cases that may be benefited by the applications. I expect to try it also on keloids.

Carbon dioxide is much cheaper than radium, it is easier to control than liquid air, it is more prompt in its action on certain lesions than the x rays; its action can be better regulated than many other methods. The large tanks are preferable; they are strong and may generally be borrowed; they cost about twenty-five dollars, and about two dollars to recharge them. Portable tubes may also be used for office practice.

In conclusion, then, carbon dioxide locally gives 1, definite inflammatory reaction; 2, a stimulating [illegible] 3, destructive [illegible] light results

scar; 4, immediate destruction or cauterization under prolonged exposure and strong pressure. Chronic elevated lesions are those that seem to respond to this treatment. Lesions that have become infected respond less readily. It has been found also that often a combination of the forms of treatment will give results when a single method will not. Lupus erythematosus is said to respond extremely well, but not lupus vulgaris. Proliferating carcinoma, not deep, responds; ulcerating epithelioma (rodent ulcer) does not. Further study is needed on this form of treatment to exhaust its possibilities.

IS ANTITETANIC SERUM A FACTOR IN THE CURE OF TETANUS?*

By J. C. Kennedy, M. D.,
Brooklyn, N. Y.,
[illegible]

Looking back over an active hospital experience when medicine alone was used to combat the horrors of tetanus up to the introduction of antitetanic serum with its later gigantic strides in the reduction of tetanus mortality, gloom seems to have given place to hope. The following case is a type of quite a few in my hospital service within the last few years:

Case. *Traumatic Tetanus.* The patient, eight years of age, and a native of Brooklyn, was admitted to St. Catherine's Hospital, July 1, 1909. He had a compound fracture of the frontal bone caused by a kick from a horse. The wound in the soft tissues was about one half inch long and three quarters of an inch in width just over the left eye. The boy suffered from shock but had no marked symptoms of compression. With due antiseptic precaution the wound was sutured and drained. After several days the probe indicated loose bone denuded of periosteum, the drains were removed, and the wound opened up when a piece of bone, about one half inch in length and slightly depressed situated between and including some of the supraorbital ridge, the supraciliary ridge, the temporal ridge, and extending in the direction of the nasal spine, was removed. Some plastic work had to be done in order to get decent skin approximation, silkworm drains were introduced, and the wound dressed with the usual care. On the morning of July 10th, nine days after the operation, the patient complained of a chilly feeling with some stiffness of the neck muscles. The wound was immediately laid open and treated with a strong solution of bichloride of mercury. The dressing of the wound was carefully done daily thereafter. Soon after these preliminary symptoms the patient had a convulsion with all that goes with a convulsion in tetanus, the jaws were firmly locked, the eyebrows were raised, the angles of the mouth were drawn out marking well the so called sardonic grin; all the muscles of the body seemed to be involved in tonic contraction, but those of the back particularly giving the patient a condition of opisthotonus. The patient was now given subcutaneously 3,000 units of antitetanic serum with twenty grains of chloral hydrate and twenty grains of sodium bromide every three hours which was continued for six days. On July 15th the patient again had four convulsions, 3,000 units were again administered; on July 16th he had six convulsions, 1,500 units of antitoxine were given. July 17th, eight convulsions, 1,500 units of antitoxine. July 18th, eight convulsions, 1,500 units of antitoxine. July 19th, ten convulsions, 1,500 units of antitoxine. July 20th, eight convulsions, 1,500 units of antitoxine. July 21st, eight convulsions, 1,500 units. July 22d, four very severe convulsions, 1,500 units of antitoxine. July 24th, one convulsion, 1,500 units. July 26th, no convulsions, 1,500 units, when the antitoxine was stopped. During his sickness he had sixty-four convulsions and received 19,500 units of antitoxine serum, twenty grains of chloral and bromide were continued every three hours from July 15th to July 25th, and then reduced to five of each, until the boy was discharged, so that he was given 1,714 grains of chloral and bromide during his attack. Discharged as cured August 19th.

The value of serum treatment in tetanus is still undetermined; the literature abounds in pros and cons. That antitetanic serum in its present state neutralizes to some extent the toxine produced by the bacillus of tetanus, is my firm belief. That immunizing doses of antitetanic serum in cases where wounds are fraught with danger from tetanus has virtue is also my firm belief.

One writer collects from the literature 1,216 cases of tetanus with the conclusion that the mortality has been reduced from eighty to fifty per cent. Another writer concludes after using the serum that in its present state it is not likely to have any material effect upon the course of the disease.

The lesions of the nerves and nerve centres are merely those resulting from an irritant poison produced by the bacillus of tetanus.

702 Willoughby Avenue.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CIX.—What are the best means of reducing infant mortality? (Closed April 15, 1911.)

CX.—How do you treat flatulence? (Answers due not later than May 15, 1911.)

CXI.—How do you treat acute infantile anterior poliomyelitis? (Answers due not later than June 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL.

OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to question CVIII has been awarded to Dr. J. H. Donnelly, of Buffalo, whose article appears below.

PRIZE QUESTION CVIII.

THE TREATMENT OF HICCOUGH.

By J. H. Donnelly, M. D.,
Buffalo, N. Y.

The treatment of hiccough has been very unsatisfactory since the Greek physician recommended to his patient Aristophanes that he was to hold his breath, gargle with water, or tickle his nose with something until he sneezed.

We must consider a respiratory centre receiving impulses, and two nerves, the phrenic and the laryngeal branch of the vagus to the glottis, acting as the efferent branches; also, we must consider the

diaphragm with its contiguous structures, liver, kidneys, spleen, stomach, suprarenals, duodenum, pancreas, œsophagus, pericardium, and pleuræ, any one of which may have something to do with the cause of hiccough. We can conclude, therefore, that the intermittent contractions of hiccough have either a peripheral or a central cause, and our treatment should be as scientific as possible.

There is no doubt that the cases caused by hysteria, epilepsy, shock, and cerebral tumors; also the idiopathic cases associated with gout, diabetes, and Bright's disease, act more or less directly through the respiratory centre, while again certain irritative and inflammatory conditions of those organs in relationship to the diaphragm act more or less directly on the muscular, nervous structure of that organ and thus by reflex through the cord. In the treatment of the nervous, either hysterical or epileptic, the use of the following may prove effective:

Mixed bromides, ...grs. xxx;
Chloral hydrate, ...grs. x;
Syrup of lemon, ...q. s.
M. Sig.: For one dose.

Where the case is one of pure hysteria, apomorphine, one eighth grain, given hypodermically, would bring about relaxation during vomiting, followed by the sedative action of the morphine.

To treat the cases associated with gout, diabetes, Bright's disease, or toxæmia we must combat these poisons by elimination—catharsis, bowel washes, steam baths, hot packs, etc. Pilocarpine, in large doses, depresses the respiratory centre, and where hiccough is caused by acute uræmia this drug, in one third grain doses, may be employed with excellent results.

In this class we have the inflammatory and irritative causes, which through proximity act on the diaphragm. In many cases, after anæsthesia especially, abdominal hiccough becomes troublesome. Often small quantities of ice or champagne quiet the spasm, or, again, sips of hot water and changing the patient from the dorsal to the right lateral decubitus brings about relief.

In the hiccough caused by gastritis or some irritant to the stomach, the following gives relief:

Bismuth subnitrate, ...grs. xx;
Cerium oxalate, ...grs. iv;
Cocaine hydrochloride, ...gr. ½.
M. Sig.: For one dose.

Sometimes obstinate hiccough is relieved when the patient is strong by having him hang with the arms extended and grasping some beam or pole, so that his feet do not touch the floor. With all the abdominal muscles tense, have him hold his breath as long as possible. Another method of treating the irritative form of hiccough is to extend the patient fully across the bed, traction being made on both extremities by attendants, while ether is sprayed over the epigastrium.

When hiccough is associated with flatus, a bowel wash of soapsuds and turpentine combined is often efficacious, or where the distention is great the old fashioned turpentine stupe often works like magic. Certain cases, however, resist all treatments, and the prognosis is grave indeed. The patient, weak from exhaustion, more or less cyanosed, with weakened pulse, cold extremities, and worried, anxious countenance, seeks plaintively for relief. Here more heroic measures are employed, and the galvanic current has often proved a boon to the practitioner. The battery should have an electromotive force of forty volts. After determining the cathode from the anode, by the more burning sensation to the hand when the current is turned on, select electrodes of small area, moisten with water or salt solution, and you are ready for the patient.

To determine the motor point of the phrenic nerve, find the space between the clavicular and sternal head of the sternocleidomastoid muscle, and about three and a half centimetres above the clavicle. This point should be in line with the carotid tubercle. Place the cathode on this motor point and the anode first on the abdomen, where a strong current is thrown into the circuit; there is a muscular contraction produced. Allow this steady current to continue; there will likely be no more muscular twinges due to shock. If the spasms of hiccough still continue, make and break the circuit, and, at the same time, have an attendant pull the tongue well forward, thus trying to prevent the sudden closure of the epiglottis. Should this fail, change the poles of the battery, placing the cathode on the abdomen, trying first a continuous current, then a make and break, keeping up traction on the tongue. Or, again, you may place both poles on the phrenic nerve, proceeding as before.

Doses of morphine, while efficacious when given early, may hide the real cause of the hiccough and thus bring disaster to the physician in making some abdominal diagnosis. When you are sure that you can eliminate all inflammatory or irritative conditions, which may become dangerous, then, to my mind, you are on the safe side if you use morphine.

Dr. J. W. Posthauer, of Brookline, Mass., writes as follows:

This affection is often very troublesome, but cures itself, in ordinary cases, and where the exciting cause is lodged in the stomach, for the spasmodic action very generally removes the accidental irritant; and if not, the disorder usually yields to very simple antispasmodic remedies, as a draught of cold water, a dose of camphor, or aromatic spirits of ammonia; in their absence a few drops of vinegar or sugar will avail. Where these fail a nervous action of a different kind, and which seems to operate by revulsion, has often been found to succeed, such as holding the breath, thus producing a voluntary spasm of a rigid and opposite kind in the diaphragm, or a violent fit of sneezing, produced by nasal irritation, snuff, or other revulsive. An emetic will sometimes answer the purpose, as a hypodermic injection of apomorphine; and still more effectively, a sudden fright or other emotion. If these do not prove sufficient, we must call in the aid of opium to produce sleep, first trying a few doses of nitroglycerin or inhalations of amyl nitrite, the latter remedy acting sometimes almost as a specific in its rapidity of action and relief; and in the intervals, if the attacks are of a recurring character, we must have recourse to tonics, internal and external, the warm bitters, capsicum, quinine, chirita, ironwood, etc., pure air, exercise, and cold bathing. When hic-

cough accompanies, or is a symptom of enteroptosis, a tight binder is the indication, along with abdominal massage; this also applies to hiccough following postoperative procedures for gallstone, gastrojejunostomy, or conditions where adhesions may have formed, creating a tendency to pull or drag upon the diaphragm. In irritable stomachs of hyperacidity a teaspoonful of olive oil will coat the stomach, quiet the spasm, and inhibit acid production for the time being. In these cases rest after meals is essential, since exercise delays the passage of food from the stomach.

Persistent hiccough in newly born infants: The cause here is an excess of rennin, forming large curds in the stomach; another condition occurring in children over three months old is a hyperchlorhydria, no mucin, and but little ferment in the stomach contents; no pyloric tumor can be felt—this type is due to muscular incoordination of the muscles of the stomach, the central nervous system having not yet acquired proper control. Much patience on the part of all concerned is essential. The treatment is necessarily a prolonged one. Small quantities of thin food, so as to avoid distention of the stomach, whey, raw meat juice, one ounce every 20 minutes for the first few weeks, slowly increasing to two, three or four ounces, adjusted to regular intervals; milk, citrated to prevent curdling. It may be necessary to stop food by the mouth for a time to enable the spasm to subside. Systematic lavage may have to be resorted to, just before feeding, then twice daily for several weeks, and then once a day for some weeks longer, using a solution of sodium bicarbonate, two grains to the ounce, through a Jacques soft catheter, No. 12 or 14. This should be continued for a time after the hiccough attacks have ceased and the weight is steadily increasing. In hiccough following injuries, incarcerated hernias, and injury to the diaphragm, the treatment, of course, is to the condition, although these injuries are in the main fatal, nevertheless, very large doses of opium, even to the development of toxic symptoms, pin point pupil, etc., do much good. The best general remedy for an emergency is, without doubt, the nitrite group, nitroglycerin and amyl nitrite. The others may be good, but in general efficiency nothing else equals the foregoing when you need medication.

Dr. A. de Veaunu, of Brooklyn, remarks:

This movement is of a purely reflex character, though the spasmodic action be on the diaphragm, its point of departure may be on the abdominal organs or on the nervous centres. In ordinary cases it comes and goes spontaneously and is a matter of no consequence. It is often seen in children or adults, who have eaten or drunk immoderately or hastily, after long fasting, in diseases of the stomach, intestines and liver, and in nervous persons troubled with flatulence. It is an important sign in peritonitis, strangulated hernia, and other intestinal obstruction. We may have it in intermittent fever, and it is a grave symptom in typhoid. In nervous persons it may be brought on by any excitement and generally disappears with its cause.

Treatment. We cannot certainly stop the hiccough due to peritonitis, perforation, or in any other case in which we need a surgical procedure (if in time), but I would like to call the attention of the profession to a drug which, if given, will stop the worst hiccough due to nervous or other hysterical causes. Five drops in a teaspoonful of any aromatic elixir of tincture of musk, given once or repeated after five minutes, will produce the magic effect of stopping the hiccough. For the drunkards, try aromatic spirits of ammonia.

Dr. M. Neustaedter, of New York, writes.

It is my intention to speak of the *Singultus gastricus nervosus*, and not of the hiccough accompanied by organic disease. In ordinary cases, the drinking of a glass of water in one gulp, so as to hold the respiration in check for a few moments, will suffice. In my cases, where hiccough came five and eight times per minute during waking hours as well as during sleep, the following treatment has given uniformly good results: The strapping with zinc oxide plaster of the entire abdomen, beginning from the nipple lines of chest down to the pelvic prominences, and wide enough to encircle the abdomen; in addition, potassium bromide, one gramme, and chloral 0.2 gramme at one dose, three times daily; exclusive milk diet and plenty of alkaline water, such as vichy, not effervescent. Cases that did not yield to any other treatment for weeks have become well within a few days. After the hiccough subsides, tonics, such as strychnine, nitrate in doses of 0.002 gramme, three times daily, and a bland fluid diet. This should be kept up for fully three weeks. If, at the end of this time, hiccough does not reappear, solid diet can be given. Constipation was present in my cases. This was relieved by enemata. No cathartics or laxatives should be administered during the period of hiccough. When convalescence is established and constipation persists, the following mixture has been of great service:

Tincture of nux vomica, ...mx;
Fluid extract cascara sagrada, ...mviij;
Mixture rhubarb and soda, ...to 5j.
M. Sig.: One dose.

This dose is repeated three times daily.

Dr. H. N. Ritter, of the Public Health and Marine Hospital Service, at Louisville, Ky., observes:

Ordinary hiccough, not associated with serious disease, is usually due to some gastric disturbance and often accompanied by flatulence. The time at which it occurs and whether or not it is accompanied by a burning sensation in the throat or by an unpleasant odor are points of significance in the diagnosis of certain diseases of the stomach. The laity know that certain simple measures like taking long, deep inspirations, a large draught of cold water, or the simple act of sneezing, will stop the ordinary hiccough. Sneezing is very efficient in certain cases, since it is the exact opposite to hiccough, being a sudden expiratory act. In Plato's *Symposium* the physician Eryximachus recommended to Aristophanes, who had hiccough from eating too much, either to hold his breath or to gargle with a little water and, if not relieved, to tickle his nose and sneeze, whereupon the hiccough would be sure to go.

These simple cases of hiccough are often relieved by such simple measures as sucking ice or taking salt and vinegar. Pulling the tongue forward and holding it for some time is a very effective procedure. One of the remedies I have been most successful with is the infusion of mustard. It is prepared by steeping a drachm of mustard in four or five ounces of boiling water for fifteen or twenty minutes and straining. I have seen this relieve some very obstinate and even dangerous cases when other things had failed. When the cause of hiccough is gastric irritation, lavage is an effective measure in some cases. The bromides and hyoscine have been followed by marked relief in some very persistent cases. Another procedure worthy of trial is to place the patient supine on a pillow with the head low and the chest arched up. I have used spirits of camphor in some cases, in ten to thirty minim doses diluted with water, and with some success. In my hands, however, the infusion of mustard has proved to be the most effective of all remedies, although pulling the tongue out is also very efficient.

In the more severe cases of hiccough we have a more troublesome and serious symptom to deal with. We see this occurring in affections of the abdominal viscera, such as peritonitis, internal strangulations, appendicitis, typhoid fever, and after some severe cases of hæmorrhage. In appendicitis, after perforation or rapid gangrene, hiccough begins together with the other symptoms of collapse, and we have a very obstinate and exhausting condition to cope with. In peritonitis this condition is especially found where the diaphragmatic peritonæum is involved. If the hiccough persists for any length of time the patient complains of great pain in the epigastrium. In these cases morphine and atropine, given hypodermically, will sometimes relieve the patient's suffering. Here, again, the infusion of mustard has been of great service. Often, however, it will be found that nothing will relieve these cases, since they are almost always associated with a disease which proves fatal.

Certain cases of hiccough are associated with disorders of the nervous system, such as epilepsy, cerebral tumors, and hysteria, the latter causing very persistent paroxysms. These cases can be successfully managed only by treating the underlying nervous condition.

To be continued.

Correspondence.

LETTER FROM EDINBURGH.

Important Cancer Award.—The Care of Sick Children.—New Superintendent for the Edinburgh Royal Infirmary.—Honours.—Weather.—Miscellaneous.

The Walker prize of £100 for the best original work on the pathology and therapeutics of cancer carried on in any country during the last five years has been awarded to Dr. Ernest Francis Bashford, general superintendent and director of the laboratory of the Imperial Cancer Research Fund of London and a graduate of Edinburgh University. The committee appointed to recommend for the prize drew attention to the actual amount of work carried out during the past five years by Dr. Bashford, to its systematic character, and to its far reaching extent, in that it critically tested all the questions relating to the pathogenesis of cancer as they had arisen. Before proceeding to London to take up his position at the Imperial Cancer Research Fund Laboratory, in 1904, Dr. Bashford was a resident and a student at Edinburgh. He was educated at the Universities of Edinburgh and Berlin, and obtained his M.B. and Ch.B. degrees at Edinburgh in 1899, while in 1902, in taking his M. D., he was awarded a gold medal. He was assistant to the professor of materia medica at the university, and as a student had a most brilliant career. He was a Vans Dunlop scholar, Houldsworth resident scholar in pharmacology, Stark scholar in clinical medicine and pathology, and M'Cosh Travers scholar, and obtained many prizes, including the Wightman prize in clinical medicine, the Pattison prize in clinical surgery, the Gunning prize in materia medica and therapeutics, and the Fothergill gold medal in therapeutics.

The fifty-second report of the directors of the Royal Edinburgh Hospital for Sick Children was presented at the annual meeting of contributors held on March 23rd. The patients treated in the wards had been slightly fewer than in the preceding year, but the number of out patients was somewhat higher. In moving the adoption of the report, the chairman (Mr. James Clark, K. C.) remarked that the finance of an institution like that was always a matter that caused the directors a good deal of thought, but on the whole those who were interested in the hospital had every reason to congratulate themselves upon the comparative prosperity that attended it from the point of view of finance, for while the ordinary income never met ordinary expenditure, they had always been blessed with friends who had either made special donations or who had remembered them in legacies. This year, while the ordinary expenditure had exceeded the ordinary income by no less a sum than £2,616, if they placed against that deficit the amount received by special donations and by legacies, there was a balance to the good. Dr. Byrom Bramwell referred to the hospital as a means of extending a knowledge of children's diseases. That, he thought, was one of its most important functions, and those who had to do with medical education in Edinburgh recognize that the Children's Hospital formed a most important part of their great medical school. For his own part, he would like to see the connection between the university and the Children's Hospital made still closer, so that students might be obliged to spend a much more considerable part of their time in the wards of the hospital than they did at present.

Lieutenant Colonel Sir Joseph Fayrer, Bart., R.A.M.C., has been appointed superintendent of the Edinburgh Royal Infirmary, in succession to Colonel Warburton, whose resignation was referred to in a recent letter. Sir Joseph Fayrer, who is fifty-two years of age, is a son of the first baronet,

surgeon general Sir Joseph Fayrer, K.C.S.I., whose Indian career is well known, he having been present at the defense of Lucknow during the Indian Mutiny. The new superintendent has had a distinguished career, having served in India and at home in important military medical positions. Since October, 1909, Sir Joseph has had charge of the Military Hospital at Hong-Kong. He has contributed largely to medical literature.

At a meeting of the Royal Society of Edinburgh on March 20th, Dr. J. A. Gunn described the pharmacological action of harmine, an alkaloid obtained from the seeds of peganum harmala, an Indian drug. He pointed out that the action of harmine, like that of its associate alkaloid harmaline, resembled that of quinine in many respects. In one point, however, it displayed a property not hitherto attributed to quinine, namely, that of causing powerful uterine contractions, and he suggested its use in place of ergot, seeing that harmine did not act in the same way as ergot upon the blood pressure. The seeds are used in India for procuring abortion, an action which is evidently due to the alkaloid. In the discussion that followed Mr. Thomas Stephenson mentioned that recently quinine had come into pretty extensive use in America as a local anæsthetic and asked if Dr. Gunn had observed this action in harmine. Dr. Gunn replied that he had observed it, but not being aware that quinine was being used as a local anæsthetic, he did not pursue this part of the investigation further.

Therapeutical Notes.

The Treatment of Boils.—Gaskill discusses, in the *Journal of the American Medical Association* for April 15, the treatment of furunculosis, saying that the average case of furunculosis, under proper antiseptic precautions against further crops, will cure itself in from one to four months, but many factors enter into the causation of the disease, and one should inquire carefully into the patient's habits, occupation, and mode of living; of first importance must be considered an existing diabetes, nephritis, or transitory albuminuria. Disorders of the gastrointestinal tract play an important part in the ætiology, as does excessive sweating, friction, lack of, or even excessive use of soap and water. Men who work in paraffin or bar metal workers and those who are thrown in close contact with potassium permanganate, potassium iodide, and the bromides are frequently affected.

When single the lesions are usually due to some local injury, as blows, friction, or from pressure exerted, shown by those who have a sedentary occupation, as tailors, who often have a succession of single or multiple boils on the buttocks. Boils frequently follow various eruptive fevers, especially variola, septichæmia, pyæmia, sewer gas poisoning, and may occur as complications of certain skin diseases—scabies, eczema, etc. Severe strain and mental worry which lower the vitality must also be considered. Pressure of the collar button may cause a furuncle. In some men, if the back of the neck is shaved when the hair is cut, a crop of small boils will always ensue; this is undoubtedly due to the loss of the protection the hair normally affords, and as there are always present on the skin numbers of staphylococci, the collar rubs them directly into the mouths of the hair follicles, and sebaceous adenitis and pustules result.

A large number of so called blood purifiers and blood tonics depend on potassium iodide for the effect, and as this drug frequently produces a pustular eruption, their use naturally is often disastrous.

For furunculosis not caused by any constitutional condition, Gaskill has found the following line of treatment of service: The end of a wooden applicator is sharpened to a fine point, wrapped with a small piece of raw cotton and dipped into pure phenol. Many men prefer the use of the knife, but the "phenol stick" accomplishes the purpose; being slightly anæsthetic, it is much less painful and the resulting scar is smaller, which is an important factor should the condition occur on the face. The phenol stick is inserted carefully where pointing occurs, held for a few seconds to allow the phenol to produce its anæsthetic effects and then very gently pushed into the cavity. Extreme caution is used not to go beyond any resistance or the protecting barrier that has been formed to limit the process will be broken down or a bloodvessel punctured. After an opening has been made sufficiently large to permit of drainage the following ointment is applied:

℞ Salicylic acid, ... gr. xl to gr. lxxx;
Petrolatum, ... ℥i.
M. et Sig.: Apply twice daily.

Liquid Petrolatum Objectionable in Nasal Sprays.—Many physicians are inclined to discard the use of liquid petrolatum as a vehicle for oily sprays on account of its indifferent character; and expressed oil of almond, the sweet almond oil of commerce, is preferred in many instances for reasons that will be generally understood. Expressed oil of almond, when of a true character, and not peach kernel oil, as is generally supplied, is bland, demulcent, and emollient, and is capable of being sterilized. The great advantage of petrolatum products heretofore has been their freedom from bacterial contamination, these substances being less exposed to decomposition from the influence of germs present in the air. But a good oil of sweet almond, properly sterilized, according to the art of the apothecary, offers superior advantages to any of the mineral products. In the first place, it is more readily absorbed and is likely to carry the medicating agent to a greater depth in the tissues, while being nonirritating, even soothing. It will be found as a rule that the true expressed oil of almond is more effective as a nasal spray, or for purposes of lubrication, than any of the mineral oils now so commonly employed.

Insufflation for Profuse Coryza.—Moizard's prescription, as given in *Paris médical* for March 25, 1911, is as follows:

℞ Quinine sulphate, ... gr. xv;
Pulverized benzoin, ... ℥i.
Bismuth salicylate, ... ℥i.
M. et Sig.: Use as a snuff.

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TRACHOMA AMONG IMMIGRANTS.

An examination of the last annual report of the surgeon general of the Public Health and Marine Service shows that trachoma still heads the list of diseases for which incoming aliens are deported. At the port of New York there was for the year ending July, 1910, a total of 19,545 immigrants certified by the examining physicians as suffering from some physical or mental defect, and 6,649 of these were ordered deported by the immigration authorities. Of this number, 1,442 were sent back on account of trachoma. It was general agitation on the part of the medical profession at large which resulted in the Treasury Department order of October 30, 1897, to classify trachoma as a dangerous contagious disease. Since that time all the clinical data collected and the general trend of medical opinion have been in the opposite direction, that is, to the effect that, if trachoma is contagious at all, it is only mildly so and that where contagion takes place it is in all probability due to some superadded acute conjunctival inflammation.

However much the results of laboratory experimentation may incline one to the view of the infectiousness of the disease, there are certain clinical facts which strongly indicate that the danger of contagion has been overestimated. For instance, there is not, so far as we know, a single instance on record of an examining physician at Ellis Island having contracted the disease. It is a matter of frequent occurrence for the physicians there to find cases of well defined chronic trachoma which affect one eye only, the other remaining perfectly sound notwithstanding its constant association for many years with the disease in every stage of its progress. In its worst manifestations the disease is undoubtedly confined to certain races and localities, for, notwithstanding the constant introduction of the most virulent cases into the United States by means of fraud, there has been no increase in the prevalence of the disease. That is to say, there has been no increase in the prevalence of that type of the disease for which the before mentioned 1,442 immigrants were deported.

Of course every school year brings its numbers of follicular conjunctivitis which some call trachoma and which yield promptly to treatment extending over a period of two to six weeks, but it is certainly stretching the point to call this pseudotrachoma of the public schools a "dangerous contagious disease," and it is undoubtedly true that were the examining physicians at Ellis Island as quick to diagnosticate a case of trachoma in the immigrant as are the medical inspectors similar cases in the school children, there would immediately go up such a public protest as would call for a very prompt change in the present immigration regulations. In view of the fact that among those who ought to be best qualified to judge there is the widest divergence of opinion as to the degree of contagiousness of the disease, and also a great lack of uniformity in the profession in regard to the diagnosis itself, it would seem that the time had almost come to question the advisability of classing this affection among the "dangerous contagious" diseases which require the deportation of those who are afflicted. As trachoma is not specifically mentioned in the law as requiring deportation, this change could be readily effected by the simple expedient of a Treasury Department order reversing the order of October 30, 1897.

TINCTURE OF IODINE AS A DISINFECTANT.

In a paper printed in our issue for April 22d, Dr. John J. Gilbride directed attention to the excellent results obtained from the use of iodine as a disinfectant. Grossich applies a ten or twelve per cent. tincture of iodine to the field of operation in preparing the abdomen for laparotomy, without any preliminary scrubbing with water, microscopical studies showing that the iodine is absorbed better by the dry skin. Dr. Gilbride confirms the reports made by Grossich and by many others, including Woodbury (see *New York Medical Journal*, March 26, 1910, and December 3, 1910). Major Woodbury was prompted to use iodine in 1906 in this way by a knowledge of the Claudius method of preparing catgut and a vivid recollection of the wonderful antiseptic qualities ascribed to iodoform.

Dr. Eugene Bauman, in a letter to the editor of the *Journal*, published December 24, 1910, states that as early as 1905 he had used the tincture of iodine at St. Mark's Hospital as an antiseptic dressing for wounds without previous preparation of the surface, and has since used it regularly at Mt. Sinai Hospital.

While Major Woodbury and Dr. Bauman both used the tincture of the *United States Pharmacopœia*, which is a compound tincture containing only seven per cent. of iodine with five per cent. of potassium iodide dissolved in alcohol, the European writers have used a simple alcoholic solution of ten per cent. strength. The *British Pharmacopœia*, like that of the United States, prescribes potassium iodide as an ingredient, the British preparation containing 2½ per cent. of iodine and the same quantity of the potassium salt and water with ninety per cent. alcohol as a menstruum. The *Japanese Pharmacopœia* provides for an alcoholic tincture containing eight and a half per cent. of iodine. It was this tincture that was used by the Japanese as a first aid dressing for wounds as early as in the war with Russia, each soldier being provided with a bottle of the tincture. All the other pharmacopœias follow the Brussels protocol in recognizing a ten per cent. tincture made with ninety-five per cent. alcohol. In some countries special modifications are also provided, the *Spanish Pharmacopœia* having, besides the ten per cent. alcoholic tincture, a tincture in which potassium iodide is present. The *Mexican Pharmacopœia* follows the Spanish in this respect, and the *Greek Pharmacopœia* provides not fewer than six different forms—the simple tincture of iodine conforming to the Brussels protocol; the chloroformic tincture, containing one part of iodine dissolved in five of chloroform; the decolorized tincture; the stronger tincture; the morphinated tincture; and the oily tincture.

The chloroformic tincture of the *Greek Pharmacopœia* would seem well adapted for use as a disinfectant provided the surface is to be exposed, for here, as in the case of the benzin solution, which has also been recommended, a severe burn would follow if the surface was covered closely before the solvent had evaporated. Indeed, a burn might result from the use of the alcoholic tincture itself if an impermeable covering was laid on immediately after the application. The solvent action of the chloroform or the benzin on the fats present in the skin is presumed to aid in the penetration of the tincture. Carbon tetrachloride would be a better menstruum than benzin, since it is not inflammable and would have a slight anæsthetic action.

Professor Reclus has stated that the tincture should be freshly made, as it becomes irritating after standing for a week or so through the development of hydriodic acid. This tendency is obviated in the U. S. P. tincture by the addition of potassium iodide. The presence of the potassium salt in the U. S. P. tincture was criticised by Mittelbach in 1907, on the ground that dentists, who use considerable quantities of it, prefer a simple alcoholic tincture. This salt has been added not only to prevent the formation of hydriodic acid, but also to give a tincture which will be soluble in water and thus available for internal administration. Its presence, therefore, in a tincture which is to be used as a disinfectant seems at best unnecessary, and is probably positively objectionable, as the salt would have an irritating effect on an open wound. On the other hand its effect in preventing the tendency to the formation of hydriodic acid is an advantage. A comparison of the effect produced on wounds by the different tinctures would not be without interest.

ACCIDENTS PRODUCED BY THE INGESTION OF OYSTERS.

The oyster, usually inoffensive, is known to become dangerous when it absorbs from the sea pathogenic bacteria. Bodin (*Revue d'hygiène*, March 20th) points out that when the pathogenic bacteria enter the oyster in large number, in the state of germs in suspension in the water, the phagocytes of the mollusc easily take care of them, it being only a question of time. But when the bacteria penetrate the oyster clotted together in lumps, that is to say, held together by particles of organic matter, such as is found in the stools, the conditions of phagacytosis in the oyster become singularly changed.

The infected lumps which, with the water, enter into the organism of the oyster are particles that the latter will treat as a foreign body, and it will make efforts to rid itself of them. Under these circumstances a phagocytosis cannot be admitted as in the case of the penetration of bacteria in suspension in the water. Consequently, infection of the oyster by these particles is particularly dangerous. It is true that the oyster, in spite of all, will finally rid itself of these organic particles, but only under certain conditions that it is well to point out. If oysters, previously infected in sea water polluted with fæcal matter, are placed in pure sea water on a very clean surface, a kind of cleaning out of these oysters will be observed the day following. The surface upon which they repose will be found covered with particles and dejections of an organic nature. These dejections being removed and the water renewed, the same phenomenon will be observed for several days; but the quantity of

organic particles coming from the cleaning out of the oyster progressively diminishes, and finally ceases by the fourth or fifth day. According to Fabre-Domergue, it may be said that oysters maintained in pure sea water daily renewed are completely cleaned out by the sixth day.

From the practical standpoint, it may be assumed that an oyster infected by organic particles containing pathogenic bacteria, and taken from the water, cannot empty itself of the latter as it does when placed in pure sea water, and that it will surely remain infected up to the time that it is eaten. But these facts lead to still another practical conclusion, namely, that one can obtain a clean oyster by allowing it to remain for some days in pure sea water frequently renewed.

CONTUSIONS OF THE LARGE INTESTINE.

Lesions of the large intestine in cases of abdominal contusion are infrequent. The divers segments are, according to Chenier (*Thèse de Paris*, 1910), involved in unequal frequency. The cæcum is the part most commonly wounded, a fact easily explained from its superficial situation and its fixity under a resisting surface.

The visceral lesions complicating contusions of the large intestine are very frequently found in the transverse colon, less so in the other segments, and very rarely in the rectum. The subserous collections of blood so often described as a characteristic symptom by many textbook writers, are not by any means of ordinary occurrence, while rents and ruptures may be observed in the longitudinal bands and tears or perforations may be present at some extraperitoneal portion of the gut. Complete rupture has been met with in only a few instances.

Avulsion of the intestine at its point of fixation is merely equivalent to rents of the omentum. Hæmatoma of the transverse mesocolon assumes considerable importance from the possibility of its being a result of wounds of the cœliac vessels, or of the pancreas. Cystosteatonecroses may complicate a lesion involving the transverse mesocolon and pancreas. Besides these complications, rents and hæmatoma of the mesocolon should lead the surgeon to fear the occurrence of gangrene of the colon.

Localized lesions, when dealt with according to modern methods, can usually be successfully treated. Resection will be indicated in every case of extensive lesions or of a rent or hæmatoma of the mesocolon. Ileocolic anastomosis may then be resorted to, but when it is not possible to accomplish this, colocolic anastomosis has, perhaps, its indications, although it is a very serious interference and the results so far obtained have been far from encouraging.

RENAL AND URETERAL LITHIASIS IN CHILDREN.

As in the adult, renal lithiasis in children may be primary or secondary, but Charvin (*Thèse de Lyon*, 1910) has found that it is more frequently primary, contrary to what occurs in the adult. Symptomatically, renal and ureteral lithiasis in children give rise to pain and hæmaturia, having the same characters as in the adult, but vesical, lumbar, or testicular irradiation is more infrequently noted, this, perhaps, because the child cannot analyze the pain.

The diagnosis, to a certain extent, can be made from the symptoms alone, but will remain rather uncertain and incomplete without recourse to radiography. More perhaps even than in the adult, in children a calculus in the kidney or ureter must be got rid of, either spontaneously or surgically. Suppuration, added to the presence of the calculus, is in itself a formal indication to operate, unless the poor general health or the diffusion of the lesions forbids the interference.

When operation is undertaken for a stone in the kidney or ureter, the interference is extremely benign, but the gravity increases when it is done for multiple lesions or when infection has taken place. The various techniques, nephrectomy, nephrotomy, pyelotomy, and subperitoneal ureterotomy, have the same indications in children as in older subjects.

COMIC SUPPLEMENTS.

There has been formed in New York a League for the Improvement of the Comic Supplement, which meets under the auspices of the Ethical Culture Society. At one of their recent gatherings the supplement in question came in for considerable abuse. A somewhat wide acquaintance with this sort of publication leads us to state our conviction that little if any harm is done by it save to the artistic taste of the young readers. It is a question if children should be permitted to feast on caricature before their ideas of painting and drawing have been formed by the study of pictures of the first rank. Satire is meaningless to readers who are without experience of the good writers and an exclusive diet of it would be pernicious to a young student; in the same way we think the rough and crude drawing of the comic supplement pernicious. As to its setting a bad example, the adventures of the naughty children as portrayed are quite out of the reach of possible imitation by real youngsters; their naughtiness is of an heroic, sometimes positively Homeric quality, and their victims belong to a class of supernormal stupidity.

MORE SUPERNATURALISM.

Unmindful of the lesson afforded by the Palladino fiasco, the *soi-disant* experts on intermundane communication are busy with a new subject, one who is from all accounts a victim of hysteria, consequently in a condition which demands treatment at competent hands. It seems to us to be of questionable legality to exploit the abnormal mentality of a patient of this kind, who requires above all else rest and repression, anything rather than the constant excitement of the absurd spiritualistic séance. Experiments of this kind lead nowhere, are grossly unscientific, even cruel and inhuman, and we believe it to be the duty of the relatives of the pseudonymous Miss Burton to rescue her from her present predicament and to place her where she may regain a normal, well balanced mind and a healthy body.

DEFEAT OF THE BAYNE BILL.

The Bayne bill, which would have placed intolerable restrictions upon progress in medical science in New York State, has been decisively beaten in the Senate by a vote of thirty-four to eleven. The members of the medical profession have cause to congratulate themselves upon this victory of common sense over hysteria and misinformation, and their thanks are due to the able legislators who refused to be carried away by an ingeniously imitated popular clamor. Let us not deceive ourselves, however; constant vigilance will be demanded to guard against similar bombardments of the temple of science in the future. Nothing is more persistent than an *idée fixe*.

News Items.

Changes of Address.—Dr. Robert Abrahams, to 257 West Eighty-eighth Street, New York.

Dr. J. P. Craney, to 305 North Nineteenth Street, Philadelphia.

Personal.—Dr. Alexander Friedman, of New York, sailed for Europe a few days ago. He expects to remain abroad about four months.

No Vivisection Inquiry at Present.—The Bayne bill, which provided for a commission of seven members to investigate experimentation on living animals in New York State, was defeated in the Senate on April 26th by a vote of thirty-four to eleven.

Medical Examiners Appointed.—The State Board of Regents has appointed the following as members of the State Board of Medical Examiners: Dr. Arthur W. Booth, of Elmira; Dr. Aaron B. Miller, of Syracuse; Dr. Henry B. Minton, of Brooklyn; Dr. Floyd S. Farmsworth, of Plattsburgh, and Dr. Ralph H. Williams, of Rochester.

To Place Dr. Ashford at Head of Sanitation Department of Puerto Rico.—It is reported that an effort is being made to pass a bill which will give President Taft authority to order Dr. Bailey K. Ashford, of the Medical Corps of the United States Army, to go to Puerto Rico as head of the sanitation department. Dr. Ashford is regarded as one of the best sanitarians in the Army. He took an active part in the crusade against hookworm disease in the South.

The Burke Foundation has purchased from the Society of the New York Hospital sixty acres of the Bloomingdale tract on Mamaroneck Avenue, White Plains, for the establishment of homes for convalescents of New York hospitals. The price paid was $180,000. Cottages that will furnish accommodations for three hundred patients will be built this fall.

The American Association of Pathologists and Bacteriologists met in annual session in Baltimore recently, and elected the following officers to serve for the ensuing year: President, Dr. Richard M. Pearce, of Philadelphia; vice-president, Dr. John J. McKenzie; secretary, Dr. H. E. Ernst, of Harvard University; treasurer, Dr. F. B. Mallory, of Harvard University.

Hospital Benefits.—The gross receipts from the children's performance of *Pomander Walk*, given at Wallack's Theatre, New York, last week, amount to over four thousand dollars. The money will go to St. Mary's Free Hospital for Children.

The eleventh annual ball for the benefit of Mt. Sinai Hospital, Philadelphia, netted nearly $20,000 for the hospital, and was a very brilliant affair.

The South Carolina Medical Association held its sixty-third annual meeting in Charleston, on April 18th and 19th. Officers for the ensuing year were elected as follows: President, Dr. J. Wilkinson Jervey, of Greenville; first vice-president, Dr. A. E. Baker, of Charleston; second vice-president, Dr. J. H. Miller, of Cross Hill, Laurens County; third vice-president, Dr. B. H. B. Lee, of Summerville; secretary, Dr. E. A. Hines, of Seneca; treasurer, Dr. C. P. Aimar, of Charleston. The 1912 meeting of the association will be held in Columbia.

President Taft to be the Guest of the Medical Club of Philadelphia.—At the annual reception and banquet of the Medical Club, of Philadelphia, President Taft will be the guest of honor He will travel from Washington under a military escort headed by Major General Leonard A. Wood and the staff of the United States Marine Hospital Corps. President Taft was to have been the guest of the club on the evening of April 20th, but pressure of business made it necessary for him to postpone the trip.

The Superintendency of Bloomingdale.—Announcement is made by the Board of Governors of the New York Hospital that Dr. William L. Russell has been appointed superintendent of Bloomingdale Hospital, to succeed Dr. Samuel B. Lyon, who will retire on July 1st, after twenty-five years' service. Dr. Russell is at present superintendent of the Long Island State Hospital. He is going abroad for a couple of months to study methods in European hospitals before taking up his work at Bloomingdale.

Dr. Ewald Expelled from the County Medical Society.—At a meeting of the Medical Society of the County of New York, held on Monday evening, April 24th, Dr. L. A. Ewald was expelled from the society by a unanimous vote on the part of members. Prior to the convening of the meeting Dr. Ewald issued a statement to the effect that the action of the society had no effect upon him whatever, because he was no longer a member. He obtained an injunction, but the Appellate Division upset it. He says he will take the case to the Court of Appeals.

Reunion of McGill Medical Graduates.—Owing to a misapprehension, the dates of this reunion were incorrectly stated in our issue of April 22d; the reunion will take place on June 6th and 7th, the two days immediately preceding the meeting of the Canadian Medical Association. Graduates can therefore attend both the festivities of the reunion and the improving meetings of the association. A slight reduction in railroad fares has already been obtained for travelers from New York and this will be considerably increased if a sufficient number of medical men apply.

An Investigation of Hospitals and Penal Institutions Proposed.—General investigation by a legislative committee of conditions in all the New York State prisons, hospitals, and penitentiaries is called for by a resolution introduced by Senator Stilwell. His resolution authorizes the appointment of a committee of three Senators and three Assemblymen to investigate Dannemora and Matteawan hospitals and following that to investigate all the other hospitals and penal institutions of the State. This committee is to report to the Legislature not later than January 15, 1912. The resolution carries an appropriation of $25,000.

Milwaukee Physicians form a New Organization.—The North Side Physicians' Club is the name of a society formed recently by the medical practitioners of Milwaukee residing on the north side of the city. The club will meet every Saturday night. The officers for the first year are: President, Dr. F. Pfister; first vice-president, Dr. G. J. Kaumheimer; second vice-president, Dr. A. Kratzsch; treasurer, Dr. L. Schmit; secretary, Dr. A. J. Brah.

The Western New York Homœopathic Medical Society.—The twenty-seventh annual meeting of this society was held in Rochester on Friday, April 14th, under the presidency of Dr. Charles R. Sumner. Nearly one hundred physicians from the cities and towns of western New York were present and delegations coming from Buffalo and Niagara Falls. The following officers were elected to serve for the ensuing year: President, Dr. George T. Moseley, of Buffalo; first vice-president, Dr. W. H. Hoyt, of Rochester; second vice-president, Dr. R. M. Schley, of Buffalo; secretary and treasurer, Dr. G. S. Price, of Fairport.

New Officers of the American Gastroenterological Association.—At the [illegible] tion, held in Philadelphia on April 19th and 20th, under the presidency of Dr. Walter B. Cannon, of Boston, the following officers were elected to serve for the ensuing year: President, Dr. W. B. Cannon, of Boston, reelected; first vice-president, Dr. J. A. Lichty, of Pittsburgh; second vice-president, Dr. William Garry Morgan, of Washington, D. C.; secretary and treasurer, Dr. F. W. White, of Boston; members of council, Dr. S. J. Meltzer, of New York; Dr. C. D. Aaron, of Detroit, Mich; Dr. Julius Friedenwald, of Baltimore.

The Medical Association of Georgia met in annual session in Rome last week, and elected the following officers for the ensuing year: Dr. M. L. Fitch, of Carrollton, president; Dr. R. M. Harbin, of Rome, first vice-president: Dr. T. R. Bradley, of Augusta, second vice-president; councilors, from first congressional district, Dr. J. Lawton Hiers, of Savannah; second district, Dr. J. C. Dean, of Dawson; third district, Dr. R. H. Stovall, of Vienna; fourth district, Dr. G. L. Williams, of Columbus; delegate to meeting of American Medical Association, at Los Angeles, in June, Dr. W. M. Doughty, of Augusta; alternate, Dr. Edgar G. Ballenger, of Atlanta. The next annual meeting of the association will be held in Augusta on the third Wednesday in April [illegible].

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the De[illegible] of Health [illegible] cases and deaths reported for the two weeks ending April [illegible]

	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Whooping cough	65	8	54	2
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

The Health of Philadelphia.—During the week ending April 8, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Typhoid fever, 27 cases, 3 deaths; scarlet fever, 40 cases, 10 deaths; chickenpox, 72 cases, 0 deaths; diphtheria, 54 cases, 11 deaths; measles, 749 cases, 17 deaths; whooping cough, 43 cases, 1 death; pulmonary tuberculosis, 75 cases, 75 deaths; pneumonia, 80 cases, 89 deaths; erysipelas, 24 cases, 7 deaths; mumps, 28 cases, 0 deaths; cerobrospinal meningitis, 1 case, 0 deaths. There were 9 deaths from tuberculosis other than that of the lungs, 17 from diarrhœal diseases under two years of age, and 3 from puerperal fever. There were 38 stillbirths: 30 males, and 28 females. The deaths of children under five years of age numbered 162, of whom 91 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 626, in an estimated population of 1,580,250, corresponding to an annual death rate of 20.60 in a thousand of population. The death rate for the preceding week was 18.26 in a [illegible] of population.

Clinics on Spondylotherapy.—A series of five clinics on the principles of spondylotherapy will be given in San Francisco by Dr. Albert Abrams, on the five days following the meeting of the American Medical Association in Los Angeles. These clinics will be free to members of the American Medical Association, but as space is limited, only those members will be admitted who have applied for cards. In writing for cards of admission to these clinics it is requested that the time of arrival in San Francisco and the approximate length of sojourn be stated, in order that the clinics may be arranged to conform to the wishes of the majority of the applicants. For further information regarding the clinics address Dr. Albert Abrams, 246 Powell Street, San Francisco, Cal.

Hospital to Teach Office Hygiene.—The Union Hospital, which has leased the old Fordham Hospital building, in the Bronx, will open it on May 1st and teach office hygiene. It will undertake to direct business and professional men, educators and ministers, in sanitary conditions under which they should work, and the length of time they should work each day and each year, if they would make the most of their time, their abilities, and their health. Three ministers of the Bronx are cooperating with Bronx doctors in founding this new hospital. The president of the association is Dr. John F. Holmes, the vice-presidents Dr. Nathan B. Van Etten and Dr. Frederic W. Loughran, and other physicians leading in the matter include Dr. William H. Kahrs, Dr. Edward F. Hurd, Dr. Clarence H. Smith and Dr. William A. Boyd.

Vital Statistics of New York.—During the week ending April 15, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,631, coresponding to an annual death rate of 17.07 in a thousand of population, as compared with a rate of 17.86 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 18.41; the Bronx, 17.17; Brooklyn, 16.01; Queens, 12.94; Richmond, 15.73. There were 160 stillbirths. The deaths of children under five years of age numbered 490, of whom 297 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 550. There were 20 deaths from suicide, 2 from homicide, and 57 due to accidents. Nine hundred and sixty-eight marriages and 2,418 births were reported during the week.

The Suffolk County, N. Y., Medical Society.—The semiannual meeting of this society was held in Islip, N. Y., on Thursday, April 27th. The programme included the following papers: A Practical Consideration of Adenoids and Tonsils and Their Treatment, by Dr. Walter Wesley Carter, of New York; The Organ of Mastication—Its Anatomical and Physiological Import, by Henry C. Ferris, D. D. S.; The Elementary Principles of Dietetics, by Dr. Frank Overton, of Patchogue. The officers of this society for the year 1911 are as follows: President, Dr. William A. Hulse, of Bay Shore; vice-president, Dr. Hugh Halsey, of Southampton; secretary, Dr. Frank Overton, Patchogue; treasurer, Dr. B. D. Skinner, of Greenport; censors, Dr. S. R. Corwith, of Bridgehampton; Dr. T. C. Lippman, of Sag Harbor, and Dr. Clarence A. Baker, of Yaphank. The one hundred and fifth annual meeting will be held at Riverhead on the last Thursday in October.

The Health of Chicago.—During the week ending April 15, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 17 cases, 6 deaths; measles, 358 cases, 8 deaths; whooping cough, 9 cases, 0 deaths; scarlet fever, 224 cases, 7 deaths; diphtheria, 136 cases, 13 deaths; chickenpox, 63 cases, 0 deaths; tuberculosis, 212 cases, deaths (not stated); pneumonia, 19 cases, 137 deaths. There were reported 7 cases of German measles, 14 of smallpox, 5 of cerebrospinal meningitis, and 72 of contagious diseases of minor importance, making a total of 1,136 cases, as compared with 1,003 for the preceding week, and 1,213 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 31, and there were 31 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 176, of whom 114 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 648, corresponding to an annual death rate of 15.05 in a thousand of population, as compared with a rate of 15.08 for the preceding week and 15.0 for the corresponding week last year.

The Northwest Texas District Medical Association at its annual session in Vernon, Tex., elected the following officers for the ensuing year: President, Dr. J. H. McCracken, of Mineral Wells; vice-president, Dr. J. H. McLean, of Fort Worth; secretary, Dr. A. H. Patillo, of Petrolia. The next seminannual meeting of the association will be held at Mineral Wells on October 11th and 12th.

The Second New York City Conference of Charities and Correction will be held on May 9th, 10th, and 11th. On May 9th the sessions will be held in the Polytechnic Institute Hall, Brooklyn; on May 10th, in the United Charities Building, Manhattan, and on May 11th, in the Children's Aid Society Home, Chappaqua, Westchester County, N. Y. All who are officially connected with public or private charitable or correctional work in New York City, or who take an active interest therein, are invited to enroll themselves as members of the conference and attend its sessions. For complete programmes and any further information regarding the conference address Mr. John B. Prest, secretary, Room 502, 287 Fourth Avenue, New York.

The American Therapeutic Society.—Preliminary programmes of the twelfth annual meeting of the American Therapeutic Society have been issued. This meeting is to be held in the Auditorium of Building B of the Harvard Medical School, Boston, on Thursday, Friday, and Saturday, May 11th, 12th, and 13th. Thursday forenoon will be devoted to the transaction of business, and the first general meeting will be held at 2:30 p. m., with Vice-president Blackader in the chair. The annual address of the president will be delivered by Dr. Harvey W. Wiley, his subject being Bromatotherapy. President Wiley's reception will be held at the Hotel Vendome at 8:30 p. m. Two general meetings will be held on Friday, one in the forenoon and one in the afternoon, and at 7:30 p. m. the annual dinner of the society will be held at the Hotel Vendome. The last general meeting will be held on Saturday morning at 9:30 o'clock, and a business meeting will be held at 3:30 o'clock. Over twenty papers are listed on the programme on subjects of interest to the general practitioner, and the meeting gives promise of being very interesting. The officers of the society are: President, Dr. Harvey W. Wiley, of New York; first vice-president, Dr. Alexander D. Blackader, of Montreal; second vice-president, Dr. Howard Van Rensselaer of Albany; third vice-president, Dr. Robert T. Morris, of New York; secretary, Dr. Noble P. Barnes, of Washington, D. C.; treasurer, Dr. A. Ernest Gallant, of New York; chairman of the Committee on Arrangements, Dr. Clarence J. Blake, 226 Marlboro Street, Boston.

Society Meetings for the Coming Week:

MONDAY, *May 1st.*—German Medical Society of the City of New York; Roswell Park Medical Club, Buffalo; Hornell, N. Y., Medical and Surgical Association; Utica Medical Library Association; Niagara Falls Academy of Medicine (annual); Practitioners' Club, Newark, N. J. (annual); Hartford, Conn., Medical Society.

TUESDAY, *May 2d.*—New York Academy of Medicine (Section in Dermatology); New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Ogsdensburgh Medical Association; Oswego Medical Association; Syracuse Academy of Medicine; Medical Association of Troy and Vicinity; Long Island Medical Society; Amsterdam City Medical Society; Lockport Academy of Medicine; Society of Alumni of Lebanon Hospital, New York; Bridgeport, Conn., Medical Association.

WEDNESDAY, *May 3d.*—Society of Alumni of Bellevue Hospital; Harlem Medical Association, New York; Psychiatrical Society of New York; Society of Alumni of St. John's Hospital, Brooklyn; Elmira Academy of Medicine; Schenectady Academy of Medicine.

THURSDAY, *May 4th.*—New York Academy of Medicine; Dansville Medical Association; Brooklyn Surgical Society; Practitioners' Club, Buffalo; Geneva Medical Society.

FRIDAY, *May 5th.*—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Gynæcological Society, Brooklyn; Manhattan Dermatological Society; Practitioners' Society of New York; Corning Medical Association; Saratoga Springs Medical Society (annual).

The American Society of Tropical Medicine.—The eighth annual meeting of this society will be held at Tulane University, New Orleans, on Thursday and Friday, May 18th and 19th. At the first session, which will be held at ten o'clock on Thursday morning, the annual address of the president will be delivered by Dr. W. S. Thayer, of Baltimore, and the reports of the secretary and the treasurer will be presented by Dr. John M. Swan, of Watkins, N. Y., and Dr. C. Lincoln Furbush, of Philadelphia, respectively. Twenty-two papers are listed on the programme, the principal topics discussed being malaria, leprosy, amœbiasis, pellagra, and yellow fever. There will be two sessions each day, one in the forenoon and one in the afternoon. The election of officers will take place on Friday afternoon.

Annual Meetings of State Medical Societies to be held in May:

Arizona Medical Association: Annual meeting in Bisbee on May 2d, 3d, 4th, and 5th, under the presidency of Dr. John W. Foss, of Phoenix; Dr. John W. Flinn, of Prescott, is secretary.

Arkansas Medical Society: Annual meeting in Fort Smith on May 2d, 3d, 4th, and 5th; Dr. R. C. Dorr, of Batesville, president, and Dr. Morgan Smith, of Little Rock, secretary.

Connecticut State Medical Society: Annual meeting at Hartford, on May 24th and 25th, under the presidency of Dr. Frank K. Hallock, of Cromwell. Dr. Walter R. Steiner, of Hartford, is secretary.

Florida Medical Association: Annual meeting in Tallahassee, on May 10th; president, Dr. James D. Love, of Jacksonville; secretary, Dr. J. D. Fernandez.

Illinois State Medical Society: Annual meeting in Aurora, on May 16th, 17th, and 18th; Dr. A. C. Cotton, of Chicago, president, and Dr. Edmund W. Weis, of Ottawa, secretary.

Iowa State Medical Society: Annual meeting at Des Moines, on May 17th, 18th, and 19th; Dr. M. N. Voldeng, of Cherokee, president, and Dr. V. L. Treynor, of Council Bluffs, secretary.

Kansas Medical Society: Annual meeting at Kansas City, on May 3d, 4th, and 5th; Dr. O. P. Davis, of Topeka, president, and Dr. Charles S. Huffman, of Columbus, secretary.

Louisiana State Medical Society: Annual meeting at Shreveport, on May 30th and 31st and June 1st; Dr. E. J. Graner, of New Orleans, president, and Dr. Joseph D. Martin, of New Orleans, secretary.

Missouri State Medical Association: Annual meeting in Jefferson City, on May 16th, 17th, and 18th; Dr. Herman E. Pearse, of Kansas City, president, and Dr. E. J. Goodwin, of St. Louis, secretary.

Montana State Medical Association: Annual meeting in Butte on May 10th and 11th; Dr. W. F. Cogswell, of Livingston, president, and Dr. H. D. Kistler, of Butte, secretary.

New Hampshire Medical Society: Annual meeting in Concord, on May 11th and 12th; Dr. Alonzo S. Wallace, of Nashua, president, and Dr. D. E. Sullivan, of Concord, secretary.

Nebraska State Medical Association: Annual meeting in Omaha, on May 2d; Dr. J. P. Lord, of Omaha, president, and Dr. A. D. Wilkinson, of Lincoln, secretary.

North Dakota State Medical Association: Annual meeting in Fargo, on May 9th and 10th; Dr. H. H. Healy, of Grand Forks, president, and Dr. H. J. Rowe, of Casselton, secretary.

Ohio State Medical Association: Annual meeting at Cleveland, on May 9th, 10th, and 11th; Dr. R. E. Skeel, of Cleveland, president, and Dr. J. H. J. Upham, of Columbus, secretary.

Oklahoma State Medical Association: Annual meeting at Muskogee, on May 9th, 10th, and 11th; Dr. David A. Meyers, of Lawton, president, and Dr. C. A. Thompson, of Muskogee, secretary.

State Medical Association of Texas: Annual meeting at Amarillo, on May 9th, 10th, and 11th; Dr. John T. Moore, of Houston, president, and Dr. Holmes Taylor, of Fort Worth, secretary.

Washington State Medical Association: Annual meeting at Spokane, on May 9th, 10th, and 11th; Dr. Wilson Johnston, of Spokane, president, and Dr. C. H. Thomson, of Seattle, secretary.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

April 20, 1911.

[illegible] tion, By Robert Soutter.

Acute Dilatation of the Stomach Following Surgical Operations. By Edward Wallace Lee.

Acute Postoperative Dilatation of the Stomach. By Robert T. Morris.

An Analysis of Forty-six Cases of Prostatectomy (*To be continued*). By [illegible]

1. Scoliosis.—Soutter, by the use of corrective and retentive apparatus, obtained results as follows: Of patients with slightly rigid cases, under 12 years of age, two thirds were greatly improved; of those from 13 to 18 years of age, almost two thirds were straightened, one third markedly improved; of those from 19 to 25, almost one half were straightened, one half were markedly improved; of those from 26 to 35, over one half were straightened, one half were markedly improved. Of patients with more rigid cases, under 12 years of age, one half were greatly improved, one fifth were markedly improved; of those from 13 to 18 years of age, one fifth were greatly improved, one half markedly improved; of those from 19 to 25 years of age, one fourth were greatly improved, three fifths were markedly improved. Of patients with very rigid cases, under 12 years of age, one fourth were markedly improved; of those from 13 to 18, three fifths were markedly improved; of those from 19 to 25, one third were markedly improved, and of those from 26 to 35, one third were markedly improved. The amount of rigidity, while not absolutely a guide to the ultimate outcome, the improvement is largely proportionate to it. The length of treatment averaged two and one third years in cases that were greatly improved and cases that were markedly improved. Of the cases that were not improved, only one was treated any length of time; that was a hopeless case from the start. Of the cases that received no benefit, 10 were treated one year, 9 were very irregular. Age is not as important a factor as would be supposed; but it is important, nevertheless. The general health, muscular condition, and endurance were greatly benefited in all cases. Almost all cases may be improved; some greatly improved, and severe cases with moderate rigidity may be greatly corrected.

2, 3. Dilatation of Stomach.—Lee discusses ætiology, diagnosis, and characteristics of dilatation following operations and gives instructions as to treatment. We find the patient in profound shock and the stomach enormously distended, not only with secretion, its so called normal contents, but gas. The indication is to resort as soon as possible to remedies which will relieve shock and sustain the patient. Mechanical irrigation, washing out of the stomach, is primarily indicated. The stomach should be relieved of its other contents and gas by the introduction of the stomach tube and, if necessary, the tube should be left in until there is no further indication for its use. The drugs indicated are, first, morphine, to relieve pain and shock, and next, strychnine, to stimulate the heart's action. This is given also for its effect on the vasomotor nervous system, with the hope that it may induce contraction of the distended stomach, for we know that strychnine is a powerful contractor, stimulating the contraction of the involuntary muscles. We know that it is of service in acute dilatation of the heart, and we know that it is one of the most trustworthy remedies in post partum uterine dilatation. Another remedy in use is eserine, which is indicated on account of its efficiency in bringing about peristalsis. This drug is strongly advised if there is any evidence that the colon or the small intestines are implicated in the existing distention. Various surgical procedures have been recommended, none of which Lee has ever resorted to.——Morris compresses his ideas on treatment into very few words: Place the patient upon the abdomen, inclined a little to the right side. That will mechanically compress the dilated stomach and unkink the duodenum. Wash out the stomach every hour or two if necessary with the stomach tube. That allows the postural mechanical resource to become more effective, and it takes away saprophyte poisons. Many of these patients, says Morris, will progress steadily toward recovery from the very moment of application of these two simple resources

4. Prostatectomy.—Davis continues the history of his cases, nine of cancer without mortality, one of tuberculosis with bad result. He had forty cases of benign growth, most of them recovering.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

April 22, 1911.

1. Obstetrics and Animal Experimentation. By J. Whitridge Williams.
2. Treatment of Stuttering, By E. W. Scripture.
3. Diagnostic Value of the Butyric Acid Test (Noguchi) in the Cerebrospinal Fluid. By S. Strouse.
4. [illegible] By Palmer Findley.
5. Treatment of Exophthalmic Goitre with Thyreoidectin. By Hughes Dayton.
6. Case of Cerebellar Tumor and One of Endothelioma of the Dura Mater of the Prefrontal Region. By Leo Newmark, H. B. A. Kugler, and Harry M. Sherman.
7. Treatment of Acute General Peritonitis. By A. D. Bevan.
8. Reconstruction of Endoaneurysmorrhaphy. By George S. Crabtree.
9. Simplified Method of Staining Bacteria. By [illegible]
10. Sterility in the Aged Cured by Wylie Drain. By Charles C. Norris.
11. Syphilitic Hypertrophy of the Inferior Turbinates. By J. W. Jervey.
12. Inoculations of Nasal Secretion from Patients with Acute Poliomyelitis. By I. Strauss
13. Ætiology of Verruca. By Douglass W. Montgomery.
14. [illegible]

1. Obstetrics and Animal Experimentation.—Williams states that the chief advances in obstetrics in which animal experimentation has played a part are: 1. The recognition of the bacterial origin of puerperal infection, which has enabled us to prevent and overcome its former terrible mortality. 2. The appliation of aseptic technique to various obstetrical operations, thereby rendering comparatively harmless many procedures which were formerly murderous. 3. The recognition of the bacterial nature of certain infectious diseases of the newly born [illegible]

which enables us to save each year the lives of thousands of infants, which under former conditions would have been lost. 4. The biological study and standardization of certain drugs, such as ergot, whereby efficient preparations are available for the prevention and control of hæmorrhage. 5. The demonstration of the internal secretion of the ovary, which has led to the therapeutical employment of ovarian tissue extracts, and to greatly increased conservatism in operations on the ovaries. 6. Experimental studies concerning the nature of the toxæmias of pregnancy. 7. The experimental production of fœtal deformities, which has led to a clearer conception of teratology, and the abandonment of the superstitious belief in maternal impressions. In conclusion, Williams says, that while the benefits which obstetrics have derived from animal experimentation are not immediately apparent, they are nevertheless very real, and have led to revolutions in obstetric practice and to results which are but little realized by the general public. Think of the millions of lives which have been saved, if we accept Boehr's calculation, that formerly every thirtieth married woman was inevitably doomed to perish from puerperal infection. Fortunately, this is not the only benefit even in obstetrics, which can be ascribed to animal experimentation, as the increased security following operations and the marked decrease in the mortality of newly born children are equally attributable to it. Indeed, it may be truthfully said that every time a physician cleanses his hands preparatory to attending a woman in labor, he is rendering a tribute to animal experimentation; although unfortunately, the world at large, which benefits from it, does not recognize its significance.

2. **Stuttering.**—Scripture gives a complete course of instruction for victims of this defect.

5. **Treatment of Goître.**—Dayton says that the few recorded results with thyreoidectin in exophthalmic goitre are, on the one hand, improvement in 100 per cent. of thirty-six cases reported by three writers; on the other, one unfavorable report on twelve cases, one of negative results in a single case, and general condemnation, without details, by three observers. To these he added five cases, none of the patients gave results which were greater than the ordinary variation in symptoms in exophthalmic goitre under the influence of rest, suggestion, and regulation of habits, while in one case the remedy appeared to aggravate the symptoms. His two patients treated with desiccated milk of thyreoidectomized animals showed extreme aggravation of symptoms in one case, apparently a direct result of the treatment, and in the other improvement, probably due to restriction of coffee. The results of treatment with thyreoidectin seem far inferior to those secured by rest, symptomatic medical treatment, or partial thyreoidectomy.

MEDICAL RECORD

April 22, 1911

1. Some Present Day Health Activities, By Walter Wyman
2. Treatment of Epithelioma, Lupus, etc., with Thorium Oxide, By J. Duncan Butler
3. The Teaching of School Hygiene, By James Burnet.
4. The Serum Treatment of Pneumonia in Infants and Young Children, By E. Mather Sill.
5. Note on Treatment of Diabetes Mellitus, By Herbert Swift Carter
6. Remarks on the Spontaneous Disappearance of Malignant Growths, By J. W. Gleitsmann.
7. A Contribution to the Diagnosis of Duodenal Ulcer, By M. Gross.
8. Reactions to Tuberculin, By Louis C. Rouglin.

1. Present Day Health Activities.—Wyman draws attention to the general substitution of machines for hand labor, abolition of poisonous matches, the overcoming of superstition by the use of the microscope and the technique of bacteriology, the establishment of governmental health boards with their accurate statistics, the growth of quarantine safeguards. The writer suggests that labor unions, Y. M. C. A., and similar bodies establish courses of free lectures on health. There should be national legislation on health matters.

3. Teaching of School Hygiene.—Burnet suggests a special diploma in school hygiene, the following courses of instruction being necessary before the candidate is admitted to examination: 1. Practical instruction in children's diseases (three months). 2. Examination of the eye, ear, nose, and throat (three months). 3. School hygiene, as outlined above (six months), the course to include practical examination of school children under a specially recognized teacher. The possession of such a diploma would be a guarantee that the candidate was practically qualified to act in the desired capacity. It would mean only a year's special training, and very little additional expense to the student. If such a diploma were instituted, and satisfactory instruction given in school hygiene, the standard of the school doctor would be raised and his money earning power increased. His status would at the same time be considerably enhanced. At the present time there was no doubt that many school doctors were looked upon as little better than school teachers and paid accordingly. Burnet's suggestion, if acted upon, would prevent this, and compel school authorities to set a higher value on the services of the school medical officer.

6. Spontaneous Disappearance of Malignant Growths.—Gleitsmann has collected the cases of this phenomenon from recent literature: Hodenpyl's case of a woman with carcinoma of mamma, neck, and liver; Power's boy with lymphangeioma of the neck; Greene's physician, fifty years of age, with probable carcinoma of a vocal cord: Koschier's eight cases; and Gould's seven cases with treatments of various kinds.

8. Tuberculin Reactions.—Rouglin notes that tuberculin reaction may be purely local, manifesting itself by increased congestion of the part, as in lupus, laryngeal tuberculosis, or tuberculosis of the eye or at the site of injection: or general, manifesting itself by any or all of the following symptoms: Headache, pain in the limbs and joints, malaise, faintness, giddiness, insomnia, drowsiness, fatigue, nervousness, vomiting, chilliness, fever blisters, enlargement of glands, rash, increased cough and expectoration, hæmorrhage, pleurisy, shortness of breath, loss of strength and weight, loss of appetite, rapid pulse, etc. A typical reaction usually occurs from eight to twenty hours after the injection. The patient begins to feel feverish, sometimes chilly, or a marked chill may usher in the reaction followed

by a fever, patient feeling [illegible] encing lassitude, and seeking his bed. All symptoms become rapidly aggravated, pain occurring in the back, legs, and head, often very severe, oppression is felt in the chest, cough and expectoration become increased, fever rises to 103° or even 105° F., and the patient may even be delirious—the symptoms resembling a severe case of grippe. In nervous persons the reaction may occur within two or three hours after the injection. It may be mild, the patient not feeling sick enough to go to bed, temperature not going over 100° F.; diarrhœa or constipation is common with mild reactions. A reaction may be delayed from sixty hours to eight days. Rash occurs only after severe reactions. Any of these conditions may occur without any appreciable rise in temperature, and so must be considered as a much more delicate and earlier indication than fever. The pulse rate usually corresponds to the temperature. Reaction should be avoided, but under our best present method of administering tuberculin, unless every precaution, watchfulness, and diligence is used severe reactions are bound to [illegible]

BRITISH MEDICAL JOURNAL

[illegible]

2. Antivivisectionists and the Research Defence Society, By Professor SCHÄFER.
3. Some Medicolegal and Practical Considerations Relating to Melancholia, By GEORGE M. ROBERTSON.
4. The Ætiology of Iritis, By T. HARRISON BUTLER.
5. Some Common Affections of the Eyes, [illegible]
6. The Mechanical Ætiology of Optic Neuritis, By MARCUS MAMOURIAN and CHARLES J. SMITH.
7. The Curative Effect of Salvarsan Serum in a Case of Syphilis, By CHARLES GIBBS and E. S. CALTHROP.
8. Postanæsthetic Acid Intoxication, By [illegible]
9. A Suggested Operation for Suprapubic Drainage of the Bladder, By J. B. PIKE.
10. Congenital Abscess of the Kidney, By STEPHEN G. LONGWORTH.
11. Fatal Case of Melæna in the Newly Born, [illegible]

5. Common Affections of the Eye.—Bennett takes these up for the benefit of the general practitioner. He warns against poultices. To diagnosticate iritis, use a weak solution of atropine; if the pupil dilates symmetrically, iritis may be excluded, and the patient may continue with the atropine for a few days. For a conjunctivitis, use weak boric acid solution or even one of common salt in distilled water; never lead lotions as they will cause a deposit on a possible ulcer. There is no need to keep patients with conjunctivitis in a dark room. In the subacute form, known as angular conjunctivitis (Morax diplobacillus) the zinc salts are indicated. In inflammation of the tear sac in infants, instruct the parents to keep the sac free from pus by occasional firm pressure at the proper point. As a prophylactic of ophthalmia neonatorum, Crede's method is excellent. To diagnosticate a possible corneal ulcer, use fluorescin (resorcinphthaleinanhydride), 2 parts, sodium bicarbonate, 3 parts, in 100 of water; any ulcer will be stained a brilliant [illegible] Oblique illumination [illegible] punctate deposits on the posterior surface of the cornea, often the only signs of a cyclitis. Pagenstecher's ointment of the yellow oxide of mercury is by no means the panacea it is thought to be, but it is valuable in phlyctenular conjunctivitis, strumous or superficial keratitis, blepharitis, and to aid in the clearing up of corneal opacities when the eye is free from inflammation. One should take every opportunity of testing eyeball tension, which will enable one to diagnosticate glaucoma from the increase in tension presented by this disease in time to save the eye.

7. Salvarsan.—Gibbs and Calthrop state that the noteworthy features of their case were: 1. The marked improvement in general health and increase in weight as soon as the serum treatment was begun. Previously the patient had lost 8½ pounds during the eleven days she was in a hospital in spite of being carefully nursed and tended. 2. The effect on the Wassermann reaction was most striking; a deviation of 15 per cent. (++) of complement is reduced to a partial deviation of 15 per cent. of complement (+—) in sixteen days; this compared very favorably with any known treatment. 3. In their experience of some thirty or forty cases of intravenous injection of salvarsan the results of the serum treatment were found to be as good as those of the drug, while the treatment produced no signs of illness.

11. Melæna in the Newly Born.—Rolston reports as follows: On December 5, 1908, he attended a woman near Duncans, B. C., in her confinement, and, after rather a difficult labor, he delivered with forceps a girl well developed and apparently healthy, weighing eight pounds. On visiting the house the next morning the nurse told him that the child had vomited a small clot of blood just staining the linen. In the evening he was called again, as the child was vomiting blood and passing dark, jellylike clots of blood per rectum. Every time the child strained she evacuated quite large clots of blood, and continued to do so until she died at 1.30 a. m. on December 7th, about forty hours after birth. He did not perform a post mortem examination, unfortunately. The mother stated that her first child had died very young some years previously; the cause of death, she did not remember. The parents both appeared to be strong and healthy people, and have since removed from the district. His father when practising in Manitoba had about twenty years ago a case of melæna in a child which died within a week of birth.

[illegible]

1. Address on Arteriosclerosis and the Kidneys (*To be [illegible]*), By Sir [illegible]
2. Heart Failure, By JAMES MACKENZIE.
3. Surgical Treatment of Chronic Colitis, By D'ARCY POWER.
4. Use of Vaccines in Acute Mastitis, By T. H. C. BENTANS.
5. Erythema Nodosum Following Measles, By [illegible]
6. Case Illustrating the Value of Surgical Treatment of Pulmonary Cavities, By J. DELPRATT HARRIS.
7. The Use of Scopolamine Morphine in Labor, By [illegible]
8. Evidence of Recent Severe Illness Afforded by the Nails; with a Note by Sir Samuel Wilks, By [illegible]

1. **Arteriosclerosis and the Kidneys.**—Allbutt calls this problem one of the most alluring and baffling in pathology. Albumin in the urine is no criterion of Bright's disease, even with high arterial pressure; they may come from high living. Granular casts, however, are of grave omen. The affections of the arteries in the kidney are, then: 1. Arteriosclerosis, the frequent alteration. 2. Endarteritis obliterans, an incidental and secondary condition. 3. Thick media, perhaps a hypermyotrophy (?). 4. Infective processes, such as the scarlatinal, the syphilitic, etc., attacking the vessels. And to these classes may be added the accidental processes of infarction and of embolism.

3. **Surgical Treatment of Chronic Colitis.**—Power says appendicostomy gives the best chance to the patient. As to other measures, he has tried many different drugs as local applications in these difficult cases of ulcerative colitis. Carbolic acid, in all its forms, and, however disguised, has caused carboluria so often that he has ceased to use it. Bismuth salicylate, bichloride of mercury, biniodide of mercury, and boric acid caused irritation in the earlier stages and were discontinued. Bismuth carbonate (15 grains to 1 pint), potassium permanganate (1 in 30,000), and a preparation of hæmatoxylon acted on by formaldehyde (40 grains to 1 pint), proved most useful, and were soothing. In the later stages of the disease irrigation with bichloride of mercury (1 in 20,000), zinc sulphate (4 drachms to 3 pints), and silver nitrate in the strength of 5 to 10 grains to the pint of sterilized water gave the best results when they were used alternately. Ionized irrigations were employed on several occasions, but he could not satisfy himself that they were followed by any marked improvement. Chlorodyne was always useful when an anodyne was required, and it never seemed to lose its effect.

4. **Vaccines in Acute Mastitis.**— Benians, discussing ætiology and pathology, says: There are two organisms which are the cause of almost all the cases of acute mastitis. They are the *Staphylococcus aureus* and the streptococcus of one variety or another. 1. *Staphylococcus aureus* is by far the more common. It usually enters by the ducts, causing clotting of the milk and obstruction; it then multiplies in the acini. The condition begins as a lobular mastitis, and subsequently the surrounding tissues may be involved with suppuration. 2. The streptococcal form of infection occurs through a lesion of the nipple; it spreads by the lymphatics and involves the interglandular cellular tissues without at first causing obstruction of the milk. As to treatment, he concludes that the value of vaccines in cases of chronic suppuration is too well known to need much comment, and the results of treatment in his cases may be briefly summarized thus: Taking an average, the time that suppuration had been going on in his thirteen cases was fourteen weeks each, and the patients were discharged cured in an average time of five and a half weeks each from the commencement of vaccine treatment. In one case there had been recurrent abscesses for fourteen months, and the breast was a mass of fibrotic tissue—a pure culture of streptococcus was present in this case, and cure was only complete after six months' treatment. In another case sinuses had been present for eight months, and the patient was discharged cured in five and a half weeks. In two other cases of six months' duration cure was complete, in one case in two and a half weeks and in the other in five weeks. These numbers are exclusive of one case, in which treatment was discontinued. No improvement whatever was effected by several months' use of autogenous vaccines. This was a case of streptococcal infection, and the breast was riddled with sinuses. Drastic surgical measures were finally resorted to and a cure is now (November, 1910) almost complete. The routine treatment was as follows: There being no sign or history of a lesion of the nipple, a staphylococcal infection was diagnosticated, and an injection of from 400 to 800 million of a stock vaccine of *Staphylococcus aureus* was given, usually in the upper arm. Films of pus from the wound were made and the wound cultured, so that the bacteriological diagnosis might be confirmed on the following day. In patients who did well one further injection of a similar amount was given about a week later, and this was usually all that was required. Opsonic indices were not done, but if a patient ceased to do well the wound was recultured and usually showed that a secondary infection had occurred. Those patients whose sinuses had not been sufficiently freely opened at the outset did badly until surgical means were again resorted to, for it appears that where pus is pocketed the condition is only aggravated by the administration of vaccines. Every one of these fifteen cases gave a pure culture of *Staphylococcus aureus* in the first instance. The results of treatment were as follow: Five patients ceased to attend soon after the first injection; one patient became secondarily infected with streptococcus, and healing was delayed for ten weeks; nine patients were discharged healed in an average of twenty days each.

7. **Scopolamine and Morphine in Labor.**—Corbett states as a result of his experience in twenty cases that: 1. The scopolamine morphine combination is of great value where hysteria and distress are manifest during the first stage of labor. If possible it should be given only in the first stage and not repeated. 2. No ill effects to the mother need be expected, even with full and repeated doses. 3. No ill effects need be expected for the child, even where the mother has had full and repeated doses, provided that delivery does not take place at four hours or less from the time of the last dose, otherwise apnœa will ensue. On the other hand, where the drug is without effect on the mother it is not likely to affect the child, even if born within four hours. 4. The cause of the apnœa is probably the morphine, and so where it is necessary to give the drug late in the first stage, or early in the second, the morphine should not be given in larger doses than one sixth grain, or omitted. 5. A hot bath is the best treatment for the apnœa. 6. Strychnine may prove to be a useful addition to the mixture. It does not diminish the analgetic effect of the combined drug, and it may help to prevent the apnœa in the child.

2. A Recent Series of 200 Cases of Total Enucleation of the Prostate.
The Treatment of Pulmonary Tuberculosis with Bovine Tuberculin, By Nathan Raw.
4. Acute Inflammation of the Thyreoid Gland, By W. Sibbald Robertson.
5. How Far Can the Abuse of Drugs be Prevented by Law?
6. An Unusual Case of Bullet Wound of the Skull. By W. L. Harnett.
The Eye of Surgical Needles: a New Form,

2. Enucleation of the Prostate.—Freyer, in connection with his 200 operations had nine deaths, or 4.5 per cent. the causes of death being as follows: 1. Five patients died from uræmia; in two of whom, aged fifty-nine and seventy-one years, respectively, necropsy revealed extensive pyelonephritis; in two, aged seventy-six and eighty-three years, necropsy showed long standing backward pressure changes (aseptic) leading to almost complete absence of secreting tissue in the kidneys, only a thin layer of cortex remaining; and in one, aged seventy-three, the patient was suffering from an extreme form of paralysis agitans. 2. Two died from exhaustion. In one of these, in which death occurred thirteen days after the operation, there were almost daily rigors with high temperature though the bladder was clean; no doubt the kidneys were pyelonephritic, though no necropsy was obtained; the other, aged eighty-seven years, had been confined to bed for six weeks from pneumonia immediately previous to operation. 3. One, aged seventy-four years, a very stout patient who was suffering from severe cystitis, chronic asthma, and bronchial catarrah with dilated heart, succumbed from bronchitis twenty-two days after operation. Spinal anæsthesia was tried in this case but failed, and general anæsthesia had to be employed, which, no doubt, was responsible for the fatal bronchitis. 4. In one patient, aged seventy-eight years, double vasectomy and subsequently castration had been performed by another surgeon several years before, without any benefit to the prostatic symptoms. For two years before coming under Freyer's care the patient had passed his urine through a suprapubic fistula established for this purpose. The apparatus fitted badly, owing to the bladder being filled by the enormous prostate, causing great pain and frequent hæmorrhage, and urine constantly leaked beside the tube. Altogether the patient was in an extremely wretched condition, and begged to be relieved of his prostate at any risk. The prostate, which weighed eleven ounces, was easily enucleated, but the patient succumbed to shock in eight hours. It will be observed that in one and all of these nine cases in which death supervened on the operation the patient was afflicted with one or more grave complications which must have proved fatal after much suffering. In no case did death ensue where the vital organs were sound at the time of operation. Had the cases been selected, therefore, the mortality would have been *nil*. But, as will have been gathered from the cases described—and numerous others of similar gravity could have been given—selection would have condemned most of them to a painful death after more or less prolonged suffering, instead of the complete restoration to health that ensued in each case from operation. It is, of course, impossible to avoid a certain mortality when such cases are operated in; the wonder is that it is so small considering the magnitude of the operation and the age and condition of the patients. But to refrain from operating in such cases, when there is any prospect of success, is utterly unjustifiable.

3. Bovine Tuberculin in Tuberculosis.—Raw, after a large experience in the treatment of tuberculosis in all its forms, has come to the firm conclusion that tuberculin is a valuable remedy in a great many cases. The special variety of tuberculin to be used must be determined by the nature of the infection with which we have to deal, and as nearly all cases of pulmonary tuberculosis or consumption are of human origin, it is necessary to use bovine tuberculin. It is less irritating and less liable to produce reaction when given in the larger doses in cases of consumption. Tuberculin is not a specific remedy in severe tuberculous infections; combined with other methods of treatment, directed to raise the general nutrition, its chief effect seems to be to prevent the further spread of the disease, and to inhibit the growth of the bacilli in the human tissues, so that the original tuberculous process dies out. It has a specific action on the blood in retarding the growth of tubercle bacilli. The immunity which it produces must be arrived at slowly and with caution, and it cannot be too strongly emphasized that all tuberculous infections of however mild a type become constitutional or blood infections in a very short time, as is evidenced by the cutireaction of von Pirquet. The milder the infection in the human body the greater the reaction after inoculation with tuberculin. It is a matter of common experience that a child with a small tuberculous neck gland will give a well marked cutireaction, while an advanced case of tuberculosis may give no reaction at all. Raw warns against the use of tuberculin by injection in cases where there is any encysted pus or tuberculous material in a state of caseation. Unless there is an outlet for this caseating débris there is danger of local reaction with dissemination of the bacilli and a possible blood stream infection. In suppurating tuberculous glands in the neck pus should be removed first and then tuberculin may be given with safety and benefit. It is a remedy of the greatest value, especially in early cases and where the deposit of tubercle is localized, as in one apex, or in a lymph gland, or single joint, but where the tuberculosis is disseminated and complicated by secondary infections the use of tuberculin cannot be expected to be of much avail. It ought, however, to be tried in every case with the hope of some relief or possible benefit. Tuberculin is a valuable aid to other methods of treatment, and must be used with care and discrimination, with a full knowledge of its dosage and therapeutic effects.

2. The Indications for, and Technique of Cæsarean Section and its Alternatives, in Women with Contracted Pelves. By Amand Routh.
3. An Inquiry into the Nature of the Skeletal Changes in Acromegaly, By Arthur Keith.

4. A House Epidemic of Enteric Fever Due to a Carrier of an Atypical B. Typhosus,
By W. James Wilson and John A. Sinton.
5. [illegible] Cases of General Anæsthesia combined with Narcotics. By Gilbert Brown.
6. Prolapsus Uteri: Ventrifixation, By John O'Conor.
7. Some Common Forms of Deafness,
By W. H. Kelson.

1. **Heart Failure.**—Mackenzie, in treating [illegible] cases, found himself confronted with patients who refused to retire from business, even for short periods; he was, therefore, compelled to devise means for giving rest without interruption of occupation. The good effects of digitalis are due to its property of giving rest to the heart, by slowing its action. The writer has no belief whatever in strychnine in medicinal doses, and calls the preanæsthetic dose given by surgeons a superstitious, ceremonial rite. Few of the multitude of remedies given to heart patients have any value, and rest is the keynote of all beneficial treatment.

2. **Cæsarean Section.**—Routh finds three classes of cases where this operation is indicated: 1. Cases which have been exposed to infection, but where the membranes are not ruptured. If germs had been carried into the vagina during previous examinations they could almost certainly be destroyed or rendered harmless by copious vaginal antiseptic douches. 2. Second type of case. In labor some hours, membranes ruptured, vaginal examination made, no feverishness, no offensive discharge. The liquor amnii is found to be sterile. Here a classical Cæsarean section could be safely done, though some would prefer to eventrate the uterus before incision as the woman has been previously examined. 3. Third type of case. In labor some hours, membranes ruptured, examinations made or attempts at delivery, some offensiveness of discharge, possibly some feverishness. He assumes that saprophytic organisms are found in the liquor amnii but no pathogenic organisms. Primary union of the uterine wound might fail in these cases, and unless a uteroabdominal fistula formed fatal peritonitis would then follow. This group may be represented by two of Routh's patients; both women had been long in labor and were treated by Cæsarean section and died from sepsis. In each case when the amniotic cavity was opened it was found to contain air which was very fœtid. Unfortunately no bacteriological test of the liquor amnii appears to have been made in these cases. Both children were alive at birth, but one, upon whom forceps had been used, died on the second day. Extraperitoneal Cæsarean section and all forms of pelviotomy being, in his opinion, better avoided for septic cases, and classical Cæsarean section being very fatal, there remains only craniotomy or some variety of Cæsarean hysterectomy.

3. **Skeletal Changes in Acromegaly.**—Keith states that the two points which he wished to bring forward evidence to prove in this paper were the following: 1. That the changes in acromegaly are of the nature of true growth, and are apparently due to the circulation through the body of a substance formed in the pituitary. This substance seems only to sensitize the tissues, the actual cause of their growth being mechanical stimuli arising from muscular action and mechanical movement. 2. The growth changes seen in the acromegalic are of the same nature as those which occur normally in anthropoids and in the Neanderthal race, and both are probably due to a condition of hyperpituitarism.

7. **Common Forms of Deafness.**—Kelson lays down the general principles in the treatment of deafness. In the first place one must inquire into the habits of the patient, with a view to prevention of catarrh, and deal with any postnasal catarrh and hypertrophic rhinitis there may be present. Alkaline washes to the nose and iodine paint to the postnasal space are very useful, but above all keep the ear well inflated by Politzer's bag or the catheter. In cases of a particularly obstinate character with Eustachian obstruction, Eustachian bougies are sometimes used, and some surgeons are fond of injecting drugs such as menthol, etc., into the middle ear through a Eustachian catheter, or through a cannula passed through it, but the results are apt to be disappointing. The injection of hot air Kelson has several times found to produce marked improvement. Electric massage has also been recommended. An unfortunate common cause of deafness is the disease known as otosclerosis. This is not an affection of the mucous membrane, but a disease of the capsule of the labyrinth consisting of the formation of new bone in some parts and absorption in the others, resulting in more or less fixation of the stapes, and often blocking up of the round and oval windows with bony growths. This disease is more common in middle age, but may occur in young or old persons. Tinnitus often precedes the deafness, and is a notable symptom. The deafness is apt to be steadily progressive. The membrana tympani appears practically normal in most cases. Inflation can be easily accomplished, but does not improve the hearing. Rinne's test is negative, paracusis well marked. All the above, taken together, give fairly conclusive evidence that we have present a case of otosclerosis, the treatment of which disease has so far been very unsatisfactory. Numerous drugs, such as iodide of potassium, phosphorus, and arsenic, have been tried with but little success.

PRESSE MÉDICALE.

March 1, 1911.

1. Mechanism of Spasmodic Contractures. By Nogier
2. Cephalalgia of Defective Vascular Tension.
By Martinet

March 4, 1911.

3. Malta Fever with Pernicious Anæmia. By Ravaglia
4. Two Cases of Symmetrical Lipomatosis.
By Bernier
5. Family Heredity: Its Influence on Phthisis.
By Morel

March 8, 1911.

6. Localization of Projectiles in the Tissues.
By Chavasse and Vallant
7. Flat Foot and Tuberculosis,
By Gosset and Duchêne
8. Danger of Dissemination of Plague by Fleas.
By Raybaud

March 11, 1911.

9. Orientations of Medicine. Inaugural Lecture.
By Widal
10. Albuminoreaction in Expectorations, By Lecaplain
11. An Antiptosic Pneumatic Belt. By Charnaux

2. Cephalalgia of Defective Vascular Tension.—Martinet has noted in women who are victims of defective vascular tension with weak cardiac contraction, a form of headache, always occipital, continuous, with exacerbations when the patient is in the

horizontal posture; it frequently disappears on the vertical attitude being assumed. It is not worse after meals, is not influenced by the season of the year, is extremely rebellious to treatment and to diet, the vegetarian régime often making it worse, and it is not generally accompanied by vomiting fever, or digestive disturbances. Martinet finds that the women with this type of headache have small hearts, small aortas, and small arteries; systole is weak; there is venous stasis in the legs. Probably the headache is due to a meningoencephalic venous stasis in the tentorial and lateral sinuses. Treatment should be directed towards increasing the circulation in the lower limbs and in the skull by hydrotherapeutic measures and electricity. Strychnine, sparteine, and digitalis may be given. Cold douches should be applied to the spine, hot foot baths are indicated, alcohol rubbing, Swedish gymnastics. In obstinate cases, galvanism, the negative electrode on the occiput, the positive in a foot-bath, with an intensity of from 20 to 30 milliampères and a duration of about half an hour.

3. **Malta Fever.**—Rauzier gives details of a case in a woman which came under his observation; it was marked by an acute leuchæmia, intense anæmia, multiple adenopathies, notable hypertrophy of liver and spleen. The writer emphasizes the fact that the mortality from this very serious disease has been greatly underestimated.

5. **Family Heredity in Phthisis.**—Molle gives the history of a tuberculous mother and two daughters similarly afflicted to draw attention to the frequency with which exactly the same lesions occur in the same family, in this instance dullness in the left apex, hyperæsthesia of the muscles of the left side of the body with a habit of favoring that side by sleeping on the other, but a normal right lung.

7. **Flat Foot and Tuberculosis.**—Gorse and Dautheville affirm that flat foot in the young is often a sign of tuberculosis, being due to an infectious osteoarticular process; in such cases pain is a prominent symptom.

8. **Fleas and the Plague.**—Raybaud points out that *Ceratophyllus fasciatus*, the flea that infests the Eastern dog and marmot, can carry the pest bacillus unharmed in its intestine during forty-five days of a sort of hibernation that this insect undergoes. The infected flea gets packed into bundles of merchandise and crosses Siberia with the caravans in perfect safety.

10. **Albumin in the Saliva.**—Lecaplain has found that albumin is always present in the saliva of the patient with a progressing tuberculosis and believes its absence to indicate that no tuberculosis exists; albumin is also found during an acute attack of pneumonia. If albumin is found in the sputum of a patient who positively has syphilis, it may be considered as diagnostic of a coexisting tuberculosis.

SEMAINE MÉDICALE

March 15, 1911

[illegible]

March [illegible]

2. Diagnosis of Suppurating Hydatid Cysts of the Liver, By [illegible]

1. **Auricular Gymnastics.**—Fernet is surprised that among all the treatments advised for deafness so little is done for the muscles of the ear, the functional incapacity of which must frequently be a contributory cause. Not only the stapedius and the tensor tympani have an effect on hearing, but also the muscles of the pinna, which sensibly alter the shape and direction of the external orifice of the ear. The latter may be exercised by trying to move the scalp, first, and then applying the will power directly to the ear muscles; ere long the patient will find that he can move them at will. The internal muscles can be exercised by attentive listening to the ticking of a watch, very slowly moved away from the ear. Fernet improved his own hearing in this manner and urges its trial by others. Exercise, he says, of any part of the apparatus of a given organ is sure to benefit all parts.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

March [illegible]

1. Experimental [illegible] By [illegible]
2. [illegible]anaphylaxis at Epoch Formation. By [illegible]
3. The Serum Diagnosis of Tuberculosis, By [illegible]
4. The Utility of the Glyzyl-Tryptophan Test in the Diagnosis of Carcinoma of the Stomach, By NEUBAUER and FISCHER.
5. Return Cases in Diphtheria, By SOERENSEN.
6. Simultaneous Scarlet Fever and Typhoid Fever, By [illegible]
7. Lipogenous Diabetes, By KISCH.
8. The Cause of the Incarceration in Retroflexion of the Gravid Uterus, By CRAMER.
9. Experiences with Salvarsan, By ISAAC.
10. The Behavior of the Heart in Congenital Funnel Breast, By GROEDEL.
11. The Use of Mastic Dressing and the Hæmostatic Forceps of Blum], By [illegible]
12. Contribution to the Treatment of Wounds with "Mastic Oil" (v. Oettingen), By VOOS.
13. Thyreotoxic Symptoms and Their Treatment with Antithyreoidin, By LASER.
14. Obstetrics in Munich for a Hundred Years, By [illegible]

1. **Experimental Syphilis.**—Hoffmann finds that slight secondary syphilides may be produced occasionally in the lower monkeys after cutaneous inoculation. Characteristic general syphilides of papular, pustular, and varioloid appearance appear in the lower monkeys 12 to 13 weeks after inoculation in the testicles. Even when only local symptoms are produced syphilis is not to be looked upon as a localized disease in monkeys and rabbits any more than in man. The general symptoms, which rarely appear, and the transmissibility of the disease by the internal organs of monkeys and rabbits indicate that probably the spirochætæ of syphilis spread everywhere in the organism. The assertion of Uhlenhuth that rabbits are more sensitive to syphilis than the lower monkeys is not justified; on the contrary, the lower monkeys seem to be better fitted for inoculations of virus coming from man, even when it has been impaired by treatment with salvarsan or mercury. Frequently in inoculations of the eye a circumscribed tumor like syphiloma developed from a keratitis which began in the central or peripheral parts of the cornea. The tumor was situated in the substance of the cornea, was yellowish gray in color, and resembled somewhat a gumma. The primary syphiloma of the cornea is particularly well suited for exact histological study. They exhibit, in spite of the comparatively simple structure of the cornea, an extremely varying structure, which usually corresponds to that of the human

chancre, but sometimes resembles the picture of tuberculosis through the presence of nodules that resemble tubercles. In the infiltrate, which chiefly contains plasma cells, there are newly formed lymphatic vessels densely filled with lymphocytes and plasma cells, together with numerous newly formed blood capillaries and their sprouts. These corneal diseases are not like the metastatic forms of keratitis in man, but are primary corneal syphilomata.

2. **Anaphylaxis and Lymph Formation.**—Calvary says that in dogs a reinjection of horse serum two weeks after the first injection is followed by a great increase of the quantity of lymph. At the same time the lymph becomes incoagulable. The first injection of a foreign serum, as well as the reinjection of a heterologous serum, has no influence on the formation of lymph. Barium chloride and calcium chloride are ineffective against this symptom.

3. **Serum Diagnosis of Trichinosis.**—Stroebel asserts that it is possible in at least a part of the cases to diagnosticate trichinosis by the complement fixation method. The active antibodies have not appeared at the end of fourteen days, but at the end of ten weeks they are distinctly demonstrable.

5. **Return Cases of Diphtheria.**—Soerensen finds that return cases of diptheria are much more rare than return cases of scarlet fever and follow a much more benign course, so benign that he does not remember to have met with a single fatal case. A study of his cases offers the paradox that neither the presence of bacilli in the patients when discharged renders infection in the other members of the family much more probable, nor is their absence an absolute guarantee against infection.

1. Diatheses and Dyscrasiæ in the Light of Our Present Knowledge, By Hering.
2. Contributions to the Formation of Concretions, By Schade.
3. The Origin of Pancreatitis Associated with Gallstones, By Arnsperger.
4. Complement Deviation in Carcinoma, By Caan.
5. Statistics and Therapeutics of Neurorecurrence under Salvarsan Treatment, By Benario.
6. Röntgen Flash Pictures, By Alwens.
7. Confirmation of Rumpel-Leede's Phenomenon in Scarlet Fever, By Bennecke.
8. Culpable Youth and Psychopathic Inferiority, By Rupprecht.
9. The New Method of Treatment of Essential Pruritus Vulvæ and of Other Sacral Neuroses, By Schubert.
10. Sugar and Albumin in the Urine Following an Infected Wound of the Head, By Eisengraber.
11. [illegible] By Jaksch
12. Milk Albumin and the Different Prescriptions for Its [illegible] By Siegert
13. Treatment with Carbonic Acid Snow, By Strauss.

2. **Formation of Concretions.**—Schade presents *in extenso* the results of his investigations concerning the formation of concretions and concludes that the first and commonest form is that of layers, in the composition of which colloid deposits are associated. Certain colloids, like fibrin, form layers when precipitated, and if this precipitation takes place about a freely suspended little body the lamination is concentric. If crystalline substances are associated with the colloid the laminated construction predominates primarily and a radiating crystalline structure becomes more or less distinct secondarily. This is the usual law for inorganic substances, from which are formed urinary calculi, salivary calculi, pancreatic calculi, intestinal calculi, and the inflammatory calculi of bilirubin and lime form in the gall bladder, as well as the preponderatingly colloid formation such as the concretions met with in the prostate and joints. Cholesterin concretions are different and are produced by the separation of drops. When the process proceeds undisturbed the cholesterin concretion has a radiating form, but when pressure is exerted upon it it is transformed into the scaly form. The combination of this form with subsequent crystallization is also common. Both kinds of formation are united by transition forms. The great importance of the colloids in the formation of the laminated stones is pointed out.

3. **Pancreatitis Associated with Gallstones.**—Arnsperger says that while acute and chronic pancreatitis associated with gallstones in the ductus choledochus are naturally explained through the intimate anatomical relations of the efferent ducts of both the swelling of the head of the pancreas is not so readily explained in cases of simple cholecystitis without involvement of the deep biliary passages He thinks that the latter probably originates from the lymph passages of the inflamed gall bladder. In many cases it may not be a true pancreatitis, but a lymphadenitis pancreatica, a swelling of the lymphatic apparatus of the head of the pancreas which rapidly recedes after the removal of the inflamed gallbladder.

4. **Complement Deviation in Carcinoma.**—Caan reports that in 85 cases of carcinoma in which there was no history or clinical indication of syphilis 35 gave a positive, or weakly positive reaction to Wassermann's test. The most marked were the cases of carcinoma of the lip; of seven cases six reacted positively.

5. **Nerve Troubles under Salvarsan Treatment.**—Benario has collated from literature 126 cases, out of a total of at least 14,000, in which the cranial nerves were affected. Of these 126 cases he excludes eight as cases of latent syphilis, tertiary syphilis, or parasyphilitic disease. Of the remaining 118, 5 patients were in the primary stage, 22 in the combined primary and secondary, 82 in the secondary, and 9 not accurately classified, but almost certainly secondary. The small number of primary affections in comparison with the total number of nerve recurrences shows that the very important preventive treatment of the primary affection does not appear to offer special danger as regards nerve recurrence with the salvarsan treatment, especially as the number of primary affections preventively treated with salvarsan is evidently very great. Yet it will be well to consider and to treat as dangerous all chancres which are three or four weeks old, which are associated with large swellings of the lymphatic glands, and in which Wassermann's reaction is positive. The nerves affected were the optic, oculumotor, trochlear, trigeminus, abducens, facial, and auditory. Twenty-six and one tenth per cent. occurred in the first month after the injection, forty per cent. in the second month, twenty-three and five tenths in the third month, and seven per cent in the fourth month. The age of the patients was from 17 to 64 years; between 17 and 20 years

the patients were women only, while from 30 to 50 years the number of men was double that of women. He believes the nerve affections to be not of a toxic nature, but clinical symptoms of a swelling induced by the pathological process, because 1, of the long interval between the injection and the onset of the nervous manifestations; 2, of the nature of the morbid process itself, as is specially shown in the affections of the optic nerve; 3, because the disease appears almost exclusively during a certain period of syphilis; 4, because it has not been observed in nonsyphilitic affections treated with salvarsan; 5, because of its curability by specific treatment, particularly by renewed treatment with salvarsan; 6, because it has appeared in most cases after a small dose of salvarsan; 7, because the same symptoms have been observed to occur under mercurial treatment.

WIENER KLINISCHE WOCHENSCHRIFT

[illegible]

1. Pathogenesis and Prophylaxis of the Pest, [illegible]
2. Decapsulation of the Kidneys in Eclampsia, [illegible]
   A Sulphur Reaction in the Urine of Cancer Patients, [illegible]
   Physiology of the Human Stomach, [illegible]
5. Does Atoxyl Influence the Formation of Antibodies? By So.
6. Preventive Treatment of Syphilis with Salvarsan, By R. KNAUER.
7. [illegible]

2. Decapsulation of the Kidneys in Eclampsia.—Franz reports a case of eclampsia in which he obtained an excellent result from Edebohls's operation of decapsulation of the kidneys. He says the difficulties consist of the choice of the time and the preliminary conditions for the performance of the operation. He thinks it not indicated before delivery because the toxic source which brings about the eclampsia persists after the uterus has been emptied, and that it is too soon to perform it immediately after delivery, because the effect of the emptying of the uterus should be awaited. But if the eclampsia should persist too long after delivery the result is doubtful because irreparable organic changes may have taken place. Long continued, repeated attacks, coma, cardiac troubles, and cyanosis alone do not form indications, but decapsulation should be performed in those cases in which, in addition to the other toxic symptoms, the function of the kidneys is impaired.

4. Physiology of the Human Stomach.—Mantelli says that immediately after great muscular exertion reduction of the gastric secretion of psychic origin is considerable. During this period [illegible] from the gastric mucous membrane is very slight or nil. Even if an interval of rest of about an hour occurs after great muscular exertion the secretion, for psychical reasons, is only about a third of the normal. Otherwise, the secretion excited from the gastric mucous membrane by the local effect of the food is about half the normal. The digestive power of the gastric juice secreted after great muscular exertion is very slight. Immediately after great psychical exertion the inhibition of the action of the gastric secretion is much greater than after a physical exertion.

6. Preventive Treatment of Syphilis with Salvarsan.—Knauer says that of 200 patients treated with 606, 19 received it as a preventive in the primary stage of the disease. Three of these are not considered, as the treatment is too recent. Of the remaining 16, two escaped from observation, leaving 14 who received the treatment from three to six months before the writing of the paper. Recurrences have appeared in 5 of these 14. Of the remaining 9 the cure must be considered incomplete in one because the chancre was still hard at the end of three months, although the swelling of the glands had not increased and no exanthem had appeared. Positive complement deviation without symptoms of recurrence was present in one two months after the injection. In 5, no new syphilitic symptoms appeared, Wassermann was negative, the initial lesion was replaced by a delicate cicatrix, and the glandular swellings had either retrograded completely or were very slight. These results give some hope that complete recovery will be eventually secured by the preventive use of salvarsan.

MEDIZINISCHE KLINIK

[illegible]

1. An Attempt to Make Local Immunity Useful in Prac[illegible] By [illegible]
   [illegible] amination to Make an Early Diagnosis of Pulmonary Tuberculosis for the General Practitioner? By SCHWALM.
3. Influencing Quinine Fastness in Malaria by Salvarsan, By BILFINGER.
4. Does an Acute, Grave Attack of Appendicitis Depend upon Inflammation or More Ileuslike Processes? By SORGE.
5. Methiodcarbon, a Convenient and Not Dangerous Means for Disinfection of the Hands and the Field [illegible] By [illegible]
6. New Experiences with Carbenzym, By ANTON STICKER.
7. A Case of Acute Singultus, By F. KANNGIESSER.
8. Irritation of the Optic Nerve after Intravenous Injection of Salvarsan, By JANSEN.

1. Local Immunity.—Von Wassermann prepared a staphylococcus extract, which was tried by Ledermann, who thus sums up the results: Wassermann's staphylococcus extract in gelatin produces a local immunity of the skin to staphylococci, and is suited not only for the treatment of superficial, local cutaneous infections, but also for the prevention of local recurrences. The 25 to 50 per cent. ointment of staphylococcus extract is suited for the treatment of forms of impetigo contagiosa produced by staphylococcus infection as well as for the more rapid healing of deep seated furuncles after evacuation of the pus. In this the combination with artificial hyperæmia by means of Bier's stasis is of particular use.

3. Influencing Quinine Fastness in Malaria by Salvarsan.—Bilfinger reports a case in which a syphilitic suffering from malaria was unaffected by quinine until after salvarsan had been administered to cure his syphilis, when the response to quinine became immediate and strong.

8. Irritation of the Optic Nerve after Intravenous Injection of Salvarsan.—Jansen reports the following case: A man with incipient tabes,

Wassermann +, received an intravenous injection of 0.4 salvarsan. His temperature rose to 38° C. in about eight hours and then returned to normal. His general condition was very good; he had no intestinal or other troubles. Four hours after the injection a gradually increasing flickering appeared before the eyes and then slowly decreased until at the end of three hours it had disappeared. The fundus was examined before the injection and found to be normal; after the injection the appearance was the same. The patient was not neurasthenic or frightened. The flickering was considered to be due to a transitory irritation of the optic nerve.

[illegible] 1911.

1. Wassermann's Test, By C. Fraenkel.
2. Vital Reactions and Their Clinical Imprint, By J. Bauer.
3. The Importance of the Steam Jet in Therapeutics, By L. Brieger.
4. The Discoloration of Inflamed Eyes from the Internal Use of Uranin, By Fehr.
5. Flat Foot and Deformities of the Toes, By G[illegible] Müller.
Technique, Anatomy, and Indications [illegible] Symphyseal Delivery of Frank, By Karl Hartmann
[illegible] Suppuration of an Ovarian Cyst on the Right Side Following Appendicitis, By Wolfgang Kracer
[illegible] Typhoid Fever, By Hans R[illegible]

2. Vital Reactions.—Bauer discusses the subjects of immunity, anaphylaxia, and allergia. Immunity may be said to be synonymous with insensibility of the organism, anaphylaxia with supersensibility to the introduction of antigen, while allergia is a term which includes both conditions.

4. Discoloration of Inflamed Eyes by Uranin.—Fehr corroborates the observations of Hamburger that uranin, which is the same as fluorescein, may be given in very large doses without causing any trouble whatever, but moderately large doses, from three to six grammes, cause in from twenty to thirty minutes a marked icterus with green discoloration of the saliva and lacrimal fluid and a red discoloration of the urine, all of which pass away within twenty-four hours. He also corroborates the observation that a healthy eye, or one suffering from conjunctivitis only, is not stained, while an eye suffering from an intraocular inflammation becomes distinctly stained within a short time. Fourteen cases are reported to exemplify this reaction.

AMERICAN JOURNAL OF OBSTETRICS

[illegible] 1911

1. Intramural Abscess of the Uterus, By Charles Clifford Barrows.
2. Puerperal Infection, By James A. Harrar.
3. Chorioepithelioma, By M. Caturani.
4. The Hysteropexies, By G. K. Dickinson.
5. Four Cases of Eclampsia, By George W. Kosmak.
6. Treatment of Puerperal Septic Infection and Report of a Case of Septic Thrombophlebitis of Long Duration, By William E. Parke.
7. Epidemic Infantile Paralysis and Its Control by the State Authorities, By B. Sachs.
8. Contagiousness of Acute Poliomyelitis, By I. Strauss.
9. Infantile Paralysis, By Jacobus Van Voast Manning.
10. Treatment of Infantile Paralysis by Massage and Electricity, By Henry W. Frauenthal.
[illegible] Poliomyelitis in Children, By LeGrand Kerr.
12. Surgical Treatment of Anterior Poliomyelitis, By Dexter D. Ashley.

1. Intramural Abscess of the Uterus.—Barrows remarks that this condition is sufficiently common to merit more attention than it has received. He thinks it has been confounded with other inflammatory conditions of the pelvic organs and so has been overlooked. The only series of reported cases are those of von Franqué, Noble, Mercadé, Lea, and Sampson. To these the author now adds a series of seven cases in all of which recovery took place. Six of these patients were treated by incision of the abscess, through an abdominal opening and drainage, and the seventh by anterior colpotomy incision and drainage. In two of the cases an autogenous antistreptococcic vaccine was also given, and in a third an antigonococcic stock vaccine. The uterus was much enlarged in all the cases and the direction of the abscess was upward rather than toward the vagina in all cases but one. In all the streptococcic cases the germs were alive and active; in the gonorrhœal case the pus was sterile. The author believes that pus, which is supposed to come from a tubal abscess, usually comes from an abscess in the uterus; also, that so called phlegmons of the broad ligament are probably uterine abscesses in most cases. These abscesses may rupture into the peritoneal cavity with fatal issue. The uterine infection is believed to be usually due to operative procedure within the organ. Operation should not be performed during the acute stage of the disease.

2. Puerperal Infection; Clinical Varieties and Treatment.—Harrar advises, first, that breast, throat, and lung diseases be excluded, also pyelitis, malaria, and typhoid. Bladder and bowels should be emptied. Any stitches in a recent perinæorrhaphy should be removed if indicated. Careful examination of the abdomen should then be made. If the pulse is rapid cultures should be made from the cavities of both cervix and corpus uteri. Then raise the head of the bed and apply an ice bag to the abdomen. If the temperature remains high on the second day action should then be taken in accordance with the bacteriological report. If the gonococcus or the streptococcus has been found the former treatment may be continued. If there is the colon bacillus, or no growth at all, and the lochia are foul, a gentle intrauterine douche may be given. If the temperature continues high the interior of the uterus may be explored with the finger and fragments of secundines removed if any are there, or lochia released if they have accumulated. Curettage should not be performed except in incomplete abortions at or before the third month. Further treatment will be governed by the subsequent development of the case.

7, 8, 9, 10, 11, 12. Poliomyelitis.—Sachs begs the public not to be panic stricken regarding this disease; fatal cases are exceptional.——Strauss states that there is no doubt of its contagiousness, but it affects a very small proportion of the population. ——Manning points out that recrudescences of the disease always take place in countries with long, cold winters; secondary epidemics, so to speak, take place in ports frequented by deep sea sailors; governments and nations must clean up such centres, as they did in the case of yellow fever.——Frauenthal gets good results from massage and electricity, but these need skill in application, and must not be overdone.——Kerr states that in acute cases fever is

present in about 80 per cent., and shows a range of from 100° F. to 102° F. as the rule and the higher temperatures as the exceptions. This rise in temperature usually persists until the occurrence of the paralysis, at which time it either disappears or is much lowered. Diarrhœa is present in some degree in over one half of the cases, but there is nothing about the number or the character of the stools which is in any way suggestive. Vomiting is rarely a prominent feature and only occurs in about one third of the cases. Its most common occurrence is at the time of the onset of the fever. It is very transient, lasting for but a few hours as a rule and is never projectile. Cough is rather common and occurs in about one third of the cases. Constipation occurs in a small proportion of cases. Difficulty in deglutition is not uncommon, and this is irrespective of any condition in the throat that might account for it. It occurs in fully 30 per cent. of the cases and is one of the earliest symptoms. There are rigidity of the neck musculature, transitory loss of sensibility, and pain in all cases. ——Ashley gives full details of the various surgical procedures.

ANNALS OF SURGERY

April, 1911

2 The Abduction Treatment of Fracture of the Neck of the Femur, with Especial Reference to the Advantages of the Semireclining Posture and Changes of Attitude in Its Application to Elderly Subjects.
By Robert Whitman.

Fractures of the Shaft of the Femur with Locked Displacement. By Richard H. Harte.

4. Fracture of the Patella, By Emory G. Alexander.
5. Nephroureterectomy, By Howard Lilienthal.
6. Technique of the Operative Treatment of Appendicitis. By Alexander B. Johnson.
7. Diverticulitis of the Rectum, By H. Z. Giffin.

1. **Injury a Cause of Cancer.**—Coley gives details of 277 cases of cancer where injury was a causative factor. The interval between the injury and the appearance of the growth varied from less than one week to more than three years. Possibly, the infection of sarcoma is widely distributed and an injury lights up a growth just as tuberculosis is started in a joint without injury to the skin. The question is of medicolegal importance in France and Germany, owing to the possibility of an employer being held liable for damage caused by a malignant growth following an accident to a workman in the discharge of his duty. Coley states positively his belief that all types of malignant growths are of extrinsic origin.

5. **Nephroureterectomy.**—Lilienthal gives the details of his operation as follows: Extraperitoneal nephrectomy by any of the approved methods. The ureter and vessels being tied separately, the ureter should be cut between two ligatures or forceps and the mucous membrane of the stump cauterized with 95 per cent. phenol. The ureter is now drawn out of the wound if possible, or it is isolated by gauze, and the forceps or ligature having been removed, a good sized flexible urethral bougie with conical or olive point is passed down toward the bladder. A ligature is tied tightly around the ureter and instrument, so as to hold the bougie in place and prevent the leakage of infected fluids from the canal. The greater part of the lumbar wound may now be closed with drainage in the usual manner, and the patient is turned on his back. An oblique incision of from one and a half to three inches in length, according to the adiposity of the individual or the thickness of his abdominal wall, is made about an inch to the median side of the anterior superior iliac spine. This is carried rapidly through the abdominal muscles to the peritonæum, and then the gloved finger can easily work its way extraperitoneally down to the ureter, which will be invariably and instantly recognized because of the characteristic feel of the instrument within its lumen. A thickened and indurated ureter may be identified even without the bougie. It must be remembered, of course, that the ureter is lifted up with the peritonæum. The finger will now find no difficulty in separating the ureter and drawing it with its contained bougie out of the wound, when an assistant withdraws the instrument from the nephrectomy wound and tightens the ligature. A gentle pull will draw the upper portion of the ureter out of the inguinal wound, and it may then be easily followed down the bladder, where it must be ligated and cut off, the mucosa being disinfected with phenol. The wound may be closed by layer suture with a very small forty-eight hour drain down to the bladder. Beware of ulceration of the great vessels, leading to sudden hæmorrhage.

Proceedings of Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of Wednesday, December 14, 1910.

The President, Dr Henry Leffmann, in the Chair.

Chronic Constipation.—Dr. Allen J. Smith spoke upon the ætiology and Dr. W. Taylor Cummins upon the pathological chemistry.

Surgical Pathology of Chronic Constipation.—Dr. L. J. Hammond said that the surgical problem involved in chronic constipation concerned itself with those forms of constipation the result of mechanical factors with acted either by inducing organic changes or local disease of the bowels. Chronic constipation was not a disease, but a manifestation of disturbance or disease which altered intestinal function. Improvement followed the correction of such alteration in functionation. The surgeon frequently noted the existence of all sorts of variations from the normal relation and position of the abdominal viscera directly responsible for many cases of chronic constipation. The treatment of a person presenting the chain of symptoms resulting from mechanical obstacle to free intestinal drainage should be palliative only so long as was necessary to determine the character and extent of the pathology. The surgical treatment need go no further in the majority of cases to secure permanent benefit than the correction of malformation and faulty positions, division of bands, breaking up of adhesions, the removal of tumors, the replacement of the displaced viscera, and removal of cicatricial strictures. If a stricture involved a greater

excision and anastomosis might be required. The more radical operation of colopexy, advocated by Lane, might be left to that extremely small group of cases where, from long standing ptosis, the viscera had become so hopelessly displaced, angulated, and dilated, that it was impossible to restore drainage sufficient to empty the loaded sacculated loops.

Symptoms and Complications of Constipation.—Dr. DAVID RIESMAN remarked that, strictly speaking, constipation was in itself only a symptom and not a disease entity, and thus imposed upon the physician the obligation to search out its cause. A physical examination which should be most thorough might reveal doughy masses in the abdomen, a contracted colon, or ptosis of the viscera. Hyperchlorhydria was present in many cases and the constipation yielded with the cure of the gastric condition. Anal fissure or hæmorrhoids might be present either as cause or effect. Constipation might be due to poisons, especially lead. In the majority of ordinary cases of constipation assimilation was probably too good so that there was not enough residue to ferment under the influence of bacteria or mechanically to stimulate intestinal peristaisis. To this fact the constipation of many infants might be ascribed. The proof of autointoxication of gastrointestinal origin was not conclusive. Indicanuria was not a correct measure of intestinal putrefaction; neither was the estimation of the amount of conjugate sulphates in the urine. A considerable quantity of such substances was eliminated in the fæces and would have to be estimated if the degree of intestinal putrefaction was to be determined. Intestinal autointoxication was a possible condition, but there was no clinical test by which it could be measured. Various forms of constipation due to organic causes were discussed, especially those of malignant tumor, perisigmoiditis, chronic appendicitis; also those produced by hernia, fibrous bands, Meckel's diverticulum, stricture, and ovarian disease, and by pressure from without. Whether constipation *per se* increased blood pressure had not been definitely determined, but the benefit accruing to an apoplectic patient from a free evacuation of the bowels would point in that direction.

Dr. FREDERICK J. KALTEYER thought that from a clinical point of view it should be our aim to study carefully the various clinical symptoms of constipation. Our laboratory methods would not suffice to determine the degree of intestinal symptoms present. We should endeavor to treat patients as far as possible without drugs, having recourse rather to the hygienic conditions, and to the ingestion of food stuffs with a large residue. The lower bowel was often at fault, and in such cases there should be cleansing with enemas of water or oil.

Dr. LEWIS H. ADLER, JR. considered it important that the diet should contain food products allowing enough residue to stimulate peristalsis. In the matter of treatment he directed the patient to go to the closet at a regular time each morning for a few months. If there was a lack of tone, as was usually the case, he had them come to his office and used an injection. Another method of treatment used with excellent results was a bag, inflated with air, inserted at the sigmoidal junction, which tended to stimulate peristalsis. Exercise and the effort of proper breathing were helpful factors in the treatment. He was opposed to the use of very large injections in the ordinary functional case of chronic constipation.

Dr. EARNEST LAPLACE believed that we should remove all possible causes, surgical, and organic, that lead to constipation. There were certain forms of intestinal stasis the result of long continued malnutrition which should be corrected.

Dr. GEORGE ERETY SHOEMAKER stated that much of our failure in treatment was due to the lack of persistence on the part of the patient. There were few who would give the time, money, and effort to the overcoming of this troublesome condition. We told the patient to go to the closet at a fixed hour, but this might mean the establishment of a separate toilet for the patient. Then, too, the patient must not be hurried for fear he would be seen, or otherwise made nervously uncomfortable. Attention to the diet, the ingestion of a sufficient amount of water, and the carrying out of proper methods of exercise for a sufficient length of time would often work a wonderful cure, but it took time.

Dr. ALFRED HAND, JR., agreed with those who had advocated conservative treatment, yet he would emphasize the fact that quite a few cases needed surgical treatment. Many cases were due to definite inflammatory changes in the abdominal cavity, and in these conservative treatment did not avail.

Dr. RIESMAN, in closing, fully agreed with what had been said about the value of habits and food. One article of food which had given very satisfactory results was an apple eaten at night, thoroughly masticated, and taken with a glass of water. Another measure of value was the massage roller, the applications following the line of the colon. Low injections of cotton seed oil at night and held in all night had cured a certain proportion of cases of the ordinary type of constipation.

Meeting of Wednesday, December 28, 1910

The President, Dr. HENRY LEFFMANN, in the Chair.

Pneumonia.—Dr. W. M. L. COPLIN spoke upon The Pathology and Morbid Anatomy.

Symptoms and Complications of Lobar Pneumonia.—Dr. JAMES M. ANDERS said that while the mode of onset was characteristic in about eighty per cent. of the cases, about twenty per cent. began insidiously. The latter often pursued a protracted course with slow defervescence and were apt to show complications and sequelæ. Defervescence by lysis was more commonly observed at present than formerly, but they were unattended by a decided fall in the leucocyte count, while the reverse was true of the actual crisis. A high pulse rate implied danger in pneumonia. Leucocytosis might be slight or absent in cases in which the struggle for life was lost. He had never observed leucopenia, but this might occur; and leucocytosis was also absent in cases in which the scene was dominated by a prior infection, *e. g.*, typhoid fever, and certain other conditions. It was important that an examination of the lungs be made in cases of *mania a potu* in which fever was present, since all other characteristic features might be in abeyance. The adhesive, rust colored sputum was a characteristic

feature, but it was sometimes absent in the pneumonias occurring in the aged, in drunkards, and in those showing marked toxæmia. The physical signs yielded evidence of great diagnostic importance. The value of systematic physical examination of the thorax with a view to detecting consolidation when present in suspicious cases was of the highest importance in subjects of emphysema and in the aged, the acute infections, as well as in the commoner chronic diseases when fever developed. Attention was directed to certain signs which rarely arose in the opposite or uninvolved lung, such as impaired percussion resonance and râles over the base, and to the fact that these were readily confused with actual consolidation. If practicable, blood cultures should be undertaken in dubious cases. Pleurisy with more or less effusion complicated pneumonia in about fifty per cent. of the cases. In at least twenty per cent. heart complications were present. Pleural effusion of moderate degree was extremely apt to be overlooked during life. Needling was essential in doubtful cases and also to distinguish between serum and pus. The special bacterial agent should always be isolated. Among the commoner complications of pneumonia was empyema. In encapsulated empyema following pneumonia, a positive diagnosis was sometimes extremely difficult. Other means failing to prove the presence of pus an exploratory operation should be done. In consequence of the toxæmia or pneumonic septichæmia, cardiac exhaustion might ensue without any marked histological changes in either of the valves or the myocardium. Acute endocarditis was present in about ten per cent. of the cases of pneumonia. It differed from other varieties: (1) in that three fourths of the cases were ulcerative; (2) that women showed a higher incidence than men in the proportion of two to one; (3) that the aortic cusps were more commonly involved than the mitral. Pneumococcus endocarditis generally prevented the occurrence of the crisis. Pericarditis was a more frequent complication than endocarditis. Meningitis might be associated with endocarditis or occur independently as a complication, but this was comparatively rare. It could be diagnosticated only by the presence of such features as bradycardia, paralyses, and neuroretinitis, or in the absence of definite symptoms, by lumbar puncture.

We were indebted to Norris for the observation that acute nephritis probably occurred in about seven per cent. of pneumonic infections. The writer had elsewhere shown that chronic nephritis was frequently found at autopsies in cases of pneumonia (seventy per cent. of the cases at the Philadelphia Hospital), so that might be regarded as one of the commonest foregoing diseases.

Diagnosis of Pneumonia.—Dr. Augustus A. Eshner averred that in the majority of cases the diagnosis of pneumonia was easy. With a history of exposure to cold, followed by chill, fever, pain in the chest, dyspnœa, rapid, shallow breathing, irritative cough, viscid, mucoid, hæmorrhagic sputum labial herpes, pneumonia would suggest itself, and the diagnosis would be confirmed by physical examination. Difficulty in the recognition of pneumonia would arise principally in atypical cases. Error was to be avoided by constant vigilance, with frequent physical exploration. Among the disorders from which pneumonia required to be differentiated were acute pleurisy, pulmonary tuberculosis, bronchopneumonia, congestion of the lungs, infarction, abscess, gangrene, bronchiectasis, actinomycosis, syphilis, malignant disease, pericardial effusion, meningitis, and typhoid fever.

Surgical Complications and Their Treatment.—Dr. Charles F. Nassau noted that pneumonia was not wholly a medical disease, as generally believed. With enormous effusion, removal by operation was the only proper course. Careful attention should be given to the cardiac condition. In a true empyema the treatment was clear: Incision, with or without resection of the rib, and drainage. Abscess or gangrene of the lung was one of the most difficult propositions confronting the medical man and surgeon. The treatment of either consisted in rib resection and the insertion of a drainage tube. There was a sentiment against tapping suppurative collections in the pericardium, and he believed it was very much safer to make a small rib resection and expose the pericardium, when the needle could be introduced with comparative safety. In sixteen years he had seen very few cases of arthritis complicating pneumonia. It affected chiefly the knee and occurred most frequently in children. Absolute diagnosis rested solely upon bacteriological examination of the joint fluid. When the pain in pneumonia was referred to the abdomen the pain and tenderness might be as pronounced as in acute abdominal disease. Diagnosis was so difficult that laparotomy might be done.

Medical Treatment of Pneumonia.—Dr. Arthur Newlin stated that the mortality of pneumonia was maintained at twenty per cent. or over, death or recovery occurring usually, not so much as the result of inefficient or successful treatment, but in direct proportion to the individual's innate power to combat his infection. On account of the constant presence of pneumococcus in the normal individual it behooved us to avoid those things that reduced natural resisting power. Pneumonia patients should be isolated when possible. Two chief ends to be sought were the preservation of the patient's bodily strength and the maintenance of his personal comfort. Local measures such as cupping or strapping were used for the control of pain. The use of baths was not advised in adults, but hot baths in children were frequently of value. Dyspnœa and cyanosis were better controlled by cold air than by any other means. Cold air treatment had met with very good results. Milk remained the staple diet for pneumonia patients. The intestinal tract should be cleansed by calomel and salines. Such expectorants as creosote and ammonium chloride were rarely necessary; respiratory stimulants such as strychnine, atropine, and aromatic spirits of ammonia were useful. They should be administered as occasion indicated. Phlebotomy had its use when the consolidated lung offered a mechanical obstruction to the pulmonary circulation. The circulatory system offered the best opportunity for the display of judgment in the administration of drugs. For the cardiac weakness which resulted from fatigue

and toxæmia such stimulants as strychnine, digitalis, aromatic spirits of ammonia, caffeine, atropine, and camphor might be used. Of these, strychnine and camphor were probably the best. Alcohol and digitalis were sometimes of use. Although there were objections to alcohol, yet in the aged and to those addicted to the use of the drug it might be used with benefit. Digitalis was better given hypodermically and of its preparations preference was given to the fat free standardized tincture. For lowered blood pressure, rapid pulse, and tympanites, adrenalin, hypodermically, after the method of Gibson and Forcheimer, might be employed; its dose was one c. c. of a 1 to 1,000 solution. Strophanthine was a drug that had come into vogue in the past two years. It was a powerful cardiac stimulant and was given intravenously in milligramme doses. Such a dose should not be repeated within twenty-four hours. Vaccine and serum therapy had as yet not proved to be efficacious in the treatment of pneumonia. The treatment should be one of conservatism, relying upon fresh air, various local measures, and the ability to give the right drug at the right moment with the avoidance of routine administration.

DISCUSSION.

Dr. Henry D. Jump said that he believed blood pressure estimation in the prognosis and treatment of pneumonia to be of far more value than the estimation of the respiratory rate. As had been pointed out, there was a certain time in the toxic condition of pneumonia, a lowered blood pressure accompanied by an accelerated pulse, which indicated a grave prognosis. This had seemed to him to offer a very distinct indication for therapeutic measures, and he was surprised that the observation has not attracted more attention in the treatment of pneumonia. Associated with this lower tension and accelerated pulse we had, as a rule, a tympanites due to vasomotor paresis of vessels of the splanchnic. If this vasomotor paresis went on to the greatest extent, the body became bled into its own vessels and active interference was called for as pointed out by Dr. Hare.

Dr. J. Norman Henry recalled that he had had satisfactory results with the use of quinine administered hypodermically and the administration of salt solution by hypodermoclysis. He had only recently tabulated his results and had not yet published them. In sixty-five cases of croupous pneumonia in the Pennsylvania Hospital he had had ten deaths, and some of these cases were moribund at the time the treatment was begun.

Dr. Hobart A. Hare did not think Dr. Henry gave his treatment a fair show when he included the cases that were moribund. The remarks upon these cases emphasized the important point that in the vast majority of instances pneumonia was not frankly a primary disease. To ascertain the value of any line of treatment in pneumonia we should have to have statistics covering hundreds of cases and divide them up into innumerable groups. The matter of the lowered arterial pressure and accelerated pulse rate was one of the greatest importance in that it told you not only that danger was pending but told you far ahead of the time.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting Held in the Borough of Brooklyn, February 6, 1911.

Dr J. Scott Wood in the Chair.

(*Concluded from page 805.*)

After further details of the cases the speaker went on to summarize the conditions. We had here, he said, to deal with a disease the ætiology and pathology of which were still obscure. It attacked the young and robust, and appeared to favor the male sex. The onset, which might or might not be preceded by headache, was sudden and was ushered in in some instances by convulsions and produced conditions varying from stupor to unconsciousness. Rigidity of the neck and headaches, both varying in degree, were uniformly present, and vomiting in the majority of cases. The patellar reflexes were exaggerated in three cases, absent in one. Ankle clonus was observed in but one case. Kernig's sign was present in three cases, absent in one; Babinski absent in all. No disturbances of sensation. Paralyses of the cerebral and noncerebral type in three cases. The eye grounds and ears were uniformly normal. In one case the skin showed a purpuric rash. Incontinence of bladder and rectum was observed in the one fatal case. In this case the temperature was normal on admission, but rose to 105° and 106° F., respectively, on the last two days of life. In two other cases there was a remittent type in the first three weeks, after which the temperature was normal, and in the fourth case there was a slight elevation of short duration on two occasions. Pulse slow in all four cases, bearing no relation to the temperature. In two cases the blood count showed a marked leucocytosis and a fairly high polymorphonuclear count, while in the other two the condition was nearly normal. Lumbar puncture showed a clear fluid in two and a hæmorrhagic fluid in the other two. The latter condition was regarded as perhaps due to the share of the meninges in the lesions of encephalitis. Albumin was uniformly present in the urine; Fehling's reduction in three cases; globulin positive in two, but without any diagnostic value because of the presence of blood. The most striking feature characterizing the cellular elements was the marked lymphocytosis found in all the cases. Where the polymorphonuclear cells were increased the fluid drawn was found to be tinted, and this might possibly give a hint in the direction of meningeal involvement. Animal inoculation failed to throw any light on the ætiology. Wassermann reaction was negative in all of the cases; von Pirquet reaction positive in two.

In the distinctive diagnosis we had to consider syphilitic hæmorrhages and softening of the pons, sinus thrombosis, uræmia, acetonæmia, meningism, cerebrospinal meningitis, and tuberculous meningitis. In the cerebrospinal form of the disease the rigidity of the neck was usually more marked, and the Kernig and Babinsky signs more frequently present than in acute polioencephalitis. Hyperæsthesia of the skin and of the organs of vision was more marked and herpes, the sign of motor irri[illegible]

tion, more frequently found in the meningitis. In the latter the cytological examination showed the meningococcus very frequently, while lymphocytosis, which was so marked in polioencephalitis, was absent. In tuberculous meningitis the tubercle bacillus was not always found, but the history of a slowly developing condition, in contrast to the sudden onset in polioencephalitis, and the fact that lumbar puncture relieves the pressure symptoms for but a very short time, while the relief is much greater and more permanent in polioencephalitis, were of diagnostic service. The recovery would also aid, for while we had instances of this in tuberculous meningitis in cases in which the diagnosis was confirmed by the bacteriological examination, they were so extremely rare that they might safely be disregarded in the differential diagnosis. The observation of Fehling's reduction in three of the cases of polioencephalitis might be of service, since this was never found in tuberculous meningitis. Von Pirquet's test was diminished in value by the fact that an old tuberculous lesion might be present in a patient suffering from polioencephalitis. Serous meningitis was recognized by the cytological findings and the clinical history. In three of the cases of polioencephalitis *tâche cérébrale* was noted, but Dr. Merzbach expressed the opinion that little importance could be attached to this symptom in the diagnosis of cerebral conditions, since it was found also in diseases of other character in individuals with an excitable vasomotor system. In the way of treatment he stated that lumbar puncture, as indicated by the symptoms, was the chief measure depended upon.

Dr. Leon Louria stated that he had had the opportunity of observing Dr. Merzbach's cases, and he proceeded to give some of the particulars of the clinical history, especially the features characterizing the onset of the disease. In one instance the young man was feeling perfectly well, with the exception of some headache, when he was suddenly seized with a convulsion. This lasted only a short time, however, and after he had recovered from it he felt almost well again; but the next evening he suffered from another convulsion, also of short duration. After the second convulsion he noticed that he was unable to raise his left arm. A tentative diagnosis was made of syphilitic gumma in the brain, but the Wassermann test of the blood and cerebrospinal fluid proved negative. Later, he developed marked symptoms of meningitis, and the tentative diagnosis was made of tuberculous meningitis; which was apparently supported by a positive Von Pirquet reaction. The cytological examination of the cerebrospinal fluid showed 98 per cent. of lymphocytes, and this also favored the tuberculosis diagnosis, though the bacillus was not found and animal inoculation proved negative. The subsequent history of the patient, with recovery, however, disproved this diagnosis. He later developed a paralysis of the third nerve, while the paretic condition of the left arm entirely disappeared. The fatal case occurred in the youngest of the patients, who was eighteen years old. There was some prodromal headache for two days and, while on the street, he was suddenly seized with an epileptiform convulsion, accompanied by vomiting, which lasted for two days. The presence of albumin and casts in the urine and an inadequate excretion of urea afforded basis for a diagnosis of uræmia, but the subsequent course of the disease did not substantiate this opinion. The symptoms of meningitis were progressive in character, and he died on the eighth day from the onset of the attack without developing any paralysis. In the third case the onset was likewise sudden, a convulsion coming on after some intestinal disturbance and a very large, prolonged and painful evacuation of the bowels. The patient was carried into a saloon, and some whiskey was poured into him; so that the ambulance surgeon, finding him in a stuporous, semicomatose condition, and smelling the whiskey, made the diagnosis of acute alcoholism. After having been treated in a hospital for this mistaken condition for some two days, he was taken to his home, where Dr. Louria saw him for the first time and, making a diagnosis of meningitis, referred him to the Jewish Hospital. This was one of the cases in which blood was found in the cerebrospinal fluid. The fourth patient, while he had no convulsion, was suddenly seized with an attack of dizziness, followed by severe headache and somnolence. When taken to the hospital he was still in an apathetic condition, and he had some photophobia and also nystagmus, which was followed by a paralysis of the abducens. In this case also the cerebrospinal fluid contained blood. The patient made a prompt recovery from his acute symptoms, though some dizziness remained and his gait was uncertain. The diagnosis in all these cases, the speaker went on to say, presented great difficulty, and it was only after systematic chemical, cytological, and bacteriological examination of the cerebrospinal fluid that it was possible to exclude the common forms of meningitis; while the development of focal paralyses substantiated a diagnosis of polioencephalitis. As Dr. Merzbach had stated, the ætiology of this affection was not yet determined. All kinds of microorganisms had been found in these cases, but none could be held responsible as the definite cause. The pathological changes in the brain showed evidences of hæmorrhages and toxic degeneration, rather than inflammation, and the opinion of many observers, including the commissions on poliomyelitis in New York and Massachusetts, was that the cause of the disease is a virus present in the substance of the brain, but not in the cerebrospinal fluid. In two of the cases reported by Dr. Merzbach the presence of blood in the cerebrospinal fluid was a very significant feature. Both of them occurred in nonalcoholics, and they belonged to the Struempel group of polioencephalitis. As regards the treatment, it was necessary in all the cases to give opiates frequently, in addition to veronal, in order to induce rest and sleep. They acted better than bromides. In one of the cases mercurial inunctions were employed with apparent benefit. After the subsidence of the acute symptoms all the patients were treated with a prolonged course of iodides. As has been mentioned, three of the four cases recovered. In one instance some dizziness still remained, and as, according to Oppenheim and other observers, relapses were possible, it was the part of wisdom to be guarded in the matter of prognosis.

Letters to the Editor.

MORAL AND SANITARY PROPHYLAXIS.

To the Editor:

May I ask for a little of your space to answer Dr. Morrow's letter, contained in your issue of April 1st?

I have been somewhat amused at his comment, for, had he read the introductory paragraphs of the article, he would have found that I said plainly there, that it was the reproduction, in the original of the closing chapter of a series of articles written two years ago, and might have spared himself his irritation.

During the time of gathering the material for the articles—that is, over two years ago—I had the privilege of attending one of the meetings of the society over whose destinies Dr. Morrow so ably presides (and of which he believes I am a member), and listened to several illuminating addresses.

During the discussion, I had the temerity to suggest—believing myself, as a member, entitled to an opinion—that the society might serve an end of practical value were it to distribute, free of cost or at a nominal charge, pamphlets or leaflets upon the sexual problems in which the society interests itself, as is done by the German society. I was informed by the chairman, Dr. Morrow, that the financial condition of the society did not warrant its undertaking such a function. Upon his statement I based mine.

I am glad to note, from Dr. Morrow's letter, that the society's finances have improved to an extent sufficient to warrant their having taken up this work. How much of this has been done *in the past two years* I can, of course, not say, since Dr. Morrow does not state.

Even though Dr. Morrow—who does not know that I am a member of the society, although my name appears on the membership list—may not remember the incident, I do, very clearly.

Of course, I do not assume that my suggestion at that time has had anything to do with this change in the society's procedures; but I still believe that the criticisms I made two years ago were justified at the time.

Similarly, too, with my remarks concerning the quality of the addresses. I am very pleased to note Dr. Morrow's statements concerning them, for, at the time I wrote about them, I was only one of many who held the same opinion concerning them and who freely expressed it to me. They were, I must admit, chiefly physicians, although some were eminent in the law and the study of sociology.

For a mere member of the society to have expressed an opinion upon the proceedings of that body may have been, as Dr. Morrow states, an evidence of questionable taste; but I neither admit Dr. Morrow to be the sole arbiter in matters of taste, nor do I understand that membership in the society has taken from me the right to hold or to express an opinion upon it or its proceedings.

FREDERIC BIERHOFF, M. D.

THE ABUSE OF THE PROSTATE IN GONORRHŒA.

NEW YORK, *April 22, 1911.*

To the Editor:

The paper by Dr. Hermann G. Klotz entitled The Prevalent Misuse of the Prostate in Gonorrhœa, which appears in to-day's *Journal*, is exceedingly timely. The abuse to which he calls attention is not imaginary; on the contrary, it is a reality with which we have to count almost every day. I have spoken and written a number of times against too frequent, too brutal, and frequently unnecessary prostatic massage, and nevertheless hardly a week passes in which I have not to deal with the damage which is the direct result of this overpopular practice. Not only do I believe that prostatic massage is often useless, but it is my profound conviction that it is often responsible for the indefinite prolongation of a posterior urethritis, and the exacerbation of a prostatitis. Nay, it may be the cause of setting up a prostatitis in an otherwise healthy prostate. In an editorial entitled The Present Status of the Treatment of Urethritis, in *The American Journal of Urology* for May, 1908, I expressed my opinion that many of the complications of gonorrhœa which we encounter—posterior urethritis, prostatitis, vesiculitis, etc.—were the result of our present methods of treatment, prostate expressing among them. All this will show that I am not an enthusiast about the indiscriminate handling of the prostate.

As to the editorial from the *Critic and Guide*, on the Benefits of Prostatic Massage, which Dr. Klotz rather irrelevantly reproduces in his article, I regret to see that the doctor entirely misunderstood it—or he would not have reproduced it in an article dealing with the misuse of the prostate in *gonorrhœa*. For I was not referring to the prostate in gonorrhœa or to gonorrhœal prostatitis. I was not even referring to nongonorrhœal prostatitis so much as to the condition which, for lack of a better term, we are obliged to designate as prostatism. This condition is exceedingly common in people leading continent or irregular sexual lives, and in such cases (as well as in certain cases of *ejaculatio præcox*) a gentle prostatic massage is very beneficial. The effects are truly "wonderful," and in some cases a whole string of unpleasant subjective symptoms disappears as if by magic after one, two, or half a dozen properly performed expressions of the prostate gland. But this is a far different procedure from the interminable massages given with the childish idea of expressing, actually squeezing out, the gonococci from all the hidden recesses of the prostate gland.

In conclusion, I will say that, with the first two conclusions of Dr. Klotz—that the prostate is not affected in all cases of chronic gonorrhœa, and that such a belief is apt to lead to neglect of the anterior urethra—I fully agree; but when he says that prostatic massage should be restricted *because* its popularization is liable to corrupt public morals, I must gently disagree. On the sexual weakling and on the pervert any manipulation about the genitals, in fact on any part of the body, may produce a peculiar effect. Some even become fond of urethral steel sounds. But when we advocate remedial

measures, we have only normal patients to treat, and not perverts and paranoiacs. Altogether, physicians should not bother too much with public morals; our concern is with the public health. Our domain is the body, and not the soul. Someone has said that if the body is in perfect health, the soul will take care of itself. WILLIAM J. ROBINSON, M. D.

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

[illegible] Rudolph Bergens-Hospital für [illegible] heiten zu Kopenhagen. Mit einer [illegible] Med.-Rat Prof. A. WASSERMANN. Berlin: S. Karger, 1911. Pp. vi-187.

This German translation of the work of the Danish serologist Boas deserves attention because it places at the disposal of a wide circle of readers a very thorough and practical study of the Wassermann test, with special reference to the clinical meaning of the reaction. After a brief historical note, the author discusses the technique of the test and of its various modifications. He then proceeds to discuss the behavior of the reaction in nonsyphilitic control cases and in the various manifestations of syphilis and parasyphilis. The final chapters are devoted to a discussion of the influence of treatment upon the reaction, the indications for further treatment in the presence of a positive finding, and the prognostic meaning of such a finding.

In nearly every instance antisyphilitic treatment influences a positive reaction, according to Boas. On the other hand, a negative reaction may become positive in spite of treatment. A positive reaction must be regarded in the same light as any other symptom of syphilis, i. e., as an indication for treatment. A positive reaction persisting after treatment is an indication that there will probably be a relapse in the near future. On the other hand, a negative reaction is not to be regarded as an evidence of cure nor as an indication for stopping treatment. The most logical method of treatment in syphilis seeks to render the positive reaction negative, and when this has been attained an interval is allowed to elapse, during which the blood should be tested. When the reaction again becomes positive, treatment should be resumed. If a negative reaction persists, however, treatment should be resumed, anyway, after a suitable interval, in order to prevent relapses. The treatment of syphilis, therefore, must continue along the lines hitherto laid down by experience. The absence of the reaction is *not* of marked prognostic value. An excellent bibliography is appended.

Collected Papers by the Staff of St. Mary's Hospital, Mayo Clinic, Rochester, Minn., 1905-1909. Philadelphia [illegible] London: W. B. Saunders Company, 1911. Pp. [illegible]

The staff of St. Mary's Hospital, of Rochester, Minn., better known as the Mayos' clinic, has collected papers written by its members during the five years 1905-1909. We find that these papers treat of the alimentary canal, hernia, genitourinary organs, ductless glands, extremities, anæsthetics, technique, and general topics. Among the general papers is an address by Charles H. Mayo, as chairman of the Surgical Section of the International Congress of Tuberculosis, delivered at Washington in 1908. This author contributes eleven more essays, while his brother, William J. Mayo, is the contributor of fifteen. The book is of great interest, as it comes from such an important source. Most of the papers have been published before and are reprints from various journals.

A Textbook of Chemistry. For Students and Practitioners of Medicine, Pharmacy, and Dentistry. By EDWARD CURTIS HILL, M.S., M.D., Medical Analyst and Microcopist, Professor of Applied Medical Chemistry in the Medical Department of the University of Colorado, etc. Second Edition, Thoroughly Revised, Rewritten, and Considerably Enlarged. With One Hundred Illustrations in the Text and Fourteen Full Page Half Tone and Colored Plates. Philadelphia: F. A. Davis Company, 1911. Pp. xii-659. (Price, $3.25.)

A feature of this work which commends itself especially to students is the wide range of information regarding the action of drugs, their constitution, and their chemical reactions. The various chapters are made of practical value by lists of questions bearing on the subjects discussed, while the book is well illustrated with line drawings and colored plates. As a class textbook, we regard this work as one of considerable interest and value, though the student should be warned against certain peculiarities of nomenclature and onomatology, the author having adopted the bobtailed spelling for chemical substances and the diphthong being neglected in cases where its use is a necessity to determine the etymology of the word. "Physic properties of metals" may be noted as one of the singularities of nomenclature.

The Anatomical Histological Processes of Bright's Disease and Their Relation to the Functional Changes. Lectures Delivered in the Russell Sage Institute of Pathology, City Hospital, New York, during the Winter of 1909. By HORST OERTEL, Director of the Russell Sage Institute of Pathology, New York. Illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Pp. xi-227. (Price, $5.)

After a scholarly historical review of his theme in an introductory chapter Dr. Oertel treats in adequate and interesting manner of the various forms of degenerative, exudative, and productive nephritis. An admirable feature not often embraced in works on special pathology is the consideration of changes in other viscera, so important in the symptom complex and clinical study of Bright's disease. It is worthy of note that the author, very properly in our opinion, makes a separate classification of the senile kidney, no longer regarding it as a form of true nephritis but as an involution and degenerative condition incident to senescence. The work is throughout handsomely illustrated with elaborate colored plates and original drawings. Timely and melancholy interest is added by the author's dedication to Edward G. Janeway, "to whom the scientific practice of medicine in America owes a heavy debt, and whose methods, work, and accomplishments have at all times been example, aid, and inspiration."

... Eine allgemeine Anatomie der lebendigen Masse. Bearbeitet von Prof. Dr. MARTIN HEIDENHAIN in Tübingen. Zweite Lieferung: Die kontraktile Substanz, die nervöse Substanz, die Fadengerüstlehre und ihre Objekte. Mit 1 lithographischen Tafel und 395 teilweise farbigen Abbildungen im Text. Jena: Gustav Fischer, 1911. Pp. 507-1110.

The first *Lieferung* of this book appeared in 1907 (see our review of December 7, 1907, p. 1097). The third part is still to follow, the publication of which will conclude the eighth volume of Carl von Bardeleben's textbook on *The Anatomy of Man*.

While the first *Lieferung* ended with part IV, the present volume begins with part V, Contractile Substances, pages 508 to 678, with eight pages of literature. Part VI deals with Nervous Substances, pages 687 to 935, with nine pages of literature. Finally, part VII, the last one of this volume, treats the filaments nuclear recticulum, pages 946 to 1104, with six pages of bibliography. The illustrations are very well executed and the book represents a great amount of labor. The only objection we may have to find is that it goes too much into detail and will, for this reason, be too scientific for the average reader; but for the man who makes the subject of Plasma and Zelle a specialty there is no better book to be found than Heidenhain's.

Primer of Hygiene. By JOHN W. RITCHIE, Professor of Biology, College of William and Mary, Virginia, and JOSEPH S. CALDWELL, Professor of Biology, George Peabody College for Teachers, Tennessee. Illustrated by Karl Hassmann and Hermann Heyer. Yonkers, N. Y.: World Book Company, 1910. Pp. vi-184. (Price, 40 cents.)

Principles of Public Health. A Simple Textbook of Hygiene Presenting the Principles Fundamental to the Conservation of Individual and Community Health. By THOMAS D. TUTTLE, B. S., M. D., Secretary and Executive Officer of the State Board of Health of Montana. Yonkers, N. Y.: World Book Company, 1910. Pp. vi-186

Both books aim at the same goal: to educate the laity that the highest standard of hygiene may result in the best condition of the public health, and that if the parents know the principles of hygiene and public health, they can teach their children properly; but since our public education is more in the hands of the schools than in those of the homes and the family, the teachers also should be thoroughly conversant with this important question of public health and hygiene.

MEDICOLITERARY NOTES

The Woman Haters is the complete novel in the May *Ainslee's;* it is by that excellent writer of long shore stories, Joseph C. Lincoln. The incident of the feigned sickness of Seth Atkins, and its summary treatment with a hastily compounded "Stomach Balm" is primitive but effective humor.

* * *

The apothecary of the time of Queen Elizabeth was instructed by William Bulleyn to have two places in his shop; one most cleane for the physik, and a baser place for the chirurgic stuff; we fancy the modern druggist would sell but little out of the "baser place." Other advice given to the apothecary, however, by the same authority might still be heeded to advantage, *e. g.*, that he put not in *quid pro quo* (*i. e.*, use one ingredient in the place of another when dispensing a physician's prescription) without advisement; that he neither buy nor sell rotten drugs; that he remember he is only the physician's cooke; that he peruse often his wares that they corrupt not; and that he meddle only in his vocation.

* * *

The Seventh Disappearance, by Arthur Stringer, is a thrilling romance in the May *Everybody's,* in which an insane bacteriologist and alienist plays an important rôle. The introduction of the names of real people, Pasteur and Dr. Rambaud, is or is not artistic, according to the point of view. The heroine is a trained nurse, and her easy conquest by the "dope" used by the villain shows what a powerful sedative this must have been. Gods and Brothers is an article by Henry Kitchell Webster, in which he contrasts the rule of the English in India with ours in the Philippines; he prefers the American method, which is to fraternize, to the English, which is apparently to pose as a theocracy.

* * *

Phœbe in Search of Bohemia, by Inez Haynes Gillmore, in the May *American,* is simply delicious in its account of the heroine's hunt for that elusive land in the city of New York. Phœbe is highly cultured according to standards accepted by many loving American parents, and in one of her letters home she writes: Henry Wadsworth Longfellow never made a more profound remark than when he said "art is long." Of The Joyous Adventures of Aristide Poujol, by William J. Locke, the one in this issue treats of the hero's adventures as a quack doctor, representative of the *Maison hiéropathe,* of Marseilles, which despite its magnificent title seemed to make a specialty of corns.

* * *

Fashions there are in short story writing; at present it is evidently the thing to leave the characters in the air, so to speak, at the end of a tale. Two stories in the *American,* With Assistance, by Edith Ronald Mirrielees, and The Question of Character, the latter by Edgar C. Macmechen, and one in *Everybody's,* The Seventh Disappearance, break off short like the third act of a play. It looks easier than the old method of extricating the protagonist from his troubles before ringing down and should commend itself to beginners.

* * *

The Doctor's Inside Information is the title of a short—very short—story in the *Popular Magazine* for May 1st. It runs as follows: He was a country physician, a kindly man who loved his patients. No night was ever too cold for him to get out of bed and ride ten or twelve miles to the bedside of a sick man. The whole countryside loved him and trusted him, and many families rose up every day to call him blessed.

But at last there came a rift in the lute, a note of discord in the general song of the doctor's praises.

A woman became very ill, and her little daughter was standing at the front gate. A kindly neighbor came by with an inquiry about the mother's health.

"She's going to die," said the little girl, sullenly.

"How do you know?" asked the neighbor.

"That doggoned old doctor says so," replied the child angrily. "And I guess he's right. He knows what he gave her."

The Antivivisectionists' Bill.—Who is behind the Bayne bill to "investigate" the practice of experiment upon animals performed in behalf of humanity by the best doctors in this land? inquires the *New York Times*, for April 19th. What is their object? Investigations are usually brought about to determine fully the extent of abuses of which there is known evidence. Have these agitators ever produced a scintilla of evidence which would bear a moment's examination that secret cruelties are practised by the doctors of this State, or that the results of their experiments, which have been fruitful in preventing and remedying grievous ills, have not received the fullest publicity? They know that the inferior medical schools are not equipped with laboratories for experimental work; they know that the superior schools, which alone practise upon animals, have provided every method known to science to make this practice humane and merciful. But they have deceived some who have allowed their hearts rather than their minds to guide them into believing otherwise. Their work is tragically mischievous. The investigating commission which they propose would be a partisan commission. And the upshot of their report would be more agitation, more importunities from the coddlers of pet animals to stay the intelligent hands that are reaching out in succor to the deathbeds of the people. There is in force a rigorous law against cruelty to animals. Without the slightest evidence of cruelties and deceit which this law does not reach, why disturb the activities of the humanest of all human professions?

Reformers an Obstacle to Reform.—That the antivivisection movement has reached the point of having its bill reported favorably to the New York senate simply emphasizes the point that there is at large in the world a great deal of will to be helpful that does not know what to do with itself. H. G. Wells is said to be a socialist. His *New Machiavelli* observes: "To understand socialism is to gain a new breadth of outlook; to join a socialist organization is to join a narrow cult which is not even tolerably serviceable in presenting or spreading the ideas for which it stands." Mr. Wells's Machiavelli turned out to be an undesirable citizen and very likely his view was prejudiced; but it has occurred to us before, observes the *Saturday Evening Post* for April 15th, that perhaps the great obstacle to reform is some reformers. The temperance movement, for example, here and there develops a bigotry, malignancy, and disregard for truth that smell of the dark ages. Sometimes the most prejudiced, harsh, and bitter man you meet is a socialist, preaching enlightenment and brotherhood. In antivivisection we have a passionately humane" crusade, which would cheerfully sacrifice the medical profession in behalf of certain rabbits and stray dogs. There are endless reform movements and hardly any one so wild eyed that it cannot find followers. Why does not somebody start a movement to reform incorrigible reformers?

Public Health and Marine Hospital Service Health Reports:

General of the United States Public Health and Marine

India—Calcutta	Feb.				
Egypt—Garbieh, province	Mar.	3-13		5	
Egypt—Minieh, province	Mar.				
India—Calcutta	Feb.	19-26			4
India—Kurrachi	Mar.	5-11			4
Mauritius	Dec.	30-Feb.			
Peru—Salaverry	Mar.	2-10			

Smallpox United States.

Colorado	Mar.				
Kentucky—Lexington	Apr.				
Kentucky—Paducah	Apr.				
Louisiana—New Orleans	Apr.	2-8			
Missouri—Kansas City	Feb.				
Missouri—St. Louis	Apr.	2-8			
Nebraska—South Omaha	Apr.	4-8			
New Jersey—Bergen County	Mar.				1
New Jersey—Camden County	Mar.	1-31			
North Dakota—Billings County	Mar.	1-31			
North Dakota—Nelson County	Mar.	1-31			
North Dakota—Wells County	Mar.	1-31			
Tennessee—Knoxville, Knox Co.	Apr.	2-8			
Texas	Feb.	1-28			
Canada—Quebec	Apr.	2-8			
Canada—Sarnia	Apr.	2-8			
Canada—Sydney	Apr.	2-8			
Canada—Winnipeg	Apr.	2-8			
Ceylon—Colombo	Feb.	27-Mar.	7-Mar.	4	8
	Feb.	19-Apr.	1		17
Gibraltar	Mar.	20-26			1
Java—Batavia	Feb.	26-Mar.	4		2
Mexico—Guadalajara	Feb.	26-Apr.	1		
Mexico—San Luis Potosi	Mar	12-18			
Morocco—Tangier	Mar				

Places.	Date.	Cases.	Deaths.
Russia—Odessa	Mar. 18-25	10	-
Russia—Riga	Mar. 12-25	29	-
Russia—Warsaw	Jan. 15-21	-	-
Spain—Valladolid	Mar. 1-15	Epidemic	
Spain—Valencia	Mar. 19-25	4	-
Straits Settlements—Singapore	Feb. 19-Mar. 4	4	1
Switzerland—Aargau, canton	Mar. 12-18	1	-
Switzerland—Bern, canton	Mar. 12-18	1	-
Turkey in Asia—Beirut	Mar. 19-25	5	1

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending April 19, 1911:

BRYAN, W. M., Assistant Surgeon. Directed to report to the chairman of the board of medical officers at Washington, D. C., on April 24, 1911, for examination to determine his fitness for promotion to the grade of passed assistant surgeon.

FOSTER, S. B., Acting Assistant Surgeon. Granted five days' leave of absence from April 21, 1911.

JONES, O. E., Acting Assistant Surgeon. Granted thirty days' leave of absence from April 20, 1911.

KRULISH, E., Assistant Surgeon. Directed to report to the chairman of the board of medical officers at Washington, D. C., on April 24, 1911, for examination to determine his fitness for promotion to the grade of passed assistant surgeon.

LEECH, HARRI D., Pharmacist. Granted seven days' leave of absence from April 8, 1911, under paragraph 210, Service Regulations.

NYDEGGER, J. A., Surgeon. Granted one month's leave of absence from March 24, 1911, on account of sickness.

RUSH, J. O., Acting Assistant Surgeon. Granted four days' leave of absence from April 17, 1911.

STIMPSON, W. G., Surgeon. Granted seven days' leave of absence from April 18, 1911, under paragraph 189, Service Regulations.

WALKER, W. S., Acting Assistant Surgeon. Granted seven days' leave of absence from April 13, 1911.

WICKES, H. W., Surgeon. Granted seven days' leave of absence from April 22, 1911.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending April 22, 1911:

AUSTIN, THOMAS C., Lieutenant, Medical Corps. Ordered to sail for duty in the Philippine Islands about August 5th, instead of June 5, 1911.

BROWNLEE, C. Y., Major, Medical Corps. Left Fort Des Moines, Iowa, with the 1st Squadron, 6th Cavalry, en route to Douglas, Arizona, for duty.

CUTLIFFE, WILLIAM O., Lieutenant, Medical Reserve Corps. Relieved from treatment at the Walter Reed General Hospital, Takoma Park, D. C., and will return to his station.

GOSMAN, GEORGE H. R., Major, Medical Corps. Orders directing him to proceed to the Philippine Islands, for duty, revoked.

GRIFFIS, FRANK C., Lieutenant, Medical Reserve Corps. Relieved from duty at Fort D. A. Russell, Wyoming, and ordered to Henry Barracks, Puerto Rico, for duty, relieving First Lieutenant Thomas M. Foley, Medical Reserve Corps, who will proceed to New York City for further orders.

HEWITT, JOHN M., Lieutenant, Medical Reserve Corps. Relieved from duty at U. S. Military Prison, Fort Leavenworth, Kansas, and assigned to duty on the transport *Dix*, relieving First Lieutenant James B. Ferguson, Medical Reserve Corps.

HILL, EBEN C., Lieutenant, Medical Corps. Ordered to Walter Reed General Hospital, Takoma Park, D. C., for observation and treatment.

PORTER, RALPH S., Captain, Medical Corps. Relieved from duty at Army General Hospital, Fort Bayard, N. M., and ordered to Fort William H. Seward, Alabama, for duty, relieving Captain Fred W. Palmer, Medical Corps, who will proceed to Seattle, Wash., for further orders.

WILLIAMSON, L. P., Lieutenant, Medical Corps. Left Hachita, N. M., with Company I, Signal Corps, en route to San Antonio, Texas.

WORTHINGTON, J. A., Lieutenant, Medical Corps. Reports assignment to temporary duty at Fort Riley, Kansas.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending April 22, 1911:

BOYD, J. C., Medical Director. Transferred to the retired list from June 1, 1911.

GUISE, P. N., Pharmacist. Transferred to the retired list from April 11, 1911; detached from the naval home, Philadelphia, Pa., and ordered home.

OWENS, W. D., Passed Assistant Surgeon. Detached from duty with the United States legation guard, Peking, China, and ordered home to await orders.

ROBNETT, A. H., Passed Assistant Surgeon. Detached from the Marine Corps Rifle Range, Winthrop, Md., and ordered to temporary duty at the Naval Hospital, Boston, Mass., and to duty on board the *New Jersey* when placed in commission.

WOODS, E. L., Passed Assistant Surgeon. Detached from the Naval Hospital, Annapolis, Md., and ordered to duty with the United States legation guard, Peking, China.

Births, Marriages, and Deaths.

Born.

BOYD.—At San Juan, Porto Rico, on Thursday, April 13th, to Dr. Robert Boyd, son of the late Captain Robert Boyd, United States Navy, and Mrs. Robert Boyd, a daughter.

NELSON.—At Atlantic City, New Jersey, on Friday, April 7th, to Major Kent Nelson, Medical Corps, United States Army, and Mrs. Nelson, a son.

Married.

BRECKINRIDGE—BAYNE.—In Washington, D. C., on Wednesday, April 19th, Dr. Scott D. Breckinridge and Miss Gertrude Ashby Bayne.

BUTTS—GRIMES.—In Washington, D. C., on Monday, April 17th, Passed Assistant Surgeon Heber Butts, United States Navy, and Miss Maude M. Grimes.

LONG—HERTZLER.—At Port Royal, Pennsylvania, on Saturday, April 15th, Dr. B. F. Long, of Mifflin, and Miss Josephine Hertzler.

WALKER—GAFFNEY.—At Rye, New York, on Sunday, April 16th, Dr. Charles W. Walker and Miss Mary Gaffney, of Waterbury, Connecticut.

Died.

BAKER.—In Norwalk, Connecticut, on Monday, April 17th, Dr. Frederick B. Baker, aged forty-four years.

BENNETT.—At Broad Ripple, Indiana, on Wednesday, April 12th, Dr. T. N. Bennett, aged sixty-eight years.

BRADFORD.—In Norfolk, Virginia, on Friday, April 14th, Dr. H. Clinton Bradford, aged fifty-five years.

CLARK.—In Albion, Nebraska, on Tuesday, April 11th, Dr. A. J. Clark.

FARNHAM.—In Cambridge, Massachusetts, on Sunday, April 16th, Dr. Edwin Farnham, aged sixty-eight years.

GREEN.—In Baltimore, Maryland, on Sunday, April 16th, Dr. William Green, aged seventy-four years.

GROVES.—In Louisville, Kentucky, on Monday, April 17th, Dr. Abraham R. Groves, aged seventy-five years.

KNAPP.—In Syracuse, New York, on Friday, April 14th, Dr. J. Wiltsie Knapp, aged fifty-seven years.

KOSER.—In Shippensburg, Pennsylvania, on Thursday, April 13th, Dr. John J. Koser, aged fifty-four years.

LYNCH.—In New York, on Friday, April 21st, Dr Charles J. Lynch.

MUCHMORE.—In Brooklyn, New York, on Wednesday, April 19th, Dr. Walter H. Muchmore, aged forty-nine years.

SCULLY.—In Rome, New York, on Wednesday, April 19th, Dr. Thomas P. Scully, aged fifty years.

STEELE.—In Minneapolis, Minnesota, on Friday, April 14th, Dr. John A. Steele, aged seventy-four years.

TRESKOW.—In New York, on Monday, April 17th, Dr. Hans Treskow, aged fifty-six years.

WEBB.—In Unionville, Pennsylvania, on Thursday, April 13th, Dr. William E. Webb, aged forty-seven years.

ZEARING.—In Chicago, on Sunday, April 16th, Dr. James R. Zearing, aged eighty-one years.

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Original Communications.

AN ANALYSIS OF THE CLINICAL AND SEROLOGICAL RESULTS OBTAINED IN THE TREATMENT OF ONE HUNDRED AND SEVENTY-FIVE CASES OF SYPHILIS WITH SALVARSAN.*

BY JOHN A. FORDYCE, M. D.,
New York,
Professor of Dermatology and Syphilology, University and Bellevue Hospital Medical College.

A more extended experience has not altered my views regarding the value of salvarsan; on the contrary, I am more and more impressed with its extraordinary therapeutic qualities. Observations over a period of eleven months have led me, however, to formulate more definitely my ideas as to its indications and employment in the different stages of syphilis. While the original claim of a *therapia sterilisans magna* is no longer entertained by Ehrlich or the many clinicians who have collaborated with him, excepting perhaps in the very early stages before generalization of the spirochætæ has taken place, it cannot be gainsaid that our means of controlling and curing the disease have been materially strengthened by the addition of salvarsan to the therapeutics of syphilis. The chief question to determine at present, it seems to me, is the standardization of its method of administration. With the accumulation of additional clinical and serological experience our ideas on this point have become more settled, and it is now quite conclusively established that a repetition of the dose in practically all stages of the disease is desirable. In the primary and secondary stages it seems possible that two injections at intervals of from two to four weeks may, in certain cases, bring about a negative Wassermann reaction. This has occurred in my experience in at least four cases before the development of secondary manifestations, in three with a single dose. Data bearing on these cases are briefly as follows:

A. B. Genital lesion of several days' duration, inguinal adenopathy, and a weakly positive Wassermann reaction. On October 24, 1910, injection of 0.6 gramme neutral suspension. No secondaries developed, the serum reaction became negative December 18th, and has remained so up to the present time.

C. D. Physician, treated November 28, 1910, with 0.6 gramme alkaline solution for two extragenital initial lesions; serum reaction positive. No secondaries appeared: Wassermann reaction, January 27th, negative; March 11th, negative.

E. F. Genital sclerosis and negative reaction. February 25, 1911, 0.5 gramme intravenously. No further clinical symptoms, and serum reaction negative up to this time.

G. H. Physician, tonsillar lesion and strongly positive Wassermann reaction. February 21st, 0.5 gramme intravenously; March 10th, 0.4 gramme oil suspension. Wassermann reaction, February 17th, strongly positive; March 30th negative.

From the foregoing it will be noted that in the two first cases which have been observed over the longest period of time the reaction in the one has remained negative for practically four months and in the other for three. These cases had no other treatment than the one dose of salvarsan. In the case of G. H., it was possible with two doses to obtain a negative reaction after thirty-seven days.

The 175 cases treated included:

Five primary.
Nine primary and secondary.
Forty early secondary.
Twenty-five late secondary.
Forty-one tertiary.
Eight latent.
Thirty-eight parasyphilis.
Nine hereditary.

While the immediate clinical results were satisfying in all cases of cutaneous or mucous membrane manifestations, except in a minority of them it has not been possible to obtain a prompt reversal of the serum-reaction with a single dose alone. It should be noted here, however, that Hunterian chancres are more slowly influenced than other lesions. Epidermization of the ulceration takes place quickly, but the induration often persists for weeks and only gradually subsides. Some of these nodules examined for spirochætæ failed to demonstrate their presence. They are possibly significant in the sense of a potential recurrence. Of forty-nine cases treated in the early secondary stage I have been able to follow only about one third serologically, as many of the patients live at a distance. Of this number there are now nine clean negative reactions as below:

I. Chancre, July, 1910; secondaries six weeks later. Treatment, mercury internally for two weeks prior to 0.6 gramme alkaline solution, salvarsan, intramuscularly, October 29, 1910. Wassermann reaction, October 27th, +; November 11th, [illegible]; November 10th, [illegible]; March 1, [illegible] —; negative in twenty days with one injection and two weeks' mercurial treatment; has continued negative for three and one half months.

II. Initial lesion, September, 1910; followed by secondaries. No treatment until November 17, 1910. On this date 0.5 gramme alkaline solution and, December 23d, 0.6 gramme alkaline solution, intramuscularly; serum reaction. November 17th, ++; November 26th, ++; December 23d, weak +; January 1st, weak +; February 4th, —; March 31st, —; negative in two and one half months with two injections of salvarsan.

III. Primary lesion, August, 1910; followed by secondaries. Treatment: December 1st, 0.5 gramme alkaline so-

*Read before the [illegible] of the Medical Society of the State of New York, January 18, [illegible].

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0.6 g. intramuscularly, January 1st to January 27th, inunctions and protoiodide, one half grain three times daily. Serum reaction: December 1st, —; December 10th, ++; January 1st, +; February 3d, —; negative in two months, supplemented by a course of mercury.

IV. Primary lesion, September, 1910; followed by secondaries. Treatment: Calomel inunctions and, December 27th, 0.6 gramme alkaline solution of salvarsan, intramuscularly; Wassermann reaction, November 12th, ++; January 31st, —; negative in two and one half months.

V. Infection not determined. Secondaries in October, 1910. Treatment: January 14, 1911, 0.5 gramme intravenously; February 8th, 0.5 gramme intravenously. Serum reaction: January 1st, +; January 26th, ++; February 15th, weak +; March 11th, —; April 11th, —; negative in two and one half months with two intravenous injections.

VI. Initial lesion, December, 1910. Treatment, mercury by mouth (30 capsules) and, February 6, 1911, 0.5 gramme salvarsan, intravenously; serum reaction on March 3d, +; April, —; negative reaction two months after salvarsan treatment preceded by a course of mercury internally.

VII. Initial lesion, December, 1910. Secondaries six weeks later. Treatment, fifty pills; sixteen mercurial injections; March 3, 1911, 0.42 gramme salvarsan, intravenously; March 24th, 0.4 gramme, intravenously; serum reaction: March 2d, ++; April 15th, —; negative six weeks after first salvarsan treatment

VIII. Of peculiar interest as bearing on the permanency of the effects of the remedy are two cases which I have observed since May and June, 1910, respectively. The first was a patient with severe rupial lesions of the face, neck, and arms developing within the first nine months of infection, for which he had taken mercurial pills for several months. On May 19th I gave him an intramuscular injection of 0.3 gramme alkaline solution. At the end of thirty-nine days cicatrization was complete, and he has had no clinical relapse to date. His serum reaction on the day of treatment was ++; June 2d, ++; December 2d, weak +; February 11th, very weak +; April 6th, —; a period of almost nine months in which gradual diminution in the strength of the reaction took place.

IX. The second case was one of multiple chancres of the lips and secondary eruption. Previous treatment: two grains mercury salicylate hypodermically. On June 2d received 0.3 gramme alkaline solution intragluteally. In ten days all visible symptoms were gone, and up to the present he has suffered no relapse. His reaction on the day of treatment was ++; October 23d, —; February 14th, —. These two cases are striking illustrations of the intensive therapeutical properties of the drug even in minimum doses.

I have watched the serum reaction in cases treated with mercury in which the drug was administered in the most approved method by hypodermic use and by inunctions, alternating the one with the other, and with an occasional course given internally, and have not found it possible to obtain such a rapid change in the reaction.

By way of illustration the following cases are cited:

Physician, infected November, 1909. From January 15th to March 2, 1910, protoiodide, one quarter grain, three times daily. From March 2d to June 24th, ninety-seven inunctions; a rest of a month, and then fifteen injections of mercury salicylate, from one grain to one and one quarter grains. A Wassermann examination made one month later was still strongly positive.

Physician, infected April, 1909. Injections from May to September, 1910, of mercury bichloride, one quarter grain, three times a week, alternating with salicylate of mercury, from three quarters to one and a half grain, every five to seven days. His Wassermann reaction was still positive after four months of intensive treatment. After one month's rest this was followed by eighteen injections of salicylate, one and a half grain to two grains, and his Wassermann reaction became + in March, 1910. Another series of injections was begun and with internal treatment and periods of rest continued to the beginning of 1911. While under medication or as soon as discontinued he has presented mucous membrane and cutaneous relapses and has never given a clean negative reaction in the two years he has been treated.

In another patient, whose infection dates back to November, 1908, who had had almost continuous treatment, by mouth and by injections, the serum reaction was still strongly positive March 1, 1911. He had also recurrences several times during this period.

It can therefore be stated pretty certainly that salvarsan materially shortens the time in which a negative Wassermann reaction can be obtained, and the statements that it is only a symptomatic remedy are not true, for its effect on the spirochætæ and the complement fixing powers of the blood can only be interpreted as a specific action.

Abundant evidence is at hand from the work done during the past year that the clinical symptoms as well as the Wassermann reaction yield more rapidly to the drug alone or to a combination with mercury than to mercury alone. It must be remembered that all of the earlier experiments with the drug were made with single doses, and that only in the past few months has the more intensive method been employed. We are hardly yet in a position to make any positive assertions regarding the time required to influence the reaction. It has also been demonstrated that the drug is more potent in bringing about a change in the serological reaction in the early stage of the disease than at any other time and it is just here that a note of warning should perhaps be sounded. Even though all clinical manifestations disappear at this stage, the patient should be kept under continuous observation for at least a year and the treatment controlled by repeated Wassermann examinations. Otherwise, a feeling of false security may be engendered and patients may regard themselves cured, only later on to have a relapse on the part of the nervous system. I am often consulted by patients who had acquired the infection several years before, in whom the Wassermann reaction is strongly positive, but who are without other manifestations of the disease. Such patients desire to take the treatment for the purpose of insuring themselves against relapses. Are we justified here in administering the drug or in promising the patient that the subsequent treatment will be materially shortened? No matter what treatment is employed in these cases the Wassermann reaction is very difficult to influence. From statistics which have been gathered as the result of autopsies on patients with latent syphilis and a positive Wassermann reaction, it would seem that a large percentage have visceral lesions. Just as intensive treatment, therefore, is indicated in these cases as in those in the early period of the infection, and while we cannot promise that one or even two injections of salvarsan will materially modify the serum reaction, it may render the disease more amenable to mercurial and iodide treatment.

It has been stated that mercury will accomplish everything that salvarsan will. I think from my own experience I can very positively deny this assertion, for I have repeatedly seen cases of malignant syphilis actively treated by mercury in the most approved way by inunctions and injections, with and without potassium iodide, and the condition has gone from bad to worse; the patients lost constantly in weight, in some cases an elevated tem-

perature developed, and lesions continued to appear. To counterbalance this, I have noted, a few days after the administration of salvarsan, a normal temperature, involution of the lesions, and within two weeks a decided increase in weight. This is not an isolated example of what salvarsan will do in malignant syphilis, but is one of a number of instances which demonstrated to my mind at least that the more severe the syphilitic process the more striking are the effects of this drug. The following cases serve as illustrations:

N., aged twenty-four years; chancre in October, 1909. [illegible] In May, [illegible] rupial lesions of the face and arms. His treatment up to that time had been mercury in pill form. On May 19th, 0.3 gramme salvarsan was administered intragluteally. In thirty-nine days his lesions were completely healed and he gained in weight. He has had no recurrence and no further treatment up to this time. His serum reaction is also negative.

T., aged twenty-nine years, initial lesion March, 1909. Within six weeks extensive ulceration of the throat with loss of uvula. In spite of mercurial and iodide medication during the ensuing year, new lesions continuously developed, and when I saw him in September, last year, he was decidedly cachectic, presented multiple periosteal lesions, an ulcer over the bridge of the nose, and albuminuria. On September 15th, I gave him a subcutaneous injection of 0.4 gramme neutral suspension. At the end of a month his active lesions were healed, his urine was free from albumin, and he had gained sixteen pounds in weight. Notwithstanding this remarkable improvement new periosteal lesions of one hand and ankle, and a subcutaneous gumma developed. This relapse yielded to a second injection given by Dr. Swift at the Rockefeller Hospital. His serum reaction also became negative, but later was positive again and he was given a third injection. He is now in excellent health, weighs one hundred and forty pounds, and is able to attend to his business.

D., aged twenty-one years. Infection dated back fifteen months, during which time he was constantly under treatment. When he was referred to me, he was extremely cachectic and suffering from disseminated rupial syphilides. On January 6th, this year, he received 0.5 gramme salvarsan alkaline solution, and both his general and local condition were influenced within a week. His reaction being still positive, February 15th, his physician gave him an intravenous injection of 0.5 gramme. In a letter, dated April 13th, I am informed that the patient continues in good health with absolutely no evidence of the disease excepting scars from former lesions.

W., aged twenty-six years. Chancre, October, 1908, with secondaries four week later. For two years he had been running a temperature of from 100° F. to 101° F. In addition he had an orchitis of one and a half years' duration, a periostitis of the right leg, and serpiginous syphilides of the face and back. He was very susceptible to both mercury and iodide, ingestion of the latter producing œdema of the tongue. On March 3d, I administered 0.5 gramme salvarsan intravenously, and three days later 0.4 gramme in an oil suspension. The result of this treatment was a normal temperature in a few days and a gain of thirteen pounds in two weeks. Under date of April 12th his physician writes that the improvement continues; all his clinical symptoms have disappeared; his orchitis is about one third as large, and he now weighs one hundred and forty pounds as against one hundred and twenty-one before treatment. Complement fixation, April 13th, *i. e.*, six weeks after treatment, still ++.

I am more and more surprised to note the improvement in body nutrition which takes place in many of the patients treated. The marked mental depression so often found in the early stage of the specific infection and the feeling of hopelessness wholly disappear; their countenance changes and they begin to take on weight. In several patients a gain of twenty pounds was recorded in four weeks.

[illegible] recently had a letter from [illegible] I treated the latter part of September, 1910, with an intramuscular [illegible] 0.5 gramme. [illegible] years old, he had been unable to obtain any benefit from the usual remedies, was markedly cachectic, and incapacitated for work. Now he writes that he has had no clinical or serological evidence of the disease, his gain in weight and strength has continued, and he is able to practise all the time, riding and doing hard work. Another physician, with early secondary symptoms and extreme mental depression, showed within a week a decided improvement not only in his physical but in his psychic condition. He has just reported that he has had no relapse, is able to do his work, and has regained his normal weight. His serum reaction at the end of four months continued positive.

Of the effect of the remedy on visceral disease, my own observations have been limited to the treatment of luetic nephritis. In all but two cases the urine was free from albumin within a few days of the administration of the drug. In one it disappeared for several days, then reappeared and persisted. The patient was given a second injection with a similar result; for a few days the urine was free, but now contains albumin again to the amount of three fourths gramme (Esbach), one half the quantity before treatment. The other case was one of marked ascites with albumin four and a half grammes (Esbach). Although the patient materially improved, and the albumin was reduced to one gramme, the condition remained stationary, and a second injection is under advisement.

An orchitis, in the patient with malignant syphilis cited before, was reduced to about one third in five weeks.

I have been able to make some comparisons on the use of salvarsan with mercury and potassium iodide in certain specific affections of the nervous system, which would seem to give the drug a place in the therapeutics of many of these seemingly hopeless cases. Its influence is especially gratifying in severe headaches which have been treated for a long time with the old remedies without any material benefit. In a number of these a decided amelioration was produced by a single injection or a combination of salvarsan and mercury.

In a patient with spastic paralysis of the Erb type, a marked improvement in his general condition and gait took place after an injection of 0.6 gramme alkaline solution. A second intravenous injection, about ten weeks later, has as yet exercised no additional influence either on his condition or serum reaction.

On January 11th, I treated a patient, who for the past ten years had been subject to epileptiform attacks, with 0.4 gramme intramuscularly, followed a week later by the same dose intravenously. He has had no seizures since, is in good health and able to pursue his occupation. His serum reaction is also negative.

It may be of interest here to add a note to the history previously reported of a professional man who was suffering from symptoms pointing to an endarteritis of the base of the brain involving both pyramidal tracts and the sympathetic. He was treated on August 31st with 0.45 gramme, on October 16th with 0.5 gramme, and since that time his physician has administered a third dose. Recovery has steadily taken place during the past seven months, his health is now good, and he is able to discharge the duties connected with his profession.

Except in isolated cases the treatment of tabes has not been very encouraging. I have, however, been able to draw some rather definite conclusions as to the indications for the use of the drug in this condition. Patients with tabes who come to treatment may be divided into two groups: Those of years'

standing which have been treated vigorously with mercury and potassium iodide, whose Wassermann reaction is slightly positive or negative, and whose cerebrospinal fluid contains no increase or a very slight one of lymphocytes. In these cases the administration of salvarsan accomplishes little or nothing. In the other class, with a strongly positive reaction, marked lymphocytosis of the spinal fluid, and globulin increase, characteristic pains with gastric or other crises, and little or no impairment of the gait, the probabilities of relieving the pain or arresting the progress of the disease seem to me to justify the use of the remedy. In several patients of this latter class there has been an improvement in the pains, the gastric crises, and their general well being. Ehrlich advises that in these cases the drug be given in small doses, repeated at certain definite intervals. Although he distinctly warns against using it in advanced degenerative disease of the nervous system, I have personally seen no harm to advanced tabetics to whom doses of from 0.4 gramme to 0.6 gramme have been given. The only unpleasant effect noted has been an aggravation of the neuralgic pains, sometimes persisting for a week or ten days.

As an illustration of the benefit that may ensue from the use of salvarsan in certain types of tabes, I cite the following cases:

Mr. X., aged forty-nine years; infection in 1884, for which he had irregular and insufficient treatment. Pains in his legs began twelve years ago. When seen in November examination showed absence of left knee jerk, right responding slightly; pupils almost Argyll Robertson condition; gait very little impaired; pains marked; Wassermann reaction ++. On December 12th he received 0.6 gramme salvarsan intramuscularly. A diary kept by the patient for thirty-six days after he returned home reports five bad days, eleven with some pain, and twenty free from pain. His serum reaction is now negative, and he states that he is feeling better and suffers from only occasional twinges of pain.

Mr. Y. Primary and secondaries two and a half years ago. Last August a third nerve paresis, double vision, and unequal pupils developed; both respond to light and accommodation. His gait became impaired, especially in going up and down stairs; his knee jerks were weak, sexual power lessened and bladder continence insufficient. Notwithstanding thirty injections of mercury bichloride, from one third to one half grain, every other day, there was little or no change in his condition. After the administration of salvarsan a marked improvement took place in the symptoms enumerated. At the end of a month his knee jerks were practically normal, his double vision disappeared, he gained twenty pounds in weight, and stated that his mind was much clearer, the depression he had suffered from was gone, and his business energy had returned.

I have also administered the drug in several cases in the early stage of paresis with but indifferent results, excepting in the following case:

This patient, aged thirty-five years, contracted syphilis fifteen years ago, for which he was treated for three years. Fourteen years ago an iritis of the left eye developed, the adhesions of which remain. He had no further symptoms until four years ago when there developed bladder hesitation and cystitis, partial paralysis of the rectum, and crises. During the past few months he manifested marked mental symptoms. He was a partner in a large mercantile establishment and caused his associates so much annoyance by his extravagant conduct of the business that they insisted on his retirement from the firm. On his own initiative he increased the wages of his employees twenty-five per cent., and in ordering supplies for the house he would purchase ten times the quantity required. In other words, this patient had every evidence of the stage of exaltation. On February 11th, he was treated with 0.25 gramme, followed, February 20th, by 0.4 gramme, and March 31st by 0.4 gramme, all intravenously. The third injection gave rise to a sharp reaction four hours after its administrtion, with a chill, vomiting, and a temperature of 101° F.; this subsided and thirty-six hours after he was well, but thirty-six hours later still a second reaction developed with shooting pains in his legs and a temperature of 100° F. This passed over in a day and since that time he has improved steadily. His knee jerks are much less exaggerated, his bladder now has only 100 c.c. of residual urine, and his mind is as clear as it ever was.

Of the 175 cases treated, I have noted six recurrences, all after a single dose. They were periosteal lesions in the case of malignant syphilis, mucous membrane lesions in an alcoholic, a palmar syphilide, a plantar syphilide, an optic neuritis, and an iritis.

In the case of malignant syphilis, in spite of relapse, it is not an exaggeration to say that the patient owes his life to the remedy. His recurrence took place one month after a subcutaneous injection of 0.5 gramme neutral suspension, but yielded to a second injection of the alkaline solution.

The patient with the optic neuritis was a physician treated for a digital lesion and secondary eruption on October 7th, with 0.6 gramme neutral suspension. Prompt recession of the lesions took place, but the serum remained strongly positive. About six weeks after treatment an optic neuritis of one eye developed. This at the last report was yielding to mercury.

The case of iritis was in a young man whose infection dated back two months and who at the time of treatment presented a generalized macular eruption. He was injected with 0.5 gramme alkaline solution in the lumbar muscles on November 8th. About six weeks later an iritis developed. This cleared up entirely under injections of mercury and the patient has had no further trouble.

In the patient with palmar syphilides the eruption had been of one year's duration. On May 16th he received 0.3 gramme alkaline solution and at the end of a month his palms were free. Five months later a circinate lesion appeared in one palm and persisted up to the time of his second injection, on January 12th, of 0.6 gramme alkaline solution. He now has no clinical evidence of the disease and his serum reaction has been reduced to a single plus.

These scaling lesions of the palm and sole show a greater amenability to salvarsan than to the ordinary treatment, and the relapses are not as extensive as after mercury.

From the literature recording recurrences after salvarsan treatment the impression is gained that they are particularly prone to affect the eye or cranial nerves. In fact, a number of observers believed that a neurotropic action on the part of the drug could not altogether be eliminated. Further study of these cases has in the great majority confirmed their purely luetic nature, but whether this predilection is greater after salvarsan or mercurial treatment must for the moment be left *sub judice*. Ehrlich explained the apparent increase on the ground that mercury seldom produces such an energetic sterilization as salvarsan and offers the plausible opinion that these focal recurrences are the result of a few remaining spirochætæ which have escaped sterilization with the main mass and become encapsulated in the narrow bony canals, where slight lesions produce marked clinical symptoms.

He made a careful analysis of the ocular cases and came to the conclusion that in only one might the drug be incriminated, namely, the young woman treated in Finger's clinic, who, prior to the salvar-

san therapy, had received thirty injections of arsacetin and sixty-nine of enesol. In this case he thought it highly probable that the optic nerves were primarily injured by the earlier arsenical treatment or that the arsenic receptors of the tissue had acquired an increased avidity, rendering it susceptible to the later treatment.

Benario has recently published his results of a comparative study of 126 nerve recurrences after salvarsan treatment. Of this number 118 patients were in the early stage of their infection, viz., five in the primary, 22 primary and secondary, and 91 in the secondary stage. He found that the individual cranial nerves were affected 158 times, the order of frequency being the following: Acoustic 68; optic 41; facial 25; oculomotor 12; trochlearis, trigeminal, and abducens each 4 times. In relation to the time of treatment, 111 cases, or 96.6 per cent., occurred within four months after its administration. In regard to the date of infection 88 per cent. of the cases occurred within the first nine months. As arguments against the toxic nature of these lesions he advances the long interval intervening between their appearance and the treatment; their inflammatory rather than atrophic nature; their occurrence almost without exception in certain periods of the disease; their absence as far as known in nonluetic infections after this treatment, their development after minimum doses and cure by further specific therapy, especially salvarsan. The more intensive treatment either by repetition of intravenous doses or combination with mercury as employed by Schreiber, Neisser, Gennerich, and others has seemed to insure against these relapses.

Up to the present I have noted only one nerve recurrence after the use of salvarsan, namely, a unilateral optic neuritis in a physician, previously cited, and am convinced that it was due to a specific process. It occurred six weeks after treatment and four months after infection, was an acute one sided inflammation, and was influenced by further antisyphilitic medication. In November, 1910, I treated a patient in whom an acute optic neuritis had developed after nine months' treatment with bichloride injections, with salvarsan, 0.6 gramme alkaline solution. In this case a cure resulted, the last ophthalmological report by Dr. Holzapfel, a few days ago, reading: Vision 20/30, hæmorrhages completely absorbed, fundus normal in every respect.

I have also treated several cases of chorioiditis with acute optic neuritis coming on in the early stage of the disease with very decided benefit. It seems to me that a sharp distinction should be drawn between those cases of acute optic neuritis of undoubted specific origin and the primary degenerative forms. We have here an analogy with the two types of tabes previously described, in one of which we have inflammatory symptoms and in the other a pure degeneration. In these degenerative forms of the optic nerve and the posterior columns of the cord it seems to me we do harm to our patients by giving this drug or intensive mercurial treatment which is so often employed, both of these therapeutic measures hastening the process.

In a case of interstitial keratitis involving one eye, of four weeks' duration, in a child eight years old, I administered, on March 15th, 0.2 gramme oil suspension, on March 25th 0.3 gramme alkaline solution. This patient was kindly referred to me by Dr. Colman W. Cutler, who said that a result had been obtained in a few weeks which could not have been hoped for under six months with the ordinary drugs; all of the ciliary congestion disappeared and the corneal opacity was clearing. On April 7th, however, a similar condition developed in the other eye but of a much less degree; this was controlled by a third injection of 0.2 gramme oil suspension.

As an illustration of the fallacy of the *post hoc propter hoc* method of reasoning and the tendency to attribute all of these nerve recurrences to salvarsan, the following cases are cited, one of which developed after the administration of salvarsan and cleared up after a second dose, the other two occurring in patients in the early stage of syphilis, in the one treated with mercury and the other untreated.

1. A physician whom I treated on November 23d for an infection acquired in September, 1910, was attacked about February 1, 1911, with impairment of hearing in the right ear, accompanied by a blowing sound and pain along the trifacial nerve, both very severe at times and worse at night. Believing he was suffering from a recurrence he began a course of inunctions, but without much effect. A rhinologist whom he consulted diagnosticated the condition as a sinusitis and advised the use of an adrenalin spray. He obtained relief from the latter but also took another injection of salvarsan, and the improvement which had set in at the time of administration continued until now he is entirely free from symptoms referable to his trouble.

2. I have at present another physician under my care, in whom in the fifth month of his infection labyrinthine disease developed, with headache, deafness, vertigo, and a tendency to fall to the right—this recurrence after mercurial and enesol treatment. Under more active mercurial medication and large doses of potassium iodide his symptoms disappeared and his hearing improved.

3. The third case has just come into my service during the past week. The patient gives no history of initial lesion, but in January of this year an eruption developed which has persisted to the present time, and consists of a grouped follicular syphilide. He also has a severe pharyngitis. About the middle of March headache, tinnitus, and dizziness developed, and when he entered the hospital, April 10th, he presented marked symptoms pointing to involvement of the labyrinth.

According to West, five per cent. of the individuals infected with syphilis suffer from labyrinthine disease between the fifth and twelfth months. Politzer quotes a much higher proportion, namely, from seven to forty-eight per cent. Of sixty-five cases of auditory nerve involvement collected by Meyer, it was found that twenty per cent. occurred from the third to the tenth week after appearance of the primary lesion.

In my opinion the intramuscular injection of the alkaline solution brings about as quick a resolution of the lesions as the intravenous method; probably in the later stage of the disease it is more efficacious than the latter, but the intense pain produced by it makes one hesitate about recommending it. It would seem to be better to give two, three, or even more intravenous injections than to subject the patient to the pain and possible danger of arsenic necrosis from intramuscular use of the drug.

In the past six weeks I have been following the intravenous injection one week later by an intramuscular one of an oil suspension. The latter method is freer from pain than the alkaline solution, but I have not yet been able to determine whether it is as efficacious, as it will require a considerably longer period of observation. In a personal communication recently received, Professor Ehrlich rather discredits the employment of an oil suspension and gives his preference to the intravenous use of the drug in all stages of the disease, emphasizing the necessity of repeating the injection and combining it with mercury.

In the great majority of cases patients are caused no inconvenience by the intravenous method of

administration. In a few I have noted a marked reaction within from two to six hours after the injection. This consisted in a chill or chilly sensations, sometimes followed by a rise of temperature, vomiting, and diarrhœa. In one case the temperature rose to 105° F., preceded by a severe chill, and followed by vomiting which lasted for twelve hours. After this ceased, the temperature returned to normal and the patient had no other unpleasant by effects excepting a very marked herpes involving the upper and lower lips. In a few cases I have noted a subnormal temperature, 97° F., and in one a slowing of the pulse to 42 from fifteen minutes to half an hour after the injection, gradually becoming normal again. There is less likelihood of having a reaction after the administration of the drug if the patient takes a cathartic the night before and only a very light lunch the day of treatment. It has seemed to me, too, that there has been less constitutional disturbance since I have substituted distilled water for the salt solution in making up salvarsan. This method is advocated by Schreiber, who believes that too hypertonic a solution is obtained by the addition of the saline. As part of the general reaction following the injection of the drug a cutaneous eruption sometimes makes its appearance. I have met with several types, such as herpes of the lips and of the cheek, a morbilliform and scarlatiniform eruption, and urticaria. In the case of a woman with a very marked macular eruption a decided morbilliform rash appeared six hours after the injection. Within twenty-four hours the roseola had practically disappeared.

I have repeated the injection twice in forty-seven and three times in two cases; in the majority at intervals varying from one to four weeks. In a number the reaction was very much more marked after the second injection. In one case of early tabes to whom 0.4 gramme was administered intravenously, there was absolutely no general reaction beyond a group of herpetic vesicles on the cheek. At the end of a week I repeated the injection. This was followed by a decided chill, rise of temperature to 102° F., and vomiting. His fever persisted for three days and then declined to normal. On the third day a marked scarlatiniform eruption developed.

Other effects noted not infrequently after the administration, especially the second dose, are headache and insomnia lasting several days. In some patients the reaction does not proceed to vomiting but interferes very materially with the appetite and ability to take food. This passes off in three or four days when the appetite often becomes ravenous.

The local effects following an intravenous administration depend on the perfection of the technique, and secondarily on the susceptibility of the individual to arsenic and the character of the veins. If the latter are thin walled there is more danger of leakage in the surrounding tissues, and when the patient is susceptible to arsenic this may lead to pain and persistent induration, and when accompanied by thrombosis to serious local symptoms.

I have in only one case noted symptoms, following an injection of salvarsan, which gave rise to any anxiety:

These appeared in a child, seven and a half years old, treated on March 30, 1911, for a gummatous infiltration of the nose and upper lip with 0.2 gramme alkaline solution intragluteally. On April 3d, convulsive seizures developed lasting about a minute, with cyanosis, opisthotonus, and loss of consciousness. On the following day the convulsions were very numerous but finally controlled by chloroform, chloral, and bromides. Dr. Jelliffe examined the child on April 5th and reported a right sided hemiparesis, with Babinski and loss of abdominal reflex on that side. That evening the patient was much better and has continued to improve so that at this time his lesions are healed and he is practically well. The assumption of a lesion at the base of the brain with the development of a Herxheimer reaction is not untenable in this case.

Many criticisms directed against the employment of salvarsan in the treatment of the disease are based upon results of inefficient and minimum single doses. In the use of arsenic as a cauterizing agent in skin lesions where a rapid destruction of tissue is brought about, absorption of the drug does not take place, its entire action being local. The same thing probably occurs with suspensions or solutions of salvarsan in concentrated form either in the muscles or in the subcutaneous tissue. In such cases where it exerts a rapid destructive effect probably only a small percentage is absorbed. This fact has recently been emphasized in a series of cases which I have seen that were treated in one of the so called "606 laboratories." The drug was injected into or beneath the skin in the interscapular region and was quickly followed by necrosis of the skin and underlying tissues. Here one would expect to obtain very little if any constitutional effect.

For criticism of the drug to have any weight the methods of observers should be identical as to preparation, dose, and repetition. Most of the criticisms have been made by men who have had very little experience in its preparation or administration. Too much was evidently expected of the remedy in the beginning, and while all of the claims made for it have not been fulfilled, it is not fair to condemn it because of failure to obtain results when technique and judgment in using it were imperfect. If nothing more has been accomplished by it than the rapid cure of the early manifestations of the disease, its introduction into medicine will have been worth while, for it is a well recognized clinical fact that the secretion from mucous patches is more potent in spreading the disease than any of the other manifestations. The rapid influence of salvarsan on these lesions is generally admitted. This point is well illustrated in the case of a husband and wife, who were recently admitted to my service in the City Hospital. The wife had been infected by her husband and both were in the active contagious stage of the disease. They were exceedingly desirous of having these contagious lesions cured on account of a family of six children at home. After the administration of the drug all outward manifestations disappeared and they were enabled to return to their home with safety.

CONCLUSIONS.

In the primary and secondary stages of the disease two doses of salvarsan combined with active mercurial medication, materially shorten the duration of the disease. The remedy certainly limits

the contagious period of the infection, and in malignant cases its effects are nothing short of miraculous. It produces a rapid healing of the existing lesions, increases the patient's appetite, and improves the body nutrition. It is possible that in such cases we have a different strain of organisms which are more easily influenced by salvarsan than by mercury or potassium iodide. It is rather paradoxical, but it is nevertheless true, that the more serious the case, the more cachectic the individual, the more rapid are the effects of salvarsan. From a study of this disease extending over a period of thirty years I can say without any exaggeration that I have seen more rapid and brilliant results from salvarsan in this class of cases than I have ever seen from the administration of the classical drugs.

To a patient with lues presenting himself to me in the primary or early secondary stage I would unhesitatingly recommend the drug if no contraindications existed for its employment. As the result of experience I now recommend the following procedure: An intravenous injection followed by a course of mercurial inunctions or injections over a period of from four to six weeks. At the expiration of this interval a second intravenous injection of salvarsan and a subsequent course of mercury. At the end of this treatment a rest of a month and a Wassermann reaction. If it is negative the patient is observed for one or two months, and a second serum reaction is made. As long as it continues negative, no treatment is indicated. Should it become positive a third intravenous injection of salvarsan supplemented by a course of mercury would be the best procedure to adopt. It seems to me that this method offers to the patient a far better chance of a rapid and permanent cure than the use of mercury alone. Should the reaction become negative, after a single injection of salvarsan, it may be well to act on the advice of Ehrlich and repeat the injection, because of the possibility of incomplete sterilization with the encapsulation of a few spirochætæ in the bony canals and the danger of recurrence in the nerves of special sense.

In the later secondary stages of the disease, as well as in its latent period with a positive Wassermann, I know of no better *modus procedendi* than the one which has been outlined. It must ever be emphasized that the majority of patients with this infection are inefficiently treated and that their treatment is not sufficiently controlled serologically. As long as the reaction continues positive, the patient is in danger of relapse. The aim of all treatment is to bring about a clean and clear negative Wassermann reaction which continues so for at least a year.

dere solche nach Quecksilberbehandlung. *Ibidem*, lviii, 1.

Sellei: Ueber einige Nebenwirkungen des Salvarsans.

Werther: Ueber die Neurorezidive nach Salvarsan, über Abortivheilung und weitere Erfahrungen. *Ibidem*, lviii, 10, p. 505, 1911.

Schanz: Salvarsanbehandlung und Neuritis optica *Ibidem*, lviii, 10, p. 509, 1911.

Flemming: Wirkung von Salvarsan auf das Auge

West: System of Syphilis, vol. v.

Finger: Behandlung der Syphilis mit Ehrlich's Arseno-

Rille: *Berliner klinische Wochenschrift*, No. 50, 1910.

Stuelp: Bisherige Erfahrungen mit Salvarsan bei Augensyphilis aus der Literatur und aus eigenen Fällen *Klinische Monatsblätter für Augenheilkunde*, xliv, p. 370.

THERAPEUTICS OF SYPHILIS.

Including Preliminary Observations with the Ehrlich-Hata Preparation, Dioxydiamidoarsenobenzol or Salvarsan.[1]

By Victor Cox Pedersen, A. M., M. D.,
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A brief detail of the cases in the writer's hands is now in order:

Case I. A. G. (referred by the courtesy of Dr. S. Rottenberg). Married, Russian, housewife, admitted November 17th to the People's Hospital. Diagnosis, early syphilitic locomotor ataxia. Family history negative. Previous history, very alcoholic. Has had the ordinary diseases of childhood. Occupation, housework, but has been a prostitute. Venereal history, syphilized three years ago. Locomotor ataxia appeared two years ago. Treated off and on with internal and injection methods during the past two years. Physical examination, general condition poor. Locomotor ataxia with symptoms of optic neuritis. One half gramme of 606 was injected on or about November 20th. The results have been that the early symptoms of locomotor ataxia very greatly improved so that the patient has been able to get back to her work. The eye symptoms have also improved. It is hoped only that this ground fully gained will be increased. The serum test was very strong on November 17th, 28th, and December 13th, and strong on December 20th and January

On December 27th, her weight was 151½ pounds, blood pressure, 117. January 3d, weight, 152½ pounds; blood pressure, 117. January 10th, weight, 153 pounds. January 17th, weight, 157½ pounds; blood pressure, 112 Rather recent retinal hæmorrhages were in the eyes prior to the treatment.

Case II. H. B., married, Denmark, saloon keeper, forty-four years old. Admitted, November 16th, to the People's Hospital. Diagnosis, early tabes dorsalis. Family history, negative. Previous history, excessive alcoholism. Can remember no disease of childhood or acute illness. Gonorrhœa six years ago, cured in about two months. Syphilis about four years ago. Secondaries acknowledged. Treated by internal medication for a short period about one year. No history of gumma, complains of pain in the right knee and thigh and of constipation, and at times difficult micturition with straining. Physical examination, fairly well nourished, rather alcoholic appearance. Inequality of the pupils, right reacts to light and distance but left does not. Vision, normal. Reflexes for the most part exaggerated, also the Romberg signs of ataxia. After considerable treatment with mercury without effect on any of his symptoms during which what appeared to be a syphilitic myositis appeared; it was de-

that no benefit to his ataxia would be established. On November 16th, 0.5 gramme was injected. After this the patient's temperature varied from normal to 102.2° Re

turned to normal on November 22d, when he was discharged. Since that time the patient's general condition has improved a good deal. His tendency toward nervousness, headache, ataxia have improved. The ataxia is still present, but in a much less degree. The patient states that he feels a good deal better and the pains in the thighs, which seem to me to be a myositis, and not an evidence of locomotor ataxia, have disappeared. The muscles were somewhat thickened where the pain was. The serum test on November 18th and 22d was positive; November 30th, weak; December 8th, negative. The blood pressure in this patient on admission was 65. Varied from 101 to



Case VI.—J. J. H., exhibiting conditions before injection, namely, gumma of forehead, excavation of mandible, and gumma formation there.

117. His weight increased from 149 pounds to 164¼ pounds.

Case III. M. B. Referred by Dr. I. M. Rottenberg. Admitted November 7, 1910, to People's Hospital. Married; thirty years old. Family history, negative. Previous history, formerly an excessive, at present a very moderate smoker. No alcoholism. Diseases of childhood not remembered. Venereal diseases denied, especially syphilis, no acute illnesses. In the last six weeks has lost a great deal of weight. Present illness, a large mass protrudes from rectum causing bleeding on defæcation, duration three years. Bleeding may have weakened patient. Appetite and sleep fair. No symptoms referable to the abdomen or chest. Physical examination, patient shows signs of gumma on the brain, is greatly reduced, is of slow mentality, speaks slowly and has a left hemiplegia, combined with loss of kneejerk and other signs of cerebral difficulties. After a consultation with two of the visiting physicians of the People's Hospital, it was decided that the patient probably had gumma of the brain, as his Wassermann test was strongly positive. After the family had been told that probably no treatment would avail for more than temporary relief, it was at their request decided to give him a dose of 606. On account of his depreciated condition on November 15th only 0.45 gramme was injected. The patient after this ran a temperature which varied from 99° to 101° until November 23c, when it reached 102° and on the 25th had declined again to 100°. His mentality in this period picked up wonderfully so that he could answer questions with almost normal promptness and correctness. His defæcation and urination which had been involuntary, became voluntary and the whole aspect of the man was one of great improvement. Reasonable hopes were held out to the family that if present condition continued the patient might improve a good deal. Unfortunately, however, through circumstances that cannot be fixed the patient's blood pressure must have risen, because he died of symptoms of cerebral hæmorrhage, November 26th, nineteen days after his admission and twelve days after the injection. It cannot be said in any sense that the injection contributed to his death; quite to the contrary, if his toxæmia could have been foreseen his cerebral hæmorrhage might have been prevented. His kidneys were in reasonably good condition. On November 20th the uranalysis showed the presence of albumin. November 22d and 23d the same. The serum test on November 16th was positive; November 27th, weak. Examination of the eyes showed vision for two fingers at twenty feet, and old multiple retinal hæmorrhages on November 22d.

Case IV. J. M., U. S., white, forty-eight years old, male, married, merchant. Syphilis, tertiary stage. Referred by Dr. Johnathan G. Wells. Gonorrhœa thirty years ago, followed by stricture, cured by dilatation. Apparently infected with syphilis eight years ago, although he does not remember a chancre and denies distinct secondaries. On the elbow and calf two years ago small gummata appeared which were relieved by mixed treatment. Three years ago syphilitic leucoplakia appeared on the tongue which resisted treatment. Has also had a serpiginous syphilide of the palm. Kidneys negative except for a little albuminuria. Is intensely nervous and desired relief of tongue and hand. Injected with 0.45 gramme, December 16th. Complained extremely of the pain, to which he appeared to be very susceptible. The hand was dressed with five per cent. ichthyol, with ammoniated mercurial salve, which with the 606 yielded remarkable results. The change in the tongue was much less definite, although a certain degree of the dryness and stiffness seemed to have disappeared. Blood test, November 19th, weak, positive, which tests on December 23d and January 3d, increased to positive. This sometimes hap-



Case VI.—J. J. H., about six weeks after injection; gumma of forehead virtually healed, and that of mandible reduced.

pens under 606. Later blood tests finally showed negative. It is too early in this case to state how permanent these results are.

Case V. Mrs. W. Referred by the courtesy of Dr. A. L. Weindrug. Diagnosis, disseminated syphilis of the cord. Has had several syphilitic babies, stillborn. Latterly, developed paresis of the lower extremities more marked on the left side, also paresis of the left upper



lower extremities; similar conditions were elsewhere on the trunk. All healed in about four weeks after injection, leaving the usual atrophic scars. Unfortunately the patient returned home before a second photograph could be made.

extremity. Tendency to involuntary defæcation and urination. About seven weeks ago, 0.5 gramme of 606 was injected. Involuntary defæcation and urination have ceased, and an obvious gain in weight and general nutrition has occurred. About three weeks after the injection, began to move the right leg well and the left less so, also to lift herself up by the arms to the sitting posture in bed. On January 21st, arsenic had disappeared from the urine. In a short time another injection of 606 will be given. She is now four months pregnant and has not aborted.

Case VI. J. J. H., Ireland, thirty-eight years old. Male. Now married. When first seen in 1906, single. Porter. Diagnosis, syphilis, tertiary stage. First seen August 4, 1906. Gonorrhœa and chancroid each once, many years ago. Initial lesion appeared in June, 1906. Apparently eight days' incubation. Treated regularly with injections, up to October, 1909. At this time two gummas of the forehead developed, which improved under treatment. At this time he withdrew from treatment going to the Postgraduate Hospital Dispensary, where, under antisyphilitic measures, the gummata disappeared. Then his [illegible] and sequestrum all requiring surgical treatment. In June, 1910, gumma of the forehead relapsed. Has also had a great deal of neuritis, chiefly on the left side of the face and the forehead. Has considerable nasal catarrh, ozœna, and a small perforation of the hard palate, well forward. [illegible]

mitted to the People's Hospital, December 5th, received on that same date an injection of 0.5 gramme of 606. He ran a moderate temperature for two days, gradually declining to normal on the seventh day. There was considerable pain at the point of injection. The gumma immediately began to improve in which the surgical dressings may have been an important factor. The weight rose from November 30th at 138 pounds to 144¼ pounds on December 28th. The gumma was three quarters healed by December 28th; other features are shown by the photograph. The serum test on November 30th was strong; December 12th, weak; and negative on December 19th. Albumin was present in the urine on December 6th, 8th, and 11th. Eyes, normal.

Case VII. O. A. F. Referred to me by the courtesy of Dr. Pasternak. Single, U. S., ticket speculator, twenty-six years old. Admitted November 28th to the People's Hospital. Diagnosis, tertiary syphilis, periostitis of the shins. Family history, negative. Previous history, moderate alcoholism. Gonorrhœa five years ago. Secondaries of the skin denied. Mucous patches prompt and persistent. Has lately had pains in the shins, breaking his rest. Treatment has been mercury and iodide internally. Admitted November 29th; 0.5 gramme of 606 was injected. The result has been an apparent decrease in the shins, especially at one point on the right shin, where a distinct softening and sensitiveness have occurred. As was expected, this was not an ideal case for a remarkable result, but we believe the presence of the pain in his shins justified the injection. The blood pressure in this patient was 117 on admission. Varied from 111 to 118 while in the hospital and decreased to 105 after discharge. His weight



These were ham color, similar to early secondaries just before the third injection and did not change color much after, although a positive became a negative blood test.

remained the same at 159 to 160 pounds. The serum test was negative on November 28th, December 1st, 5th, and 12th, almost negative on December 19th, and weak on December 27th. Eyes, normal.

Case VIII. J. G., married, Spaniard, porter, twenty-nine years old. Admitted to People's Hospital, December 12, 1910. Diagnosis, syphilis, tertiary stage. Family his-

tory, negative. Previous personal history, negative. Syphilis acquired twelve years ago. Reasonably good history of mucous patches and alopecia, but not of rash. Gonorrhœa six years ago. Chief complaint, wife has had seven miscarriages varying from third to seventh month, never went to full term. Several children have been macerated as though syphilitic. Referred to me by Dr. Hideyo Noguchi, of Rockefeller Institute, for medical re-



search for 606. Injected, December 12th, 0.55 gramme. Ran a variable temperature about 100° for the second and third days, about 102° on the fourth and fifth days, normal on the sixth day. There was considerable pain, which disappeared when the patient was discharged on the seventh day. The blood pressure was highly variable being 155 December 13th and 16th; 152, December 27th; 142, December 15th; 138, December 19th. The serum test on December 10th was strong; December 16th and 17th, positive; December 21st, almost negative; December 27th, very weak. Eyes, normal. There has been slight increase in weight. It is too early to state whether the injection is going to control the syphilis in this patient sufficient to permit his wife to have healthy, living children.

Case IX. R. G., the wife of the preceding patient. Spanish, housework; twenty-six years old. Admitted December 12, 1910, to the People's Hospital. Diagnosis, syphilis, tertiary stage. Family history, negative. Previous personal history, negative. Venereal disease denied. Can recall no signs of syphilis after marriage. Married eight years, has had seven miscarriages, as previously stated. Is now pregnant possibly for two months. Is in good general condition, and complains of her childlessness; 0.5 gramme of 606 were injected, December 12th. The patient held the muscles of her buttock very tense so that some of the injection was forced out into the fat where it quickly formed a large node, which at the end of the third week at the present writing seems to be slowly disappearing. Physical examination at the New York Hospital shows that she has a very small fibroid in the anterior surface of the womb, the size of a hazel nut. It is possible that further fibroids within the womb may account for her miscarriages, but they would not account for the syphilization of the children. Blood pressure is stated constant at about 105. The temperature rose to 101° F. on the fifth day after varying previously between 99° F. and 100° F. and then declined to normal on the seventh day when she was discharged. The serum test on December 12th was strong; December 16th, positive; December 17th, almost negative; December 27th, weak. The node referred to above subsequently broke down into a sterile abscess, that is, necrosis of the fat occurred without infection.

Case X. S. S., Russian, white, about forty-five years



old, male, married, merchant: tertiary syphilis. Referred by Dr. Max Wolper. Chancre of the anus. Acquired about fifteen years ago. At this time he was treated by Dr. Abraham Jacobi. Although his history of secondaries is not definite, the statement that Dr. Jacobi treated him should be accepted as good evidence that he had the disease, together with the facts that his blood test is positive

and that his wife has borne four dead syphilitic babies; 0.6 gramme of 606 was injected December 2nd. On the 24th, his blood test had decreased from strongly positive on December 6th, to positive on December 23d and 26th, and remained so when next tested, December 26th. Blood pressure on December 24th was 142, declined to 138 on December 26th, and rose to 162 on December 30th. What the result will be in this case is impossible to state for a year or two, or until the wife again conceives. The wife of this patient is to receive an injection early in January.

albuminuria, but no casts. The photograph shows the punched out, ulcerating rupial syphilides with scabs removed, and a few of the scaling lesions above nearer the knee. December 18th, received 0.6 gramme of 606, which resulted in a very prompt relief of the skin lesions so that in two weeks nearly all had healed, and the patient's general condition had improved. In addition to the 606, the lesions were treated locally.

The skin lesions were covered with mercurial plaster, if scaley. Scabs were removed [illegible]



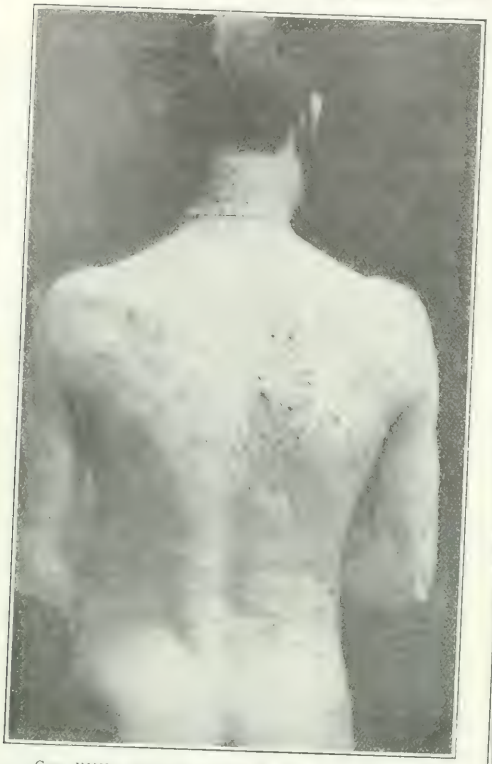


[illegible]

Case XI. E. B., U. S., white, twenty-three years old, female, single. First seen December 17, 1910. Diagnosis, syphilis of the innocent. Second stage. Source of infection seems to have been eating utensils of her brother. Site of infection seems to have been on the tonsil. Of this positive signs were absent on examination. Has had seven months of active treatment by the ingestion and inunction methods during which chancre and throat recovered but upper and lower extremities remained the seats of large and small scaling or rupial syphilids. [illegible] fifteen pounds in the past six months. Has a moderate

wet dressings of 1 in 5,000 mercury bichloride applied until the pus had disappeared. Then five per cent. ichthyol in ten per cent. ammoniated mercurial ointment was applied. No doubt this treatment had a very beneficial effect. The blood test was negative upon admission and has so remained. This anomaly of a negative test in the presence of active skin lesions is not by any means uncommon. The case is to be marked one in which the diagnosis of syphilis must be accepted on its clinical signs. The serum test on December 20th, negative; December 23d, almost negative. Eyes, normal.

[illegible] XII. [illegible] W., single, Pole, shirt maker, twenty-[illegible] years. Admitted to the People's Hospital No. [illegible] Family history, negative. Previous history: [illegible] diseases of childhood. Measles no other [illegible] disease. Constipated. Appetite and sleep only fair. Venereal disease denied, other than the present condition.



Case XVII.—I. McL., presenting pustules and nausals.

Three months previous to admission chancre appeared on the abdomen, just above the pubes, followed by a bubo on the right side. Two days later, surgical dressings were applied to the chancre followed by a course of internal and intramuscular treatment. A peculiar punctate, papular rash appeared, four or five weeks after the chancre, on the legs and body. Mucous patches on the tongue showed themselves five or six weeks after the chancre. Physical examination, evidently a man in poor health and of ill nourishment. Pupils react to light and distance. Tongue coated and tremulous. Mucous membrane pale. Heart, lungs, and abdomen, negative. The foregoing is the physical examination upon admission. When first seen, October 20th, at my office there was in addition to the foregoing a distinct rash, a glandular involvement, with patches everywhere in the mouth. The patches were treated in the usual manner and intramuscular injection of the mercury cyanide given without very much effect on the rash except very slowly. The patient learned of 606 and was from visit to visit threatening suicide. It was to control this decidedly nervous depression that I consented to give it to him. The benefits upon his general feeling and attitude were manifest, also upon his throat at which the patches cleared up. The blood pressure varied from 120 to 142. The weight gained a few pounds from 123½ to 124¾ pounds. The Wassermann test on this patient was negative. Notwithstanding this fact he insisted on 606, which was given him rather than run the risk of his de-

strowing himself. I have never in many years in the practice of syphilis seen a patient who was so mentally [illegible] It is not possible to say whether this was a psychic effect or the result of the toxines.

Case XIII. C. G., referred to me by Dr. Charles Kenneally. Married, U. S. police officer, twenty-six years old. Admitted October 20, 1910. Family history, negative, except father died of heart disease at the age of forty-nine years. No chronic disease, tuberculosis, or syphilis. Previous history, bowels, appetite, and sleep normal. Excessive steady smoker. Measles and diphtheria in childhood. Malaria and dengue during his twentieth year in the Philippine Islands in the army. Gonorrhœa seven and two years ago. Cure established in four or five weeks on each occasion. Present history, a year ago, eight days



Case XVII.—I. McL., about eight weeks after injection.

after intercourse, gonorrhœa began. Followed in two days by four sores and right inguinal adenitis. The gonorrhœa and sores were well in about two months. At this time a chancre developed on the mouth, involving upper and lower lips. This was followed by patches and the rash which lasted a short time. The treatment has been internal and despatched the symptoms, excepting the

.tches which have been persistent ever since. October 7th, 0.6 gramme was injected. In this case the method of Herxheimer was used and the medicine injected in the form of an emulsion. The injection was followed by a very prompt disappearance of the obstinate lesions on the tongue. The serum test became negative in a few days. The injection was made subcutaneously into the fat of the abdomen. This was followed by a very unusual degree of redness, œdema, and infiltration, which extended downward upon the thigh and upward toward the navel, making a mass, eight or ten inches in diameter. Under wet dressings this slowly disappeared, so that six weeks after the injection nothing remained but the point of softening in the centre where the medicine had been deposited. Examination here showed deep peculiar feeling similar to fluctuation. The patient had at no time ran a temperature above 99° and except for the temporary pain at the point of injection suffered no inconveniences. The serum test, October 22d, was positive; October 31st, November 2d, and November 7th, almost negative; December 14th, negative. The blood pressure in this patient was 142½ on admission, remained at 137 from October 27th to 31st, and until January 14, 1911, varied from 122 to 132. His weight increased from 191 to 208½ pounds. The urine on admission showed a slight trace of albumin, which decreased to negative on second examination. Arsenic was also present on October 27th in the urine. The site of the injection became a necrotic centre with a black slough, very little pus, no visible infection, and a very sluggish course. The slough was hard to remove and had in part to be cut away.

Case XIV. Referred by the courtesy of Dr. Hideyo Noguchi. C. K. U. S., white, twenty-three years old, male, single. Plumber. Syphilis, second stage. Gonorrhœa twice; last attack one year ago. Infected with syphilis six months ago. Incubation nearly five weeks. Very active secondary lesions began within four weeks, resulting in deep scars on the body and face, as shown in the photograph. Was treated at Bellevue Hospital for a few weeks with mercury and potassium iodide, by each of which he was greatly poisoned. Received his first dose of 606 October 1st; second, October 26th, and third, December 13th, 0.5 gramme. Temperature rose slowly to 100.6° on the third and fourth days. Returned to normal on the sixth day. No definite change took place in the scars, as was to be expected. The blood test ran as follows: Strong reaction a few days prior to December 12th when Dr. Noguchi referred the case to me. Weak positive December 16th and 27th. Blood pressure has varied between 134 on December 15th, 122 on December 16th and 19th and 137, January 2d. Weight has slowly increased from 147¼ pounds on December 16th, to 149¼ pounds on January 2d. The patient says he feels better but there are no clinical signs to mark this progress except the fact that the serum test on January 3d was negative. Eyes and vision, normal. O. S. old hæmorrhagic chorioiditis from below, pigmented hæmorrhage near nerve head and macula.

Case XV. H. W., referred by the courtesy of Dr. G. I. Miller, single, Russian, clerk, nineteen years old. Admitted, November 27th, to the People's Hospital. Family history, negative. Previous history, negative. Gonorrhœa four years ago. Present illness, syphilis contracted about eighteen months ago. Clear history of secondaries. Treated with the usual mercurial injections, twenty-six in number. Iodide by mouth for fourteen months. Present condition, positive Wassermann reaction. A feeling of malaise and a laryngitis. November 29th, 0.25 gramme injected into each buttock. Slight rise of temperature for three days, never above 101.4°. The Wassermann test declined until it became very weak on December 29th. The laryngitis improved somewhat and the patient's general feeling of being ill and out of sorts disappeared. The serum test was strong on December 1st, 5th, and 12th, and weak on December 19th and 29th. The blood pressure in this patient on admission was 135; varied from 135 to [illegible] pounds.

Case XVI. C. H., single, U. S., machinist, thirty-eight years old. Admitted to the People's Hospital November 30, 1910, in fair health with a large chancre in the left angle of the mouth involving both lips. Family history, [illegible] children's diseases. Uses tobacco and alcohol to excess. Venereal history: Had gonorrhœa fifteen years ago, also chancroid fourteen years ago. Present history, was bitten on the lip by a prostitute while kissing her. Chancre came about three weeks later, accompanied by very great swelling of the lymph glands on the left side of the neck. The chancre is shown in the photograph, but the lymph glands are only slightly within view owing to the angle from which the photograph was taken; 0.5 gramme of 606 was given November 30th. The results were disappearance of pain in the chancre within a few hours, softening and loss of pain in the lymph glands within twenty-four hours, and, on the fourth day, the lymph glands had almost entirely disappeared and the chancre had already greatly decreased in size and had begun to heal. Within twenty-four hours the patient was able to eat with more freedom than he had in ten days or so. The blood reaction was negative. The spirochætæ were not found in the chancre, because caustic had been used by another physician. In my effort to get the specimen I probably did not scrape in deeply enough. The spirochætes travel to the deep parts of the lesion after a caustic. This patient was most ungrateful and did not return for observation after December 5th, notwithstanding written requests. The serum test was negative on November 29th and December 1st, and almost negative on December 5th. On November 30th patient's weight was 134½ pounds, blood pressure, 124.

Case XVII. J. M., widower, U. S., driver, thirty-three years old. Admitted November 14th to the People's Hospital. Diagnosis, chancre of the mouth. Family history, negative, except one brother who died of tuberculosis of the throat. Previous history, excessive smoker and drinker. Frequent venereal disease. Present illness, chancre noticed nine weeks before admission, followed by rash all over the body. Six weeks ago was treated for a short time with injection of mercury without benefit at the House of Relief for the chancre and lymph glands in the neck. 606 was recommended; injected, November 15th, with 0.5 gramme. Improvement in the lesions immediately occurred so that when discharged, November 18th, the lymph glands, which had been one mass, became distinct nodes and the rash began to get paler. This patient was seen twice during the next two weeks at the clinic of the House of Relief. In that time the chancre had nearly healed and the lymph glands had nearly disappeared from the side of the face and the rash had nearly faded. Subsequent to this the patient disappeared so that the final results cannot be stated at this writing. (This patient reappeared on January 4th in excellent condition, as is shown by the photographs.) The serum test was strong on November 16th, positive on November 18th, and almost negative on November 29th. The blood pressure in this patient was 105 on admission. Varied from 105 to 117 and decreased to 105 on November 18th. His weight remained constant at about 133 pounds.

(To be concluded.)

TYPHOIDAL CHOLECYSTITIS.*

By John E. Summers, M. D.,
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[illegible]

Although it had been known for many years that inflammation of the gall-bladder might complicate typhoid fever, it was not until 1890 that Gilbert and Girode proved bacteriologically that cholecystitis was in certain cases caused by the typhoid bacillus. Cushing demonstrated bacteriologically the presence of the typhoid bacillus in a case of cholecystitis where there was no antecedent history of typhoid fever. Most observers are now of the opinion that the typhoid bacillus, in fewer or greater numbers,

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is present in the gallbladder in every case of typhoid fever. In the majority of cases the presence of these bacilli is not clinically recognizable; in others a mild, subacute, or perforative cholecystitis may develop during the course of an attack of typhoid; or a more or less chronic, remittent cholecystitis may follow at intervals of months or years after an attack of typhoid fever. These early and late attacks of cholecystitis are not all, of course, due to the presence of the typhoid bacillus in the gallbladder; other bacilli may be responsible for the infection. There may or may not be gallstones.

Much discussion has taken place as to the mode of invasion of the gallbladder by the typhoid bacilli. Chiari says that the route of infection is not by ascension from the intestinal tract. Chariolanza's experiments seem to demonstrate this. After intravenous infection of rabbits with the typhoid bacilli, although the cystic duct had previously been ligated, the typhoid bacilli found their way into the gallbladder through its capillaries. Chiari's theory of gallbladder infection by the typhoid bacillus is: First, the intestine, thence the blood, and then the gallbladder. He also believes that as a result of inflammation, the bile is converted into a medium for the growth of the bacilli. (W. Loele, *Deutsche medizinische Wochenschrift.*) Kohlbrugge's investigations ascertained that the empty small intestine in animals—rabbits, guineapigs, moles, and calves—is sterile. In man, however, it is not so easy to clear up this point, since in a very few hours after death the colon bacillus may be found in the whole intestinal tract. All theories and experiments to the contrary, one must ever bear in mind the possibility of direct infection of the gallbladder through its connection with the duodenum. Forster says that the invasion of the typhoid bacilli occurs through the throat; they multiply in the tissues of the body, enter the gall tracts and gallbladder through the liver bile, and thence are found in the intestine.

Apart from the cholecystitis which the typhoid bacilli may excite, it has become well established that many people who have had typhoid carry around in their bodies typhoid bacilli which for several months, and in rarer cases for years, are discharged from their bowels as a menace to those who might, by any means, become subject to infection from such evacuation. It has been suggested that possibly the bacilli may have their habitat in a diverticulum of the lower small bowel, or in one or more diverticula sometimes found near the ampulla of Vater. The late Robert Koch estimated that about five per cent. of typhoid fever patients become such a menace; 2.5 per cent. carry bacilli for three or four months; 2.5 per cent. longer, some for years.

The percentage of cases of ulceration and perforation of the gallbladder in typhoid fever cannot be estimated; it must vary somewhat with the specific epidemics.

Roth Thomas and Ashhurst (*Progressive Medicine*, xl, No. 1) have studied carefully the subject of perforation of the gallbladder as a complication of typhoidal cholecystitis. The former collected 154 cases of cholecystitis in typhoid fever from the literature; of this number, perforation of the gallbladder occurred in thirty-nine; eleven were operated in, with a mortality of 5.46 per cent.; all the other patients died. Ashhurst collected twenty-one cases in which operations were done upon the gallbladder during an attack of typhoid fever. Thirteen patients died—four were not conclusively demonstrated until after death; in eleven, bacteriological examinations demonstrated the typhoid bacillus in pure cultures; the colon bacilli and typhoid bacilli were found in one, and in another the paracolon bacilli only.

The absolute relationship of the typhoid bacillus to gallstones has not been determined. This bacillus eventually plays its rôle as others do, in the formation of gallstones. As a result of the work of Pettenkoffer, Munich has been almost rid of typhoid fever developing in the city, yet the proportional number of cases of gallstones remains as before the perfection of Munich's modern sanitary system. In Hamburg, since the change in the water supply in 1892, following the cholera epidemic, there has been almost no typhoid fever, but the number of cases of gallstone disease has not decreased. These examples certainly are significant.

The writer is of the opinion that if every case of typhoid fever could be seen early enough so as to obtain a responsible anamnesis, as well as accurate subjective symptoms, those cases of perforative cholecystitis, operated in during the attack of typhoid fever, in which gallstones are found, would justify the opinion that the gallstone formation had antedated the attack of typhoid fever. This, in no manner, is an attempt to negative the commonly accepted opinion that gallstones may form in the gallbladder after an attack of typhoid fever, and be caused by the presence of the typhoid bacillus in the gallbladder. Gallstone formation may begin during an attack of typhoid fever, yet the fever must be prolonged, or else relapses occur, caused by reinfection from the presence and activity of the bacilli in the gallbladder and their discharge into the intestine, in order that sufficient time elapse for the formation of gallstones.

I have thus briefly outlined the subject of typhoid cholecystitis in order that I may bring to your notice, by several illustrative cases, the surgical side of this complication as it appears to me from clinical experience.

First, the diagnosis: When the mental condition of a typhoid patient admits of an accurate anamnesis, so that either an antecedent cholecystitis, with or without the probable presence of gallstones, can be established or eliminated, an important position is attained relative to anticipatory findings during the course of the fever, and the relative importance to be given to subjective and objective symptoms pointing to infection of the gallbladder or biliary tracts. A gallbladder or gallduct previously infected, harboring or not gallstones, is more prone to further involvement if invaded by typhoid bacilli than one previously free from such complications. Therefore surgical complications are more likely to follow. That typhoidal cholecystitis, with threatened perforation of the gallbladder, may be so prominent a manifestation that it can lead one to overlook a perforation of the ileum through an ulcerated Peyer's path, is true. As an example: I

saw, with a medical colleague in the Clarkson Hospital, a young man in the third week of an attack of typhoid fever; Widal reaction was positive and there was a moderate leucocytosis. There was marked sensitiveness over the gallbladder area; the right lobe of the liver was enlarged and tender; all of the symptoms pointed to an infection in the right upper quadrant of the abdomen, more particularly toward the middle line. His general condition was fair. It was determined one evening, because of the pain, swelling, and tenderness in the upper abdomen, to do an exploratory operation, as a leak from a focus of suppuration was suspected. Unfortunately, the operation had to be postponed until morning. A rapidly progressive peritonitis developed during the night, and at operation no focus of infection was found in the upper abdomen, but a perforation in the lower ileum disclosed the cause of the peritonitis. The usual technique and after treatment was followed, but the man died. Keene (*Surgical Complications and Sequelæ of Typhoid Fever*) says, "If the gallbladder is much distended and perforation takes place toward the fundus, the seat of the most severe pain may be nearer to the umbilicus, or in the right iliac fossa. In such cases it is not at all improbable that it would be very difficult to differentiate it from perforation of the bowel, from typhoid ulcer, or perforation of the appendix. The difficulty of making a differential diagnosis is of less importance than might appear at first sight, since in the present state of the surgery of typhoid fever the same treatment should be unquestionably instituted." In my case the conditions were reversed. I have other evidence, however, which shows the difficulty of estimating the value of symptoms.

A young woman, aged thirty-five years, had been ailing for three weeks from a kind of malaise, not of sufficient import to keep her from her work, that of a milliner. She consulted a physician, complaining of discomfort in the abdomen, more especially in the upper part. She had an attack of severe pain followed by collapse and then some reaction. The symptoms of a well advanced general peritonitis was her condition when I saw her forty-eight hours later. Operation was out of the question, but, some reaction developing, she was brought to the Clarkson Hospital and the abdomen immediately opened on the right side and high up. Large quantities of gaseous infected bile were evacuated, and drainage was favored by tubage and position. The intestines were matted together, covered with lymph, and not adherent at any place to the parietal peritoneum. For forty-eight hours the patient improved; then a perforation of the intestine took place, and this new infection added to the original one so depressed her vitality that she died in twenty-four hours after this complication was manifest. A combination of circumstances admitted only a limited post mortem examination; the perforation was demonstrated in the lower small bowel; there was a large ragged hole in the gallbladder. There were no gallstones. This case was not bacteriologically proved to be one of typhoid; but the man of experience will not quibble over the diagnosis of a "walking typhoid," perforative cholecystitis, perforation of the intestine. I have seen and operated on a typhoid perforation of the intestine, where the history showed that the man had not [illegible] teamster. (Operation done in Government Hospital, Fort [illegible]

Dr. A. D. Emmet reports the following case:

Miss S., age twenty years; past history of no importance except typhoid fever eight years previously; pain and discomfort in the right hypodondrium, with febrile and toxic manifestations gradually developed. The pain increased in severity; radiated to the right scapula and mammary regions; gallbladder became distinctly palpable and tender. After two weeks of such trouble there developed rose spots and a large spleen, a leucopenia of 3,700, with positive Widal. As the typical typhoid developed, the gallbladder symptoms subsided; the patient ran the usual course to recovery. Patient lived in a farming community where there had been no typhoid for years, and in the last three months she had been away from home at a neighbor's, only once. It would seem that the patient had carried typhoid bacilli in her gallbladder for eight years, which ultimately led to a recurrence.

That the presence of typhoid bacilli in the gallbladder and gallducts may tend to prolong a case of typhoid fever, reinfect perhaps, may be illustrated by the following case:

Severe relapsing typhoid fever complicated by cholecystitis. Operations, cholecystostomy and choledochotomy; recovery. Miss S., age, thirty-two years; occupation, clerk; was first seen by her physician, Dr. Ginn, of Nebraska City, April 1, 1910. The doctor made a diagnosis of typhoid fever; a careful anamnesis elicited nothing in the previous history of the case which would indicate in any way a lesion of the gallbladder or gallducts. She gave a history of having had an attack of articular rheumatism at fifteen years of age, at which time she acquired a mitral insufficiency. The fever was of a relatively severe type being complicated by hæmorrhages from the bowels. On April 25th, estimated to be about the thirtieth day of her illness, the temperature was normal for the first time, and remained practically normal for one week. On May 4th, the temperature rose rapidly to 104° F., patient became delirious; the pulse was rapid, weak, irregular, and intermittent, and this condition persisted during the week. On May 10th, 11th, 12th, there were hæmorrhages from the bowels, and at this time pain and tenderness were complained of in the right upper part of the abdomen. The woman was very ill up to May 26th, the temperature on that day reaching 106° F. From then on, there was a rapid amelioration of all symptoms and on June 1st, the temperature reached the normal. The temperature remained practically normal until June 26th, when temperature and pulse both showed marked evidence of a reinfection; there were great pain and tenderness over the gallbladder, and some swelling. By June 30th, the temperature was again normal and the tenderness over the gallbladder much relieved. On August 16th there was again a very positive elevation of temperature, and increased pain and soreness in the gallbladder region. On August 17th the patient was brought to the Clarkson Hospital.

The hospital record shows in addition to the above report of Dr. Ginn: Physical findings: Sclera jaundiced; tenderness over the gallbladder region, with some rigidity. Heart enlarged three quarters of an inch to the left of the midclavicular line, and to the right border of the sternum. Systolic murmur of mitral insufficiency present. Temperature, 102.4° F.; pulse, 126; blood, hæmoglobin, eighty-five per cent.; reds, 4,560,000; whites, 7,000. Differential: Polymorphonuclears, seventy per cent.; large uninuclears, eleven per cent.; small leucocytes, seven per cent.; large leucocytes, twelve per cent.

Widal reaction, positive. Unfortunately, no cultures were made of the urine or dejecta. Although the patient's general condition was far from encouraging for a surgical operation, I felt positive that the cholecystitis was typhoidal in type, and that the reinfections of typhoid fever were due to the presence of typhoid bacilli in the gallbladder. An attempt was made to better the patient's condition, but failing in this she was operated upon on August 22d, five days after admission; the gallbladder was somewhat distended; there were no stones in it, but the bile was slightly turbid. A stone, 1.5 centimetres in length, was found and removed from the lower end of the common duct. Drainage of both the gallbladder and common duct was established. The bile from the gallbladder showed pure cultures of the typhoid bacillus; that from the common duct, the typhoid bacillus and a small strain of the colon bacillus (the bile for cultures was taken from the gallbladder and common ducts as they were incised). The woman was dangerously ill following the

[illegible] had a satisfactory recovery, and has remained well to date.

This was a pure case of typhoidal cholecystitis, the gallbladder involvement giving symptoms at the beginning of the first relapse. The absence of any obtainable history of gallstones prior to the illness can fairly fix the initiation of the formation of the stone found in the common duct as taking place probably during the first part of the attack. The time from the beginning of the attack to the time of removal of the stone, was from April 1st to August 22nd, sufficient time for its formation. In so far as I am informed, this is the first case of typhoidal cholecystitis with probable formation of the stone during the attack, in which the stone was removed from the common duct. Cultures from the centre of the stone were sterile, a finding which does not negative the origin of the stone as due to typhoidal cholecystitis.

Operation (cholecystostomy) upon typhoid carriers, I think, should be done whenever there is evidence of any infection in the gallbladder or ducts. In cases in which no signs of inflammation can be found it might be considered that possibly the nesting place for the bacilli was in a diverticulum, and that operation was not indicated. There is favorable evidence for the carrying out of cholecystostomy in these dangerous persons. Vaccines should be tried before resorting to operative procedures, as clinical reports of their value, when used in typhoid carriers, are in evidence.

VARICELLA OF A HÆMORRHAGIC AND GANGRENOUS TYPE.

*Report of a Fatal Case, with a Review of the Literature.**

By Frank Crozer Knowles, M. D.,
Philadelphia.

[illegible] to the [illegible] Hospital, the Children's Hospital, the Church Home for Children, the Baptist Orphanage; Assistant Dermatologist to the Philadelphia General Hospital, and the Dispensary of the Pennsylvania Hospital; Assistant in Dermatology, University of Pennsylvania.

An exanthem of an hæmorrhagic type usually points toward one of two conditions or the combination of the same, either the development of the disease in a debilitated individual or a virulent infection. The author has made a careful review of the literature, and those cases that resemble the one under description, or that should be differentiated from the same, will be given at some length. The subject under discussion, for the purposes of our study, has been divided into varicella with hæmorrhagic lesions; varicella with a hæmorrhagic and gangrenous exanthem; varicella of the usual type, associated with a petechial eruption; varicella with hæmorrhages from the kidneys, the stomach, the intestines, or a combination of the same; and gangrenous, nonhæmorrhagic varicella. Under the latter heading are included those cases reported as varicella gangrænosa.

VARICELLA WITH HÆMORRHAGIC LESIONS.

Hamann described a case of this type in an infant of six months of age. The little boy, after slight indisposition, presented pearly vesicles on the face and the body. These vesicles became hæmorrhagic three days after the start of the attack. Black crusts and scabs were formed after the blood containing vesicles had ruptured. There was cerebral depression, and the child became somewhat comatose. The temperature reached 103° F. The mucous membranes were uninvolved. Furuncles and pustules developed secondarily. Several other children in the same family had the usual type of varicella.

James Andrew reported a case of a like character, a boy of eight and one half years was attacked with soreness of the throat and vomiting. After vomiting several times blood was found in the vomitus. Blood was found in the stools on the second day of the disease. The temperature dropped on the second day from 101.2° to 96° F., and the patient was in a state of collapse. The eruption appeared two days after the first symptoms of indisposition. The outbreak first occurred on the extensor surface of the elbows and the ankles; the lesions shortly after their appearance became hæmorrhagic. They varied from one to five millimetres in diameter. Some of the succeeding vesicles remained of the usual type, others became hæmorrhagic.

Cronk reported a case in a male of seventeen years; some of the lesions had the clear contents of typical varicella, while others were filled with blood. The hæmorrhagic type disappeared more slowly than those with the usual characteristics.

VARICELLA WITH HÆMORRHAGIC AND GANGRENOUS LESIONS.

Crocker's case was of a more severe type than those just described and terminated fatally. The parents of the infant were syphilitic. The child had always been weakly and had snuffles, but presented no other symptoms of lues. At the age of seven months, after an illness of one day, a vesicular rash appeared on the head and the back. Two days later a black blister formed on the inner surface of the right knee, which afterward became a large, gangrenous ulcer; the slough was one inch by three quarters of an inch in size. All of the vesicles on the second day of the eruption became black. The highest temperature was 105.2° F., the lowest, recorded a few hours before death, was 97.6° F. The child died fifteen days after the start of the attack. No signs of tuberculosis were found after a careful post mortem examination had been made.

Demme reported a fatal case of a like character. A boy under three years of age, on the second day of the eruption, vomited blood streaked masses and there was also a diarrhœa. On the afternoon of the second day of the outbreak, the varicella vesicles became dirty gray in color and by the next morning were of a violet gray. Microscopical examination of the contents of the vesicles showed a division into red blood cells, abundant pus cells, and chains of cocci. There were also short rods resembling bacilli. These latter organisms could not be classified. The lesions became confluent and bluish black in color, and many were denuded of their epidermis and the base was noted to be of a dark brown and violet shade. They were covered with a dirty brown discharge and a crateriform ulcer formed.

*Read [illegible]

Some of the ulcers were very deep, punched out, and of a considerable size. There was considerable hæmorrhage from the bowel. The patient died six days after the start of the attack. The autopsy did not explain the development of the gangrenous lesions.

Demme recorded a second instance of somewhat the same character but of a less severe type. A boy of two years and two months of age, who had been healthy up to twenty months of age, was attacked with whooping cough and threatened with catarrhal pneumonia. At twenty-four months he had a severe bronchitis, and two months later the present disease appeared. His brothers and sisters had just recovered from the usual type of varicella. The eruption first appeared on the face and spread over the body within twenty-four hours' time. There were only isolated vesicles on the legs. The next day the blisters on the ears and posterior to the same became of a violet color. There was also a violet areola to the vesicles on the abdomen and the chest. Noma of the cheek also developed. There were between fifty and one hundred gangrenous areas noted on the chest, the abdomen, and the left side of the face, from dime to one half dollar in size. The child recovered from the illness. The same type of bacteria was found in the present case as in the one just mentioned. Hæmoglobin was forty-five per cent. Albumin was found in the urine in each case. The temperature in the beginning and for the first few days was high and became subnormal when the gangrenous areas developed. There was a leucocytosis in each case.

VARICELLA OF THE USUAL TYPE, ASSOCIATED WITH A PETECHIAL ERUPTION.

Bérard and De Lavit reported an instance of this character. Twenty-four hours after the development of fever, malaise, and restlessness there appeared, on a patient of six and one half years of age, a petechial rash on all parts of the body, particularly on the neck, the chest, the hypogastrium, and in the neighborhood of the genitalia. Two days later there was hæmorrhage from the nose, which was followed in a few days by the typical eruption of varicella.

Storer reported a case with somewhat the same characteristics but of a very severe type. Several vibices were noted on the forehead and the left temple, from light brown to the darkest venous blood in color. The glutei were covered with petechiæ, quite small and purplish in color. A bright red areola was noted surrounding some of the purpuric spots. There was also a typical eruption of varicella present, which chiefly attacked the trunk. The disease ran a rapid course to a fatal termination. The organs were found healthy at autopsy. The outbreak occurred in a very robust child.

Baader reported a case in which a bluish erythema with small petechiæ scattered through it preceded the varicella eruption by a few days.

VARICELLA WITH HÆMORRHAGES FROM THE KIDNEYS, THE STOMACH, AND THE INTESTINES.

Arthur Hoffman recorded a case in which hæmorrhagic nephritis was noted seven days after a severe varicella of the usual type. The brother and sister of the patient had the same disease without a complicating nephritis.

Demme mentioned a case of varicella in an infant of eighteen months, in which there was vomiting of blood and hæmorrhage from the intestines. Eighteen hours after the start of these symptoms a typical eruption of varicella developed. A few hours after the appearance of the outbreak the former symptoms ceased and the child recovered. Demme also cited another case in which there was vomiting of blood. Andrew's patient had hæmorrhages from the stomach and the intestines.

GANGRENOUS, NONHÆMORRHAGIC VARICELLA.

Hutchinson, in a paper read before the Royal Medicochirurgical Society, October 25, 1881, stated that for more than ten years he had recognized a gangrenous form of varicella, which was occasionally accompanied by a purulent iritis. The vesicles of varicella instead of drying up and disappearing in the usual manner, become centrally crusted, often with a pustular border, and surrounded with an inflammatory areola. Ulceration begins beneath the crust and may also take place peripherally, resulting in a grayish or grayish black



before death. The gangrenous areas and the hæmorrhagic vesi- readily distinguished

eschar. Closely contiguous lesions may become confluent and form irregularly shaped ulcers. These ulcers may be deep or quite superficial, in fact, almost every grade of the condition has been reported, some of which should be undoubtedly classed under the ecthymatous form of varicella. In the worst cases the disease involves the entire thickness of the skin, the punched ulcerations even piercing the muscles. In the cases developing early in the course of the disease the vesicles become purulent, leading to the formation of gangrenous areas. Those cases developing two to three weeks after the start of the varicella form on the dried up scabs. Stokes, in 1807, described an affection, prevailing in Ireland, under the designation "white blisters," the "eating hives," and the "burnt holes," which Hutchinson considered as identical with varicella gangrænosa. In Guy's Hospital, London, there is a wax model, labelled "rupia escharotica," which Hutchinson considers analogous to the condition described by him. Fagge described a case under this later heading.

The author has collected thirty-two cases reported under the heading of varicella gangrænosa. Büchler, Löwenhardt, Bérard and De Lavit, Ha-

ward, Stanifooth, Jamieson, Abercrombie, Drewit, Bowly, and Payne have each reported a case. Woodward has recorded two instances, Crocker six, and Barlow fifteen cases. The sex was mentioned in only eight cases, five were girls and three developed in boys. The age was mentioned in eleven cases, three occurred at three years of age, four between one and two years, and four under one year of age. Twelve of the thirty-two patients died. Tuberculosis was found at autopsy in eight cases, six of Barlow's, in the one case of Abercrombie, and in a case of Payne. In the analysis made by Crocker the great majority of the cases occurred under one year of age, fourteen out of twenty-one, six did not exceed two years, and three were under three years. Fifteen out of twenty-one developed in girls. None of Barlow's cases developed in healthy children; the reverse was noted in those seen by Hutchinson and by Stokes.

AUTHOR'S CASE OF HÆMORRHAGIC AND GANGRENOUS VARICELLA.

Case. R. C.; male; two years and five months of age; unusually healthy; fat and well built; was brought to the medical dispensary of the Children's Hospital, on March 19, 1910, with no eruption vesicular and hæmorrhagic in type. There was no hæmophilic tendency in the present patient or in any member of his family. The history was negative as to causation, excepting that the other children in the family, who were not nearly so healthy in appearance as the present patient, were just recovering from varicella. Two days before he was brought to the clinic mild fever developed, without vomiting. At the time of the first visit there was a blood tinged discharge from the nose. Two days later the case was referred by Dr. Judson to the skin dispensary. The eruption first appeared on the afternoon of March 17th, the face being attacked some hours earlier than the other portions of the body. The lesions started as clear vesicles, in a few hours the contents became cloudy, and in from ten to twelve hours these vesicles became hæmorrhagic. At the time of the visit to the skin dispensary there were numerous tense vesicles on the dorsal surface of the hands, the forearms chiefly the outer side, the upper arms, on the dorsal surface of the feet and the legs; the buttocks and the face showed the greatest involvement. The trunk was only sparsely attacked. The vesicles on the face were filled with purulent material and some had dried up forming impetigolike crusts, a few with an inflammatory areola. Almost all of the vesicles on the legs, the arms, and the buttocks were filled with blood. A great many of the vesicles were umbilicated and "shotlike" to the touch. Interspersed with the hæmorrhagic lesions were a few, recent, clear vesicles of the usual varicella type. Lesions of the typical form were also present on the scalp and the neck. There was no eruption on the palms or the soles. The lesions were almost entirely discrete, with the exception of a tendency to confluence on the buttocks and in the gluteal region.

On the following day, the fourth day of the eruption, the clear and the cloudy vesicles on the face had become hæmorrhagic and fresh vesicles with clear contents were still appearing. Vesicles were noted on the tongue, the fauces, the soft palate, and the tonsils; these appeared with clear contents but within a few hours became filled with blood. The legs were swollen to almost double their normal size, were slightly cyanosed and very painful on the slightest movement. The urine was scanty and highly colored. As the lesions became umbilicated the centres turned to a blackish blue color, this black area extended until when the vesicle had entirely dried up, the lesions exhibited necrosis, gangrene, varying from split pea to dime in size. These later areas were noted almost entirely on the buttocks.

The temperature on March 22d, five days after the start of the outbreak was subnormal, the pulse 150, and the heart sounds weak and rapid. Croup and bronchitis were marked. On the twenty-third, the temperature was 100 F., the pulse very rapid and weak. The croup and the bronchitis had become much worse, although no pneumonic areas could be determined. There was extensive recession of the chest walls.

The child's condition became steadily worse and death occurred at one o'clock in the morning of March 24th, exactly one week after the start of the eruption.

Since Hutchinson's description of varicella gangrænosa practically every case of varicella that had gangrenous areas associated with it has been classed under this caption. The author maintains that this classification is too broad and considers that a division of these cases should be made. The writer believes that there is a true hæmorrhagic form of varicella, the same as there is a hæmorrhagic form of the various other exanthemata; that there is also a hæmorrhagic form of varicella which terminates in gangrene; these two types simply showing a virulent infection or a lowered resistance of the individual or a combination of the two. There is also, I consider, a form of varicella starting with the usual type of lesions, the clear vesicle becoming filled with purulent material, and by a continuous process may become finally gangrenous in type, but usually of an ecthymatous or impetigenous character. This later form of eruption I believe should be classed under varicella. There is, however, a group of cases in which the gangrenous areas do not develop until the previous varicella has practically disappeared, and one should be exceedingly skeptical in attributing the former disease as the cause of the latter condition. In fact a great many writers on the subject consider that this form of gangrene is due to microorganismal infection. Baudouin and Wickham found in a patient examined by them *Streptococcus pyogenes;* the *Bacillus pyocyaneus* has been supported by Ehlers; and the *Bacillus diphtheriæ* has been brought forward as causal by Labbé and Demarque and several others, including Oettinger. *Ecthyma térébrant des enfants,* as described by Baudouin and Wickham, is closely allied to this latter group. The consensus of opinion at the present day is that varicella gangrænosa, described first by Hutchinson, may not only be associated with varicella but may follow vaccination and numerous other conditions, and therefore the former can hardly be mentioned as causal. Crocker clearly discusses this phase in a complete paper on the subject. Probably the best and the least confusing name for this latter condition would be dermatitis gangrænosa infantum, as employed by Lipes in his article on the subject.

After a careful investigation of the subject, the author considers that the case reported in this paper is one of true varicella, starting as the usual type, and because of the virulence of the infection, becoming hæmorrhagic and then gangrenous. The case is closely allied to the fatal cases of Crocker and Demme, which have been given in detail under the heading of varicella with hæmorrhagic and gangrenous lesions. The writer has been able to find but six cases of varicella with hæmorrhagic lesions in the literature on the subject, which have been given in detail in the early part of this paper.

CONCLUSIONS.

There is a true form of hæmorrhagic varicella, starting with the usual type of vesicles with clear contents, which some hours after their formation

become filled with blood. It is a rare complication of varicella.

The latter hæmorrhagic vesicles may lead to the formation of gangrenous areas. The case of the author comes under this heading.

The virulence of the infection and the resistance of the individual govern the hæmorrhagic and gangrenous tendency.

There is also a true form of varicella, in which the contents of the vesicles become purulent and may lead to gangrenous areas, but usually to the ecthymatous or impetigenous types.

The term varicella gangrænosa should be applied only to cases of gangrene directly caused by varicella.

The term dermatitis gangrænosa infantum should be applied to cases of gangrene in children, whether associated with varicella or not, if not directly dependent upon that condition.

In conclusion I wish to express my sincere thanks to Dr. Judson for referring the case to me and for his cooperation in the care of the same.

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AN IMPORTANT FACTOR IN CIRCULATION.*

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There are mechanical forces in our body which distribute the blood and other fluids. It is not the heart alone which moves the water, there are fluctuations of blood and other fluids in the body upon which the heart exercises no influence: their distribution in the body takes place in threefold manner: 1. As blood or lymph in the vessels; 2, as tissue juice in certain spaces between and within the organs; 3, in constituting the most important part of the cells. A common feature of these three systems consists in the fact that they may be mechanically dilated or compressed, and they are also dilatable and compressible of their own force.

The fluid contents of any part of the body may depend upon the condition of the tissue and be totally independent of the blood circulation in the vessels, because the distribution of blood or water is partly regulated by the function of the muscles and the influence of this function on the vasomotor nerves. The distribution of water, however, also depends on circumstances and surroundings in which the bloodvessels are imbedded. The least restriction is offered by the abdomen, the most important organ for the distribution of water, where the fluid variations assume the largest dimensions.

The task of moving the water devolves upon the heart, which for this purpose requires a certain force. Whenever the equilibrium between the task and power of the heart is disturbed, we have to reduce the resistance in the circulation, thus facilitating cardiac function. The attempt to raise the functional power of the heart is not attended with permanent success. In order to alleviate cardiac function, we have, above all, to regulate the mechanical forces in the body which distribute the fluids, but in order to be able to regulate these forces it is necessary first to know them.

The most important active force of water is its gravity. It flows from above downward. If now gravitation were the only point to be considered, the parts situated at a lower level should contain the most water, so that the lower extremities would be in a constant state of hyperæmia or œdema, because the cardiac systole is not powerful enough to drive the venous blood back into the heart. Here come the *nervi irrigentes* into play; they dilate the veins and the vascular dilatation creates a vacuum which has to be filled, in other words, suction takes place. The heart is not only a pressure pump, as was taught by Harvey and as has been the teaching for centuries, it is also a suction pump. The interdependence of the pressure and the suction forces is subject to changes: in health they balance each other. The motion of the arterial blood is effected by pressure (action of the heart by hydraulic pressure), that of the venous blood by suction, and that of the capillaries by both pressure and suction.

The heart sets the blood in motion, the vessels distribute it, but the sanguineousness of a part of

*Read at the [illegible]

the body depends less on its vascularity than on the number and extent of its capillaries. Such extent is variable, and the fluid motion in the capillaries is regulated by a nervous system, the susceptibility of which is subject to great variations. *Each muscle is both a pressure and a suction pump*, which exerts an effect upon the distribution of the blood, especially in the capillaries and in the distribution of fluids in the tissues. Relaxed tissues absorb fluids more readily; a fact which accounts for the obstinate hæmorrhages *ex atonia*, post partum hæmorrhages, and climacteric hæmorrhages which resist treatment, but are controlled when the tonus of the abdominal muscles has been reestablished by means of proper bandaging. The same applies to chronic diarrhœa caused by atonia gastrica, which will resist all medication and dietetic rules until the cause—the atony—has been overcome.

The uniformly distributed pressure when an adhesive plaster belt is applied to the abdominal wall has not only the effect of acting on the tonus of the abdominal muscles, and thus indirectly on the circulation, but it also exerts a *direct* influence on the circulation. I should like to write more exhaustively on this subject; but I will confine myself to the relation of a case which demonstrates very well the relation of atonia gastrica to circulation.

An [illegible] gentleman suffered for several years from attacks of vertigo and unconsciousness. Almost daily, sometimes hourly, and even at shorter intervals, the alarming symptoms appeared. The frequency of the pulse was from 27 to 31 beats in the minute; only every second contraction of the heart caused pulsation. All the physicians who saw the case diagnosticated, quite correctly, myocarditic affection and treated him accordingly, but without success. The enormously distended belly of the patient had at first not been taken into consideration until Dr. Groddeck paid attention to it. The reduction of the size of the belly, although it did not cure the diseased myocardium, was followed by cessation of the attacks of vertigo and unconsciousness. The size and the weight of the belly having been reduced, the work of the heart was materially relieved to such an extent that even the imperfect contractions were sufficient to fill the brain with the necessary quantum of blood. It is sometimes of more importance in cases of heart disease to examine the abdomen than to distinguish the fine points of the auscultatory symptoms.

I only beg to convince you that when you meet again with cases of dyspnœa and pulmonary hæmorrhage caused by heart affection, to apply the abdominal belt, and you will, in some cases at least, observe a most remarkable relief.

172 Lexington Avenue.

CINEMATOGRAPHIC DEMONSTRATION OF NORMAL GASTRIC PERISTALSIS, AND THE PART THESE WAVES PLAY IN THE DIAGNOSIS OF CARCINOMA OF THE STOMACH.*

By George E. Pfahler, M. D.,
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Through the courtesy of Professor Rieder, and Dr. Rosenthal and Dr. Kastle, of Munich,[1] I am privileged to demonstrate to you a cinematographic film made by them about two years ago showing normal gastric peristalsis. They first made thirteen separate plates while the subject held the breath or in about twenty seconds. These separate plates were then reduced to a cinematographic film which by means of repetition gives a fair idea of the normal gastric peristalsis.

This is not true cinematographic reproduction, the rate of exposure being too slow, but these gentlemen, who are pioneers in this field, deserve great credit for the remarkable degree of success already obtained. Bioröntgenography, as they call it, is the only method by which these movements can be demonstrated to an audience and by which a permanent record can be made.

In this cinematographic film which I demonstrate to you a single wave has been recorded from its origin to its termination at the pylorus. Cole, of New York, has recently succeeded in producing a cinematographic effect by making a series of separate exposures and then arranging them so that a wave effect can be followed through to the pylorus without really attempting to make them in the time required for an actual wave to pass. By courtesy of Dr. Cole I am privileged to demonstrate to you two films showing the effect of pylorus obstruction.

Caldwell has recently[2] shown that actual bioröntgenography will be a possibility, and while the technique and apparatus are not yet perfected, he will undoubtedly be able to make from ten to twenty exposures a second, which will be the time of true cinematography.

In my opinion, a careful fluoroscopic examination gives very much more information than any cinematographic reproduction at present can possibly give. Cinematographically, one can demonstrate at best only a few of the cycles of waves and usually only one, while, fluoroscopically, one can follow any number of waves, can study the effect of varying degrees of pressure, varying degrees of filling, and the effect of massage or manipulation of the stomach through the abdominal wall.

At times, these waves begin to pass immediately after food enters the stomach; at other times, they become strong only after ten or fifteen minutes; and at others they seem to wait for an external stimulus, such as pressure of the screen, palpation by the hand, etc. These varying conditions make it almost impossible to get at the real facts in many pathological conditions, except by a rather prolonged study fluoroscopically.

We may, in the future, be able to make such studies fluoroscopically and, at chosen intervals, make cinematographic records. Judged by anything that I have yet seen, I believe that no actual diagnostic evidence is obtained that cannot be obtained fluoroscopically.

I speak enthusiastically of fluoroscopy, realizing fully that it is a dangerous procedure, and I think it should not be used except in such conditions which demand a study of motion or rapidly changing relations. In other words, I confine its use to the study of the stomach, bowels, heart, and diaphragm, and I always make a number of plates at intervals during my investigations.

NORMAL GASTRIC PERISTALSIS.

The normal peristalsis begins at the upper pole, as a series of slight indentations, but they become

[illegible] Röntgen Society, XII, 19.

*At a regular meeting of the Philadelphia Röntgen Society, March 1, 1911.

deep enough to be of practical importance only at the junction of the middle and lower third of the stomach. At this location, a slight indentation can be seen on both the lesser and the greater curvature. These move forward and increase progressively in depth as they approach the pylorus. At about three fingers' breadth from the pylorus they reach their maximum depth, and nearly bisect the stomach. This appearance led Holzknecht[3] to look upon this contraction as a special sphincter which separates the contents of the body of the stomach from what he regarded as the pyloric antrum. This view is not accepted at present, and the deep indentations are simply regarded as a part of the regular course of the peristaltic wave, there being therefore no true pyloric antrum.

The wave seen on the lesser curvature is usually deeper than the opposite side and moves and terminates slightly in advance of the one on the greater curvature. In my experience, the waves of the normal stomach and in some pathological conditions are deepest and most easily seen when the stomach is only partially filled.

In the normal stomach there are usually two or three peristaltic waves visible at one time, following each other in regular succession. It requires approximately twenty-two seconds for a wave to pass from its origin to the pylorus. Each wave seems to carry a considerable portion of the stomach contents up to the pylorus, but, on account of the resistance of the pylorus, most of this mass is forced back through the constriction caused by the wave.

[illegible] OF DISEASE SHOWN BY DISTURBANCE IN THE GASTRIC PERISTALSIS.

In describing the evidence of disease as is shown in disturbance of the peristaltic wave, I would not be understood to mean that a diagnosis should ever be based upon this symptom alone, nor that any other evidence should be neglected. I have confined myself to this one symptom for the sake of brevity only, and to conform to the subject under study.

Carcinoma naturally first suggests itself as likely to cause disturbance in the peristalsis. As is well known, the most frequent seat of carcinoma is at the pyloric end and since the peristaltic waves are strongest at this point any induration of the stomach wall is bound to influence this wave.

Unfortunately most of the cases which we have an opportunity to examine are already so far advanced that the entire pyloric end is involved, and in addition is commonly adherent. This may all be true, even when no tumor is palpable.[4] In these advanced cases the peristaltic wave stops completely at the site of the tumor. One has also the obliterations of much or all of the lumen of this portion of the stomach, associated with the rather characteristic, irregular, serrated margins.

At times, however, only a portion of the pyloric end is involved. In my experience such localization more or less affects the lesser curvature. When the disease is localized in one curvature, the wave can be followed to the tumor, then becomes obliterated, while that on the opposite side may be seen to move smoothly to the pylorus. The most characteristic evidence is obtained when the wave can be followed to the carcinoma, becomes obliterated, and then begins again on the opposite side. When only one curvature of the stomach is involved the wave on the opposite side is apt to be deeper than normal—apparently a compensatory effect.

I believe that in cases in which the peristaltic waves are otherwise good, an induration an inch in diameter or less should be recognized, providing it occupies the lesser or greater curvature. If it occupies the posterior or anterior surface, a tumor of such size would likely be overlooked. Of course the thickness through the abdomen as well as the thickness and density of the abdominal wall will influence the clearness of the picture very much.

Pyloric stenosis. In pyloric stenosis one is apt to find the peristaltic waves unusually deep and frequent, while they last. They may then cease entirely for an indefinite period. They may at times be excited again by external manipulation of the abdomen, by mere pressure against the screen, or by deep inspiration.

Reversed peristalsis may at times be observed in cases of pyloric obstruction. Jonas[5] and Holzknecht[6] were the first to call attention to the reversed peristalsis. I have observed it in several cases. In a case examined recently I saw three deep waves at once apparently stand still for a short time, as if hesitating, and then move in the reversed direction. When these reversed peristaltic waves are present they are likely to extend nearer to the upper pole than the junction of the middle and lower third of the stomach, and the direct peristaltic waves begin higher. Reversed peristalsis is characteristic of pyloric obstruction. The study of the peristaltic wave as applied to carcinoma of the stomach cannot be dismissed without recognition of other conditions which have a similar influence.

Gastric ulcer will at times cause tetanic or spasmodic contractions which may last an indefinite time. I have observed one case in which it lasted at least an hour, and produced a decided hourglass contraction. In such cases, of course, the peristaltic wave is interrupted. I have seen these spasmodic contractions, too, in connection with movable kidney. Generally such spasmodic contractions may be seen to relax, then a complete wave will pass, to be followed again by the spasmodic contraction. Of course, an indurated gastric ulcer will give the same appearance as an early carcinoma, and it is to be hoped that more of these early cases can be examined in the future. A differentiation between ulcer and early carcinoma is as superfluous as it is impossible.

Gastric adhesions, secondary to gastric or duodenal ulcers, or secondary to a cholecystitis, will also interfere with the peristaltic wave. These involve also most often the lesser curvature. They may even cause considerable distortion of the stomach. Adhesions may involve a considerable extent of the stomach wall, and may cause displacement

[illegible]

[3] "Die Peristaltik und Antrum Pylori des Menschen," Mitteilungen aus den Grenzgebieten der medizinischen Diagnostik und Therapie, Band I, Heft 1. Also Dr. G. Holzknecht in Wien, i, No. 1.

[4] In a recent contribution read before the Medical Section of the [illegible] of Physicians, March 25, 1911, I called attention to the use of roentgen-ray examination in the diagnosis of [illegible] gastric adhesions, so that I will not consider that phase here.

[illegible]

[5] "Ueber [illegible]," Deutsche [illegible] Nr. [illegible]

[6] "Zur [illegible] Diagnostik [illegible] Magen," Zeitschrift für [illegible] Aerzte in Wien, Wien, 1908.

of the stomach without interfering much with the lumen, while a carcinoma of such extent will obliterate much of the lumen, and prevent complete filling by the bismuth mixture. I must repeat that at no time would I attempt a diagnosis upon the study of this wave alone. All other x ray and clinical evidence and the history must be given due consideration.

Gastric atony, whether associated with neurasthenia, gastroptosis, or gastric ptosis secondary to pyloric obstruction, may give general absence of the peristaltic wave, or one may have to excite the wave by external manipulation. In these cases, very strong waves are likely to occur at long intervals. Therefore, when they can be observed they are of special diagnostic value.

I have noticed that peristaltic waves may at times be excited by giving the patient some appetizing food after the bismuth mixture.

This hasty review of the observations regarding the peristaltic wave is given because comparatively little fluoroscopic work has been done upon the stomach in America, and it may serve as a basis, at least, for corrections and additions. Fluoroscopy has very properly been regarded by us as too dangerous. I think I have eliminated the danger from direct radiation, but not the danger from secondary rays. We are only beginning to realize the importance of these secondary rays from the air and objects in the neighborhood of an excited tube, and later we may learn that they too are dangerous.

CONCLUSIONS.

1. Cinematographic reproduction of the peristaltic wave of the stomach is at present possible by reducing and repeating separate exposures at comparatively long intervals.

2. Bioröntgenography is at present of great value in demonstrating to an audience both normal and pathological movements of the stomach.

3. In the near future we may hope to record cinematographically (ten or more exposures in a second) special phases during the study of a stomach upon the fluorescent screen. This may then make it of additional value in diagnosis, since the photographic plate is more sensitive than the eye.

4. A careful study of the peristaltic wave will give the earliest evidence obtainable of carcinoma of the stomach.

1821 Spruce Street.

TEST BREAKFAST *VERSUS* FASTING STOMACH CONTENTS.

By Alexander Goldman, M. D.,
New York.

In cases of digestive disturbance, of what value is the test breakfast? Do we learn from it more than from simply pumping a fasting stomach, and of what value is the pumping of a fasting stomach for diagnostic purposes? Before proceeding to discuss this question we must first make up our mind for what information we are looking, what we expect to learn, and what is the simplest and surest way of getting at it. We want to find out:

A. The physical condition of the stomach; that is, of its mucous membrane. Is it active or inactive; if active, is it so only when necessary for digestive purposes or at other times as well? If inactive, is there an atrophy or a retardation?

B. The amount of secretion, if any, of gastric juice during digestion as well as nondigestion.

C. The amount of mucus secreted during digestion and nondigestion.

D. The time it takes food to be digested.

E. Retention of food, if any.

F. Degree of acidity or nonacidity of the juice.

G. Other substances found in the stomach, such as blood, tissue, etc., if any.

Having this task in view we proceed to discuss the best way to obtain these data. We take up each point separately.

A. The activity of the membrane. If we pump a fasting stomach and find that its mucous membrane is active, we know that the same is also true of digestion. If totally inactive, the same will be true, with a slight possible change, after a test breakfast. While if the condition is normal we shall certainly find it so after a test breakfast.

B. The amount of secretion we can find out only from a fasting stomach. After a test breakfast we can find out only the power of the stomach's secretion.

C. The amount of mucus secreted in a fasting stomach, or after a test breakfast, must necessarily be obtained at either one of the states of the stomach, the difference, as a rule, being slight.

D. The amount of acidity may be estimated from a fasting stomach as well as after a test breakfast, the difference being small, as we shall try to prove later on.

E. Portions of food from previous meals must be looked for in the fasting stomach only. They may be found in a fasting stomach as well as, and much more easily than, after a test breakfast. Portions of mucous membrane, sanguineous mucus, shreds of dry membrane, portions of tumors, food remains, all these can of course be found after a test breakfast, but how much easier it is to obtain and see them after pumping a fasting stomach! Unless one fishes and looks hard for all kinds of substances in a test breakfast, one is very apt to, and as a rule does, overlook many things that are of importance for diagnostic purposes.

Let me say here that whatever one does not find after pumping a fasting stomach, will not be found after a test breakfast, while far more can be found in a fasting stomach than after a test breakfast.

F. As to the acidity of the digestive juice after a test breakfast, we have studied a series of cases and we find that the difference between that obtained from a fasting stomach and that after a test breakfast, barring certain cases, is almost the same. A certain series taken has given after an average test breakfast: Total acidity, 54; free hydrochloric acid, 34.7; for fasting stomach: total acidity, 49; free hydrochloric acid, 33.

As we see, the difference is very small and of no diagnostic value in itself. The test breakfast in all these cases was of no value at all, except where no free hydrochloric acid was found in the fasting stomach contents, and when the breakfast was given, it served only to substantiate the diagnosis previously

made from the fasting stomach contents. One thing we find: In cases where the breakfast was given and a diagnosis made on that alone, after the fasting stomach was pumped, it had to be changed in many cases; while, if fasting stomach contents were obtained, the diagnosis was as a rule not changed after the test breakfast was given. While we do not object to the test breakfast, we find that for diagnostic purposes in routine work, not only is pumping of the fasting stomach more convenient, but it is of much more value, even for absolute diagnosis, in some cases. While we are bound to make mistakes if we take only test breakfasts, we are less liable to do so if we take fasting stomach contents. Again, while we do learn something from a test breakfast, we learn considerably more from pumping a fasting stomach for diagnostic purposes.

As far as the power of digestion is concerned, we certainly cannot expect much information from a test breakfast—merely a roll and water, something that is but slightly digested, if at all, in the stomach. We believe, in fact, that if a patient were simply to look at a breakfast for one hour, we should probably obtain the same information from the stomach as if he had taken it into the stomach.

It has been suggested that the fasting stomach, if pumped between 9:30 and 11 a. m., does not show the true condition of a fasting stomach. If such is the case why should all stomachs not be filled at that time? Why do those which are normal show nothing, while those which are abnormal show abnormal conditions at that time?

The system we have used in the Vanderbilt Clinic is to pump the fasting stomach for whatever may be obtained from it and then pour water through the tube and syphon it back. In this way we obtained the undiluted stomach contents for chemical analysis, and the water would bring up whatever foreign substances, shreds, tissue, food, etc., that might have been still retained, such as the dry shreds of membrane and blood of chronic gastritis; the retention of solid particles of food in pyloric obstruction; the excessive amount of gastric juice of gastrosuccorrhœa; the fresh blood of ulcus ventriculi; the blood and portions of tumors of carcinoma ventriculi; the excessive amount of mucus in gastromuccorrhœa; the thin mucus and turbid fluid of chronic dilated stomach; the bile tinged fluid of chronic gallbladder cases, etc., in short, things the finding of which a test breakfast only serves to obscure.

1789 Fulton Avenue.

A POSSIBLE SOURCE OF ERROR IN GASTRIC ANALYSIS.

By Charles Sumner Fischer, Ph. D., M. D.,
New York.

In a paper read before the Associated Physicians of Montclair, N. J., I described a possible source of error in the ordinary clinical method of extracting gastric contents for analysis. This possibility has been under consideration and tested in the Roosevelt Hospital Outpatient Department for the past two years, and is based upon the imperfect homogeneity of the average gastric contents *in situ*. This deficiency has been a stumbling block to the accuracy of many methods and has impaired their usefulness. It materially interferes with the Mathien-Remond, Sahli, and x ray procedures, as these depend essentially upon homogeneity.

Imperfect homogenity is a physiological condition and is proportionate to the consistence of the food. The greater the consistence the less homogeneity exists. Contrary to former conceptions it appears that very little kneading occurs in the fundus of the stomach. The food, after passing the cardia, forms a more or less immobile bolus, which increases in size as the newly introduced food forces its way to the centre of the mass. The latter is more or less fixed by the enfolding muscular structures of the fundus, which relax only as the quantity of the contents increases. Digestion in this bolus takes place upon the surface over which the secretions play, and as solution gradually takes place, the fluid portions are carried to the antrum, where pyloric muscular activity injects them into the duodenum. This would be the mechanism in a stomach of normal muscular tone.

It is conceivable that this mechanism may interfere materially with the exactness of some methods of examination. The Mathien-Remond procedure for determining the volume of gastric contents depends upon homogeneity. The comparison of specific gravities is uncertain otherwise. The Sahli emulsion soup depends for its purpose upon its homogeneous character. Fundus immobility causes a separation of the fat from the other ingredients. In fluoroscopic examinations the bismuth suspensions soon separate into layers, the lower one containing most of the bismuth.

More far reaching than the effect upon these laboratory methods, however, is the bearing which these conditions may have upon ordinary clinical procedures. The usual method has been to make the extraction from any part of the stomach in quantity sufficient only for analysis. This operation has proved most practical in the rapid work of the clinic. The very ease, however, with which it can be carried out renders it liable to error, and in some clinics the finer analytical estimations have been entirely disregarded for ordinary purposes of diagnosis.

It can readily be seen in the light of the given physical mechanism of digestion, that the analytical findings of a small quantity of gastric contents will depend upon position in the stomach of the specimen before extraction. A portion taken from the cardiac end of the stomach need not give the same analytical findings as a portion taken from the antrum. Further, the acidity of the surface of the food bolus may materially differ from that of the centre of the mass. These conditions depend in turn upon the consistence of the tube and the manner of extraction. If the tube is a soft and flexible one, it may pass along the surface of the food mass, between it and the mucous membrane, and secure a specimen, the acidity of which may be normal or too high. If, on the other hand, the tube has sufficient stability to penetrate to the centre of the contents, a fictitious subnormal acidity may be revealed. Much depends also upon the manipulation. In the majority of examinations, most of us are

only too content to get the specimen, and pay slight heed to the possibility for analytical error resulting from the manipulation itself. The consistence of the food itself is important, and the possibilities for error are proportionate to the solidity of the test employed. In cases where the latter is entirely or nearly fluid the danger is minimized.

That there is some foundation for these observations is evident from the results obtained by a simple method of dual extraction, in use from time to time at the Roosevelt Outpatient Department during the past two years. These were made in the course of the usual routine examinations, without effort at precise manipulations. In this manner they represent ordinary clinical procedures and the errors possible under these circumstances. The test meal employed was a simple one, composed of a cup of tea, one slice of dry bread, and a quarter of a pound of lean, chopped beef. The extractions were made two and one half hours afterward by separate individuals. The first extraction was made by passing a very flexible tube to a point just beyond the cardia where, by aspiration, the first contents appeared. Only a small quantity was taken for analysis. The second extraction by another examiner was made immediately following by passing a more rigid tube well into the cavity of the stomach, a distance of from four to six inches beyond the point attained by the first tube. Here, also, only a small quantity, sufficient for analysis, was extracted. The manipulations employed differed in no manner, either as to care or exactness, from the usual routine procedures in common practice, the only precaution being the selection of cases sufficiently tolerant to admit of examination without violent restlessness or retching. The following are the results obtained in a dozen cases of various diagnoses:

	Free hydrochloride	Total acidity
1. Superficial	45	75
Deep	20	75
2. Superficial	32	60
Deep	42	60
3. Superficial	54	75
Deep	44	80
4. Superficial	8	48
Deep	8	48
5. Superficial	30	70
Deep	40	80
6. Superficial	25	75
Deep	20	75
7. Superficial	25	70
Deep	15	75
8. Superficial	40	85
Deep	55	105
9. Superficial	25	70
Deep	20	70
10. Superficial	38	94
Deep	28	92
11. Superficial	60	108
Deep	50	120
12. Superficial	10	40
Deep	0	35

These results are submitted irrespective of diagnosis and without comprehensive analytical comment. They simply reveal the possibility for error in ordinary routine work. It will be noted that the greatest difference exists for the free acid. This may vary from zero to twenty-five points, and is most pronounced in cases of excessive acidity. The possibility for error diminishes in proportion to the degree of acidity, being *nil* in cases of achylia. Numerically, seven cases exhibited the greatest free acidity upon superficial extractions, three upon deep extraction. In the two subacid cases there was very little difference. The total acidity shows very little variation.

From these experiments it would appear that too great reliance cannot be placed upon casual gastric analysis. Two examiners may obtain entirely different results, dependent upon the consistence of the test, the time of examination, the depth of extraction, the rigidity of the tube, and, most important of all, the muscular activity of the organ.

I am indebted to my associate, Dr. Charles A. Haffner, for his aid and interest in these examinations.

144 East Thirty-eighth Street.

QUININE AND UREA HYDROCHLORIDE AS A LOCAL ANÆSTHETIC.

By Winnifred Green, M. D.,
Louisville, Ky.

The writer's attention has been drawn for some time to quinine and urea hydrochloride as a local anæsthetic. It has proved so satisfactory that she wishes to report from her case book the first eight consecutive cases in which this anæsthetic was used and ventures to offer them as fairly representative cases of one year's experience which includes work done on the nose, throat, and ear as well as some minor operations on other portions of the body.

Case I. A woman, twenty-one years of age. Diagnosis, hypertrophied tonsils. Twenty-four minutes after injecting fifty-five minims of a one per cent. solution of quinine and urea hydrochloride into the capsule of the tumor, an amygdalectomy was done. The operation caused very little pain and a small amount of bleeding which subsided in a few minutes. Some remaining tags of tissue were clipped away on the second and third days succeeding the initial operation, thus showing anæsthesia to be complete to the end of the third day. Sensation was then gradually restored until the sixth day when it was found to be normal. Induration appeared almost immediately after the injection of the anæsthetic, the area of which extended about one half inch on all sides of the site of injection. Surrounding the area of induration was a band of tissue about one quarter of an inch in width showing hyperæsthesia to touch and pain. This condition continued for about thirty-six hours. The induration did not entirely disappear until the eighth day. The wound was entirely healed at the end of that time.

Case II. A woman, twenty-four years of age, presented a carbuncle about the size of a buckeye in the axillary space. Fifteen minims of a solution of quinine and urea hydrochloride was required to produce anæsthesia. The hypodermic needle was introduced just under the skin at the most dependent portion of the tumor and two or three drops of the solution slowly injected. Alternately on each side the needle was then passed to its full length around and outside the wall of the tumor at its base and a few drops of the solution was injected along the course of the needle as it was slowly withdrawn to the point of insertion. The needle was then directed upward over the surface of the tumor and the remaining few drops of the solution were slowly injected just under the skin. After waiting five minutes anæsthesia was found to be complete and an incision the entire length of the carbuncle was made. The pathological tissue was thoroughly scraped away with a curette. The wound was then swabbed with carbolic acid full strength and drained with a strip of gauze. Neither the incision nor the curettage caused any pain. The patient complained of great sore-

ness which manifested itself about twelve hours after the operation and continued for a period of twenty-four hours. The wound healed in fourteen days.

Case III. A woman, thirty-six years of age, had suffered four days with two inflamed external hæmorrhoids each about the size of a big cherry. Thirty minims of the solution (one per cent.) was injected well around the base of both tumors. Three minutes after the anæsthetic was injected the tumors were extirpated *en masse* occasioning no pain and very little bleeding except from an artery which spurted freely but was controlled by the application of a hot compress. Ten or fifteen minutes after the operation was completed the patient complained of a smarting sensation which continued almost an hour. She then became comfortable and slept well all night. Anæsthesia was complete for a period of thirty-six hours. The area of induration was to the extent of about three quarters of an inch surrounding the point of injection. There was no hyperæsthesia until the third day, and then it was only in evidence at the time the dressings were done. The only subsequent pain the patient complained of was occasioned by the movement of the bowels. Each movement for three or four days was accompanied by considerable pain and a few drops of blood from the wound was noticed at the same time. There were no sutures used. The wound granulated nicely, and by the end of the sixteenth day was completely healed.

Case IV. Patient was a woman, forty-three years of age. The condition here to be dealt with was a pedunculated papilloma in the margin of the hair about two inches back of the ear. The diameter of the base of the growth was about one and a half inch. Ten minutes of a three per cent. solution of quinine and urea hydrochloride was injected around the base and after waiting three minutes an elliptical incision was made deep enough to remove all pathological tissue. The wound bled freely but the bleeding was controlled in ten minutes by the use of hot compresses. The wound was then closed with four sutures. The operation caused no pain whatever. The patient returned for inspection on the fifth day after the operation. The only trace of the growth or the work which had been done was a pink line marking the site of union which was by first intention. This result was very gratifying as there was some question at the time as to whether a solution of this strength would delay or possibly prevent primary union.

Case V. A boy, nine years of age, presented hypertrophied turbinated bodies. This patient was very nervous, but after explaining to his satisfaction that there would be some pain though not more than he could endure, fifteen minims of a three per cent. solution was injected into the hypertrophied tissue. Two punctures were made. The first one produced considerable pain and profuse bleeding. The former subsided in a few minutes, and the latter was controlled by an irrigation of plain hot water used continuously seven minutes. As soon as the bleeding ceased the second injection was made which caused very little pain and which subsided very quickly. After waiting ten minutes anæsthesia was found to be complete, and a portion of the turbinated body was excised. The operation caused no pain and no bleeding ensued except a little oozing which continued for twelve hours. The wound healed without interruption.

Case VI. This was a girl who had hypertrophied tonsils. Ten minutes after thirty minims of a one per cent. solution was injected into and around the mass, the entire tonsil was enucleated causing no pain and very little bleeding. The only subsequent pain of which the patient complained was a slight earache which persisted several days, but was not greater than is sometimes experienced in the same operation done under other local anæsthetics.

Case VII. Miss M., forty years of age. Diagnosis, two inflamed external hæmorrhoids, each about the size of a small hickory nut. Ten minims of a one per cent. solution was injected into each tumor. Five minutes after injecting the first tumor, it was extirpated. The second one was dealt with in the same manner. The patient did not experience the slightest pain during the operation. Considerable bleeding followed, which continued for about four hours and necessitated the application of hot compresses. The first three days following the operation each movement of the bowels occasioned some pain and a little bleeding from the wound. Anæsthesia continued three days. Recovery took place without complication in fourteen days.

Case VIII. A woman, thirty-one years of age, presented an hypertrophied right turbinated body. Forty-five minims of a four per cent. solution was required to produce anæsthesia. Three injections were made at intervals of fifteen minutes. After each injection a test for sensation was made by pricking the injected area with a needle. Fifteen minutes after the third injection anæsthesia was found to be complete and the turbinated body was painlessly excised. The first needle puncture produced great pain and profuse bleeding, which latter was controlled after ten minutes by continuous irrigation of plain hot water. Almost immediately after the first injection of the solution the patient complained of hyperæsthesia extending the entire length of the nose externally on the right side. This condition continued twenty-four hours. There was no bleeding subsequent to the operation except a little oozing of straw colored serum which continued for twelve hours. On the fourth day following the operation a large sloughing mass was clipped away without pain, but profuse bleeding followed which was not controlled until the end of an hour in spite of the fact that a hot irrigation was used as continuously as possible for that length of time. The nostrils were thoroughly irrigated every day for three weeks. On the fifteenth day a large crust was removed after having been thoroughly soaked with a spray of oil. The removal caused no bleeding. At the end of twenty-one days the wound was completely healed leaving ample breathing space.

Four years previously, under cocaine and adrenalin chloride anæsthesia, the writer excised the left turbinated body for this patient. The operation caused very little pain, but the bleeding which followed was so great as to necessitate the packing of the nostrils for a period of thirty-six hours. The subsequent dressings caused very little bleeding. Ten hours after the dressing was done on the fifth day following the operation a profuse hæmorrhage occurred which was not controlled until the end of five hours. In two previous throat operations on this patient the same difficulty was encountered because of hæmophilia.

CONCLUSIONS.

Recognizing the many obstacles in the way of attempting to draw scientific deductions from the number of cases here reported, the following conclusions will therefore be drawn not alone from these eight cases, but from the entire experience of one year's work.

1. Quinine and urea hydrochloride is a valuable and safe local anæsthetic. A sufficient amount can be used to produce local anæsthesia without fear of causing untoward systemic effects, Brewster having "used as much as a hundred grains" of the salt "intravenously in six hours with recovery of the patient."[1] This amount is the equivalent of about one and one fourth pint of a one per cent. solution.

2. Anæsthesia may be obtained in from three to forty-five minutes. In the majority of cases, in the writer's experience, anæsthesia was complete in ten minutes.

3. While anæsthesia may not be obtained as quickly as with cocaine, eucaine, or novocaine, it is just as profound and of much longer duration. The period of anæsthesia varies from a few hours to several days, three days being the average in the experience of the writer.

4. The bleeding is not wholly controlled though materially lessened, especially by the use of solution of the higher percentages. A striking example of this is shown in Case VIII. Thus far in none of the cases in which intranasal operations

were done. Has it become necessary to pack the nostril, thus offering a decided advantage over other local anæsthetics, and at the same time materially adding to the comfort of the patient. In none of the cases of amygdalectomy was any change ordered in the diet of the patient, and in none of these cases did the patients miss a single meal, for the act of deglutition caused no pain.

5. Percentages. The writer's experience has been confined to solutions varying from one to four per cent. with satisfactory results. Generally speaking it may be said that in cases in which primary union is to be obtained it is desirable to use the lower percentages. In wounds which are to be healed by granulation and are not in vascular areas the medium percentages should be employed. Where healing by granulation in vascular areas is expected the higher percentages should be the solutions of choice because of their hæmostatic effect. However, in some cases in which primary union is desired in vascular areas the stronger solutions may be employed without materially delaying union. Evidence of this may be gathered from Case IV.

210 WEST CHESTNUT STREET.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CIX.—What are the best means of reducing infant mortality? (Closed April 15, 1911.)

CX.—How do you treat flatulence? (Answers due not later than May 15, 1911.)

CXI.—How do you treat acute infantile anterior poliomyelitis? (Answers due not later than June 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED) *that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to question CVIII was awarded to Dr. J. H. Donnelly, of Buffalo, whose article appeared on page 830.

PRIZE QUESTION CVIII.

(Concluded from page 833.)

Dr. William L. Baner, of New York, writes:

There is one remedy for the control of persistent hiccough which is superior to any other and, in fact, to all others put together. This remedy is so little considered in textbooks and literature that it may possibly escape the notice of your correspondents altogether or, at least, be relegated to a position much below its merits. The purpose of this communication is to call special attention to the almost specific value of gelsemium in the control of a distressing and dangerous symptom. Given a severe attack of hiccough, and assuming that, to the best of our ability, we have eliminated all stomachic and other reflex causes, what are we going to do to stop the spasms which are exhausting our patient possibly to the point of jeopardizing life?

In the first place there are certain physical procedures which may be tried, and there are two such which in some cases have proved of benefit. I have in several cases seen temporary relief follow steady tracheal traction maintained over a considerable period. In some other cases compression of the costal arch by binder has given temporary relief, though not as frequently as tracheal traction. The disadvantage of the latter is that, even in the cases where it succeeds, the very nature of the procedure prevents the patient from going to sleep while it is being maintained, and the hiccoughs generally recur shortly after it is discontinued. As a rule, then, we are forced to resort to the use of sedative drugs and the time honored sequence seems to be about as follows: First, bromides, then one or other of the coal tar hypnotics, and, finally, morphine hypodermically, the latter giving some temporary relief followed, however, by an aggravation of the condition due to the secondary effects of the morphine.

Persistent hiccough is a not uncommon complication of convalescence in severe sunstroke cases, and some twelve years ago the writer had three such under his care at one time. In these cases, after ordinary treatment had entirely failed to give relief, gelsemium was tried, more in desperation than in hope, and in each case the benefit was immediate and striking. Since then the remedy has been repeatedly tried by the writer and his professional friends, both in hospital and private practice and with extremely gratifying results. The drug seems to act just as we should expect it to from a knowledge of its physiological effects. Gelsemium acts directly on the central nervous system, and the lessening of muscular excitability (and final paralysis) which it causes is central and not due to end plate paralysis as with conium. Its sedative effect on the respiratory system is marked, and in overdose death is caused by asphyxia due to paralysis of the respiratory muscles.

The method of giving gelsemium in these cases is as follows: A thoroughly trustworthy fluid extract (not too old) must be used. The initial dose is generally two minims, and in some cases this is sufficient to give relief, but, as a rule, it has to be increased. In general terms it is necessary to give sufficient to produce physiological effects, ptosis and mydriasis being the guides. Sometimes persistent hiccough develops in patients who already have ptosis of central origin. In these cases we have to feel our way with considerable care. This drug is quickly absorbed, the full effect of a given dose being obtained in about half an hour and disappearing in about three hours. This fact and the needs of the patient will act as our guides in repeating the remedy.

As to the dangers of the remedy, I can only say that to date I have not seen in my own cases, or heard of from others, any unpleasant results. Still

we must remember that we are using a very powerful and dangerous weapon and comport ourselves accordingly. Gelsemium is certainly not a remedy the administration of which can be entrusted to untrained members of the patient's family.

Dr. Gustavus Eliot, of New Haven, Conn., draws attention to the fact that—

When a baby has hiccough the untrained nurse usually fills his mouth with granulated sugar. The peculiar sensation in the mouth will often divert the energy from the diaphragm, and its spasm will cease. Frequently a teaspoonful of water will be followed by the same result. In older children, drinking ten or fifteen large swallows of water will often be followed by a cessation of the spasm. One of the most generally useful methods of cure is to take a deep inspiration, and hold the breath as long as possible. This must be repeated several times if necessary.

In adults functional attacks are also common, but in addition in many cases an organic cause is present. There may be inflammation of the peritonæum, the gallbladder, or the stomach. Sometimes arteriosclerosis may have caused degeneration of the arteries at the origin of the nerve, sometimes there is a fractured rib, and sometimes there may be a toxæmia complicating a grave disease like typhoid fever or chronic nephritis. In these cases the annoying spasm often proves very intractable, is exceedingly exhausting, and not infrequently contributes materially toward a fatal result. Here such simple measures as taking a spoonful of sugar, drinking a glass of water, or holding the breath often fail. The first thing which should be done is to apply a large, strong mustard paste to the epigastrium, until the skin is reddened. If this does not afford relief the next thing to be done is to give a hypodermatic injection of one fourth of a grain of sulphate of morphine and one one hundred and fiftieth of a grain of sulphate of atropine. These drugs impair the excitability of the nerve, diminish the muscular spasm, and often prove effective. Sometimes morphine is contraindicated.

Other remedies, which may then be considered are numerous, but less useful. Among them may be mentioned ipecac, which is useful if the stomach is overloaded, as happens occasionally with children. Spirits of chloroform may be given in doses of twenty or thirty drops, repeated every hour. The tincture of belladonna, in doses of five drops every four hours, is sometimes useful. Nitroglycerin, in doses of one one hundredth of a grain, repeated every hour or every two hours, is beneficial in some cases. Finally, it is sometimes worth while to employ inhalations of nitrite of amyl. Ether, musk, and camphor may be tried in desperate cases.

Dr. Herman Friedel, of Stapleton, remarks:

The treatment depends on the cause of the disorder. In milder cases, forced sneezing, gargling with water, or repeating the following process a number of times is all that is necessary: Sit erect and take full inspiration, and while holding the breath bend forward slowly until chest meets the knees; resume erect position and slowly exhale the breath.

In gastric or intestinal irritation, lavage or a hypodermic injection of an emetic dose of apomorphine, 1/20 to 1/10 grain, will stop it.

Apomorphine hydrochloride	gr. 1/20
Distilled water,	℥ss.

Sig.: Inject hypodermically.

or

Spirits of chloroform,	5ss.
Spirits of camphor,	5ss;
Compound tincture of cudbear, to make	5ss

M. Sig.: One dose.

Where hiccough comes on after meals and is due to indigestion, the treatment depends on the condition of the stomach, which must be corrected. Since atropine has the power to relax spasm due to some local cause connected with a muscle or its supplying nerve, it is serviceable in hiccough where the irritation is peripheral; atropine 1/120 to 1/60 grain each dose, or 1/20 grain in the day.

Chloral is the standard remedy in all forms of severe spasmodic disorders; twenty grains repeated in an hour.

In obstinate hiccough, especially of centric irritation, forty grains of sodium or potassium bromide and twenty minims of tincture of deodorized opium in four to eight ounces of starch water should be injected into the rectum. A few inhalations of ether or a fine spray on the epigastrium may check an attack.

In the hiccough of typhoid fever, musk, ten grains, by the rectum is very good.

In uræmia, the cause is a nitrogenous product which fails to be adequately excreted by the diseased kidneys; therefore the indications are restriction of the diet, venesection, and by vicarious elimination by channels other than the kidney.

Diaphoresis by hot packs, hydragogue cathartics, lavage of stomach, and venesection, unless the blood pressure is low, and replacement of blood removed by saline infusion, are some of the methods to be resorted to.

Dr. Beverley R. Tucker, of Richmond, Va., says:

Mild hiccough often is a simple reflex phenomenon occurring after a slight indigestion, fullness of the stomach, the drinking of cold substances, and exercise immediately after eating, or the cause may not be traceable. These cases yield promptly to such simple treatment as taking a deep inhalation and holding the breath, or drinking eight or ten swallows of water in succession, or lying down on the back with the thorax propped up and the head thrown back, or taking some carminative substance like spirits of chloroform, or steady pressure over the lower part of the chest, limiting the movement of the diaphragm. Hiccough occurs in typhoid, Addison's disease, and in such general states as alcoholism, hæmorrhage, uræmia, diabetes, and gout, also in shock following anæsthesia or surgical operation, and after syncope. When any of these conditions obtain, if they are vigorously treated, the hiccough usually disappears. At times the symptom of hiccough itself is so important that its especial treatment becomes paramount, for even the patient's life may be in danger. In treating the symptom itself we may try the simpler means first, but these are usually of but little avail in severe cases. In these cases pilocarpine hydrochloride in

doses of one fifth grain is sometimes of value or a seventy-fifth to a one-hundredth of a grain of hyoscine, or bromides may be given by the mouth or bowel. A hypodermic of morphine and atropine will sometimes check an attack. Probably the most efficient medicinal remedy is extract of musk given in five grain capsules every hour or two for a few doses. Hiccough is sometimes controlled by inducing sneezing, which is an expiratory spasm, by means of snuff. Local measures may be tried by themselves or in conjunction with the drugs. Among these are counterirritation to the back of the neck, spraying the thorax along the line of the diaphragm and phrenic nerves with ether, a large mustard plaster over the chest, pressure with the hand on the phrenic nerves as they pass the scaleni antici on each side of the neck, and faradaism over the phrenic nerves. If there is any sign of gastric irritation the stomach should be washed frequently, and if abdominal tympany is present it should be reduced by turpentine stupes, enemas, rectal tubes, or electricity. The most valuable form of electricity is faradaism with one wire electrode inserted in a rectal tube through which normal saline solution is run into the bowel, while the other electrode is passed over the abdomen.

In emotional and hysterical cases the hiccough ceases during sleep, and these are sometimes controlled by complete isolation. These cases are often very persistent. We are sometimes able to induce the patient to control the phenomenon by persuasion, or the gradual reeducational method, which consists in making the patient control the hiccough for a few seconds at a time at stated periods and increasing this time until they are able to control the hiccough at will. Sometimes it is necessary to hypnotize them, and this method has been extremely useful in persistent psychic cases.

Dr. William Wendell Hala, of New York, asks:

What should be done for the patient suffering from obstinate, rapidly exhausting hiccough? First, try to limit respiratory movements by telling the patient to hold his breath as long as he can and at frequent intervals. This limits the excursions of the diaphragm and lessens its spasm. If the patient is in a stuporous, exhausted state, give inhalations of amyl nitrite, and, if the condition of the heart warrants it, chloroform inhalations. A rectal injection of the following may be tried:

℞ Chloral, ... gr. xx;
Tincture of opium, ... ♏xxv;
Potassium bromide, ... ʒiss;
Mucilage of starch, to make, ... ʒiv.
M. Sig.: Enema.

In uræmic states, pilocarpine hydrochloride, one quarter grain, and putting the patient in a hot pack may be advantageously tried. Morphine hypodermically is also useful. When the acute attack of hiccough has been successfully cut short, the physician must prescribe such medicaments as are indicated according to the cause of the hiccough. Suggestions along this line are operative interference in general peritonitis, appendicitis, brain tumor (when accessible), and even in pregnancy. Antispasmodic and psychical treatment in hysterical conditions; gastric lavage and restrictions in diet in gastric causes, etc., etc.

Dr. H. B. Biscow, of New York, says:

Dietary treatment. Advise your patient to eat slowly, carefully masticating the food, not to overeat, and especially not to take large quantities of fluids at meals. Exclude all indigestible food stuffs.

Medicinal treatment. If condition is habitual, especially in nervous individuals, give nerve sedatives such as bromides, asafœtida, chloral, alone or in combination. When due to acute indigestion and mild in character, Hoffman's anodyne one drachm in ice water after meals; spirits of chloroform; tincture of capsicum from one half to one drachm. Between attacks prescribe tonics as tincture of nux vomica in combination with dilute mineral acids well diluted thrice daily after meals. If condition is grave, induce vomiting by the various ipecac preparations or tartar emetic, zinc sulphate, etc., or even a hypodermic injection of apomorphine. It may become very persistent so as to exhaust the patient, then resort to morphine and hyoscine by mouth or hypodermically. In uræmia, hot packs, if the condition of the patient allows.

Dr. F. J. Feidler, of Seattle, Wash., favors us with a communication from the osteopathic viewpoint, as follows:

Hiccough may be caused by any lesion that irritates the diaphragm, or its related nerve, the phrenic. Irritation to the nerve may cause a spasm of the glottis, which may extend to the diaphragm, or, a lesion of the vagus may cause violent gastric spasms. An overloaded stomach, undigested food, ptomaines, and many other causes of gastric distress may involve the diaphragm. Inflammation from surrounding organs, pleurisy, peritonitis, etc., may extend directly to the diaphragm. Tumors, torticollis, muscular contractures from chilling, or injury to the cervical vertebræ may press upon the phrenic in the neck. The greatly exhausted condition of patients after some of the continuous fevers make them easy subjects for some apparent trifle to start an irritation to the diaphragm, that may "feed on itself" and persist because the patient has not enough vitality to respond to the remedial efforts of the physician. A neuritis involving the phrenic nerve may follow any of the exhausting fevers. Most causes are found in the stomach or neck.

Whatever the cause, the phrenic nerve is always involved, directly or reflexly.

The prognosis depends on the cause and duration of attack. Children usually respond quickly to almost any kind of treatment. Cases of short duration soon regain a normal condition, but long continued cases, continuous for a week or more, greatly exhaust the patient with the jerky movements and the loss of sleep. Moreover, food is often not tolerated, even drinking water sometimes aggravates the spasms greatly.

The proper treatment is to remove the causative disease or lesion, of course, but this cannot always be done quickly enough, neither is it necessary. If the hiccough is stopped it rarely recurs, and the lesion, should it persist, acts in a different manner, follows a different course; perhaps causing pain instead of spasms.

A physician with an acutely sensitive digital touch can feel the thrill of the irritated phrenic in the neck, the vagus within the stretched carotid sheath, usually on one side only, or the tense and jerky spasms of the stomach may be felt. By comparing the feel of the two sides of the neck the "guilty" lesion is easily located.

The reduction of these sensitive areas is usually sufficient to abort the hiccough. Mechanical, manipulative stimulation of the vagus quiets the stomach, relaxes its musculature, and increases its peristalsis. Either inhibition of the phrenic by steady pressure, or overstimulation to exhaustion will desensitize and quiet the nerve, relax the diaphragm muscle, and stop its spasms. It may be necessary to reduce a slip of the cervical vertebræ or relax a torticollis before the phrenic will behave.

Stretching the neck, directly, laterally, or anteriorly, as well as rotating it, will help to reduce cervical muscular contractures and remove pressure from the phrenic. But no empirical, haphazard, slam bang, jerky treatment of the neck should ever be permitted, as serious and permanent injury may result. Treatment of the neck requires delicate skill and perfect anatomical knowledge. I know of a case of blindness caused by an ignorant masseur's reckless handling of the neck. Lifting and spreading of the ribs will stretch the diaphragm and may reach the "spot" and stop the tic.

Correspondence.

LETTER FROM HEADQUARTERS, MANŒUVRE DIVISION.

Impressions of a National Guardsman.—Instruction of Volunteer Medical Officers.—Precautions against Disease. Men Wanted [illegible] Medical [illegible]

SAN ANTONIO, TEXAS, *April 8, 1911.*

The first impression made on the medical officer of the National Guard when he joins the manœuvre division here is that the personal equipment and efficiency of the medical corps of the United States Army shows a decided improvement over that of the past. There are here in the division camp at San Antonio four field hospitals and four ambulance companies, and some of the medical officers of the National Guard are assigned to them, with officers of the same rank in the regular army to instruct them, while others are assigned to detachments of the medical corps in the different regiments. I am among the latter, but I understand that probably at the end of the first week we shall be changed about, so that all may have both kinds of instruction.

The health of the whole camp is excellent. The camp has now been here for a month. No typhoid has developed, largely due to good sanitation supplemented by compulsory use of antityphoid serum for all not immune. The National Guard officers are all given an opportunity to have the inoculation. Special precautions are taken against flies, and, although some may hatch along the picket lines, the daily burning of garbage and litter and evaporation of fluids keep the camp in good sanitary condition. There has been a change from the complicated methods of garbage collection and disposal by the quartermaster's department, and everything is consumed by fire under direction of the medical corps. Latrines are of the simple trench form covered with boxes. Each day the box is inverted, the trench is burned out with crude oil and hay, fresh lime thrown in, the woodwork whitewashed and replaced. Very few flies are seen around them and mosquitoes are fortunately absent.

Recruits, on arrival, are kept in the fort and not allowed to join their regiments at the camp until danger of development of infectious diseases is past, and during this time they get their antityphoid inoculation.

The medical corps is short of enlisted men, and there is a good opportunity for recruits in this branch of the service. The instruction the recruits receive is valuable.

The soil here is of such a nature that rain produces a deep mud; and for some time that has been one of the things contended with, but it has now dried off and the ground is hard. By a system of ditching, the very deep mud of the former rainy weather will probably be prevented should rainy weather come again.

Therapeutical Notes.

Glycerin for Disguising Nauseous Medicines.—Lind says (*West Virginia Medical Journal*) that no substance is equal in power to glycerin in disguising nauseous medicines. Castor oil, turpentine, solutions of iron and various other medicines can be diluted and at the same time almost completely disguised by glycerin.

Treatment of Faulty Conditions of the Gallbladder.—According to the *Monthly Cyclopædia and Medical Bulletin* for March, 1911, the *Medical Brief* says there is nothing better for the treatment of faulty conditions of the gallbladder than the formula recommended by Billings, as follows:

℞ Sodium salicylate, ... gr. xv.
Sodium phosphate, ... gr. xxx.
Dried sodium sulphate, ... ʒiss.
M. et Sig.: One half to one drachm in a glass of hot water thirty minutes before meals.

The Therapeutics of Digitalis.—According to Turnbull (*British Medical Journal*, 1910, p. 1609) the therapeutics of digitalis may be summarized as follows:

1. Full doses are necessary to produce the effects of the drug, and unless it is pushed no result may be obtained in cases which would at once react to large doses.

2. There is no danger in pushing the drug if the type of case is taken into consideration and the results watched. In most of our cases the patient stopped the drug himself owing to the increasing nausea, and the only cases likely to show bad effects are those with damaged auriculoventricular bundle in whom heart block may result. Several cases have been treated in the outpatient department with doses of ℞xv three times a day with excellent results.

3. Raised blood pressure is no contraindication to the use of digitalis, and is often due to some secondary effect of the heart failure.

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THE DECLINING BIRTH RATE.

In the *Lancet*, for April 22, 1911, F. B. Fremantle, M. B., offers a few observations on the declining birth rate in Great Britain; it is not only in France that this question is becoming of absorbing interest. Mr. Fremantle points out that in England and Wales there has been a decline of ten per mille in the birth rate during the past thirty-five years, or, on an average population of 35,000,000, there has been a total loss to Great Britain of some 5,250,000 persons; furthermore, the scourge shows no sign of abatement. As to causes, urbanization and occupation have little effect and religion less than has been imagined. The rate declines with the increase of social comforts and is lowest where the professional classes are most numerous and where many domestic servants are employed; it is highest where labor is of the lowest type and where poverty, drunkenness, overcrowding, tuberculosis, and pauper lunacy are highest and thrift and culture least. The nation is thus recruited from the least prosperous and least successful classes and in an increasing degree. There is, moreover, a voluntary limitation of the birth rate by two methods; prevention of conception and destruction of fœtal life, rubber goods and pessaries on the one hand, abortifacients and spurious nursing homes on the other. Both should be ruthlessly pursued by the law. The decline became very marked in 1877 and subsequently, immediately after the publication of the American pamphlet, *The Fruits of Philosophy*. As to artificial decline, as Mr. Fremantle calls it, it is due to the advice to wives to rest for two or three years after the birth of a child; to the interest of women in charitable, political, and other matters outside the home; and to a desire for economy and a wish to devote the means in hand to the education of the existing children rather than to the raising of new ones. The effects are serious, says Mr. Fremantle; the practice of prevention is a check on Nature's check to sexual intercourse; it tends unconsciously to sexual excess and habituates the being to general self indulgence. Parental qualities are not stimulated and the children lose the discipline and delights of a full nursery. Woman, taking up outside interests, is pushed out of her natural sphere of home life. Mr. Fremantle says it is our duty, as professional men, to insist on the paramount value of Nature's own methods and checks, on the serious danger resulting from celibacy, from prostitution, from interference with the normal married life, from disregard of Nature's seasons. The writer asks, however, why there should be so few children in aristocratic families, even where they are ardently desired, and asks for information on this subject from family practitioners and obstetricians.

SALVARSAN AND MALARIA.

Among the first reports which were published on the medicinal effects of salvarsan were some from St. Petersburg on the use of salvarsan in malaria (see Julius Iversen, The Value of Ehrlich's 606 in Malaria, *Roussky Vratch*, July 3, 1910). These reports were rather favorable. In the March number of the *Archiv für Schiffs- und Tropen-Hygiene*, Dr. Heinrich Werner, of the Institut für Schiffs- und Tropenkrankheiten in Hamburg, gives a lengthy statement of his experience with salvarsan in malaria. He is of the opinion that the effect of this drug in tertiary malaria is very satisfactory; he even calls it specific. Fever and parasites disappear within less than twenty-four hours if the dose is large enough (between 0.5 and 0.8 gramme). The dioxydiamidoarsenobenzol is best administered in a combination of intravenous and intramuscular injections. The writer treated eight such patients with only one recurrence. He is very hopeful in the outlook and thinks that Ehrlich's *therapia sterilisans magna* can finally be attained with 606 in tertiary malaria.

His experience with salvarsan in tropical malaria has not given favorable results, even in very large doses. He has been able in most cases to reduce the number of parasites and the fever, but not to produce a permanent cure, as parasites and fever would recur after a few days. Dr. Werner calls attention to the different results obtained with the Wassermann reaction in both forms of malaria

which, according to Böhm's investigations, is less positive in tertiary than in tropical malaria, and the author thinks that the different forms of the parasites are differently acted upon by the drug.

ORGANOTHERAPY IN DIABETES MELLITUS.

The brilliant results of thyreoid treatment in previously utterly hopeless conditions have served as a constant stimulus to the search for similarly effective organotherapeutic agents. Underlying such attempts at present is almost invariably some theory, and the latter is usually based upon some advance in physiology or pathology. The demonstration of the dominant rôle of the pancreas in carbohydrate metabolism, and of its relation to diabetes mellitus, caused many attempts to be made to treat this disease with the pancreas or extracts of the pancreas. The degree of confidence expressed in the results of such attempts seems often to have depended upon the degree of confidence felt in the theory underlying them. Although this attitude is often dangerous, there is some justification for it; if there is a sound experimental basis for a given form of therapy its failures in specific cases may be due to accidental or extrinsic causes.

It is therefore desirable to examine critically the theories underlying the use of the pancreas in diabetes. One of the earlier of these, viz., that the pancreas supplies the body with a sugar oxidizing enzyme has been largely abandoned and succeeded by that of Cohnheim. Cohnheim's results were, briefly, as follows: The expressed juice of muscle alone or of pancreas alone had little effect upon a solution of glucose, but when combined they apparently led to a rapid disappearance (presumably through oxidation) of the glucose. As the pancreas extract could be boiled, precipitated by alcohol, treated with five per cent. sulphuric acid, etc., without impairing its activity, the latter was evidently not due to a ferment; it was supposed to be due to a "coferment" or "activator." The resistance of the pancreas extract to various agents made it appear rather improbable that its activity would be destroyed in the processes of digestion. Although Cohnheim's views did not receive universal recognition, they seemed to justify renewed attempts to treat diabetes with preparations of the pancreas; the method continues to be tried somewhat extensively, more apparently because it appears to have a rational basis than because the actual results have been clearly beneficial.

It is interesting now to note that recent work by Levene and Meyer (*Journal of Biological Chemistry*, ix, p. 97) makes it seem impossible to base rational treatment upon Cohnheim's experiments. These authors confirm Cohnheim's results as to the disappearance of glucose when exposed to the action of the combined extracts of pancreas and muscle, but find that the "disappearance" is due to a process of condensation and not to one of oxidation; the entire amount of glucose can be recovered by diluting the mixture and exposing it to a fresh portion of the organ extracts, or by boiling it with dilute hydrochloric acid. Whether these organs have a similar action upon sugar in the body seems doubtful; if they do, the meaning of it is obscure. In any case it is evident that Cohnheim's experiments furnish no rational basis for the treatment of diabetes by preparations of the pancreas.

Recent experiments of von Fürth and Schwarz (*Biochemische Zeitschrift*, xxxi, p. 113) indicate that another form of organotherapy for diabetes, that proposed by Zuelzer, has an experimental basis of very uncertain value. Zuelzer believes that the chief function of the pancreas in carbohydrate metabolism is to exert an inhibition upon the suprarenals; when this inhibitory action is removed by disease or by extirpation of the pancreas the suprarenals are no longer inhibited and their secretion causes glycosuria just as the injection of suprarenal extract or adrenalin does; in other words, the glycosuria of diabetes is in reality a suprarenal glycosuria. Zuelzer and others have found that the injection of extracts of the pancreas prevents adrenalin glycosuria, and, largely upon the basis of this, Zuelzer proposed a method of treatment of diabetes which consisted in the injection of a purified pancreatic extract. This treatment has been applied in but a limited number of cases, and although it was followed by a marked diminution of the sugar excretion, it caused, in some cases, such severe reactions that the physician hesitated to employ it further.

Von Fürth and Schwarz confirm Zuelzer's experiments as to the diminution of the sugar excretion in adrenalin glycosuria by the intraperitoneal injection of pancreas extracts, but they find that the same effect is produced by the injection of oil of turpentine and other irritants. They produce experiments and arguments to show that the effect is due to a decreased permeability of the kidney for sugar, a result which would doubtless be injurious rather than beneficial. They think that Zuelzer's clinical results may be similarly explained.

Thus, while the relation of the pancreas to diabetes mellitus remains practically unquestioned, the nature of the relation is so obscure that it is impossible at present to base any rational form of organotherapy upon it. In fact there are some reasons to fear that the relations are such as to make

the quest for such a method almost hopeless. The fact that glycosuria appears in animals within an hour or two after extirpation of the pancreas indicates that there can be but little of the internal secretion of the pancreas in the blood at any one time; this fact doubtless accounts for the failure of transfusion to cause any distinct improvement in experimental diabetes. It has been suggested that the pancreas may excrete the internal secretion as rapidly as it is formed, somewhat as the liver excretes urea as it is formed; if this is the case there would be, at any one time, but little of the internal secretion in the pancreas available for therapeutic purposes.

There are, however, encouraging prospects in other directions. Thus, the theory that the undoubted value of oatmeal in certain cases of diabetes is due, in part at least, to a specific effect upon the internal secretion of the pancreas has much to commend it. That certain foods do have specific effects upon some of the organs of internal secretion has been made rather probable by Hunt's experiments on the thyreoid, to which reference was recently made in this *Journal*.

NITROGEN STARVATION AND THE HIGH COST OF LIVING.

The epigram that "it is the cost of high living rather than the high cost of living," like most epigrams, is only partly true. The physician himself realizes that the cost of living is higher not only from his individual experience, but from his intimate insight into the lives of his patients. Nitrogenous foods are the most expensive, and it is in the cost of the nitrogenous foods that the highest rate of increase has taken place. The impoverishment of the coastal soil of the Atlantic seaboard, which has led to its abandonment by farmers for the richer soils of the West, has consisted mainly in an impoverishment of the nitrogenous constituents of the soil. To replace the nitrates, which have been used up, we have imported from Chile and Peru something like 350,000 tons of nitrates annually. These deposits, however, are being exhausted and, so we are told, will disappear entirely within the next thirty years. Even now the reduction in the output has led to a marked increase in the cost. From time to time scientists have sounded a note of alarm over the disappearance of the supply of nitrates, and the consequent starvation which confronted the human race. Malthus himself, we believe, assigned the fear of nitrogen starvation as one of the justifications for his proposal to limit the increase of population. The introduction of electrolytic chemistry was hailed as offering the long sought for means for replenishing the diminishing supply of the world's nitrates, but the cost of producing nitrates by electrolytic action is practically prohibitive. The discovery of the fact that certain nodules found on leguminous plants harbor bacteria, whose function is the fixation of atmospheric nitrogen, was also welcomed as offering the long sought solution of the problem of a supply of nitrates. Both by private individuals and by governmental bureaus efforts were made to perfect methods which would enable the farmer to obtain cultures of these nitrifying bacteria, to introduce an adequate supply of nitrates without recourse either to electrolytic action or to the nitrate fields of South America. Theoretically, these bacteria supply a complete solution of the problem, but in practice it was found impossible to furnish them in quantities and of a kind which would prove commercially of value to the farmer. The dried cultures were found to deteriorate rapidly. The cultures in solutions of nitrates in the culture medium, although they lived, lost their activity to a large extent. Cultures in sealed tubes soon exhausted the supply of nitrogen contained in the tube and died of nitrogen starvation. We understand that cultures have now been placed on the market in which the bacteria obtain an ample supply of nitrogen through an air filter which prevents contamination of the medium with extraneous bacteria, and that these cultures are bred in increasingly higher strains of nitrifying activity so that they produce from 100 to 600 times as much nitrates per colony as do the ordinary nitrifying bacteria found in the average soil. If the reports which reach us regarding the richness of yield of these specially bred bacteria are correct, and they seem authentic, it would seem that the danger of nitrogen starvation is finally passed and that it will only be a matter of time when through the propagation and distribution of these beneficent bacteria the cost of living will take a definite downward course. Not only in therapeutics, apparently, must we look to bacterial products for aid; we must depend upon them in dietetics as well.

A REMARKABLE CASE OF HERMAPHRODITISM.

In the *Journal de médecine de Paris* for April 8, 1911, there is summarized the report of Professor M. A. Lapointe on an extraordinary case of hermaphroditism that came under his observation. The individual was twenty-one years of age, had been brought up as a woman, and presented most of the physical characteristics of a woman save that he

had two well developed testicles. Desiring to marry a man, he had presented himself at a surgical clinic with a view of having the unbecoming growths extirpated. Examination disclosed marked aplasia of the penis, the scrotum divided into two pseudolabia majora, separated by a pseudovulvar cleft; there was no vagina, and the condition might be described as a perineal or vulviform hypospadias. Physically this hermaphrodite looked the woman, with the characteristic slope of the shoulders, the delicacy of the features, the shape of the waist, and the size of the breasts and buttocks; only the hands and feet were somewhat large. He had the brain of a young woman, being by profession a "seamstress," and his voice was a treble. Lapointe did not consider it proper or advisable either to construct a vagina or to remove the testicles, but advised the subject, so to speak, to remain a woman. The case is sad as well as perplexing, and the victim is only too likely to become an exhibitionist. Had he married a man, the medicolegal aspect of the case would have been most perplexing, for, according to French law, genital incapacity on the part of one of the parties to marriage is not a cause for divorce unless the plaintiff can prove that the defendant had previous knowledge of deformity and had concealed the fact. In this case, perhaps, a physician might have recognized a male; but, had the subject been a cryptorchid, only a laparotomy could have solved the problem. In the latter case, since no one can be forced to submit to an exploratory laparotomy, a normal individual might find it impossible to obtain a divorce from a person of the same sex. Such cases, concludes Lapointe, are commoner than is generally suspected, and the French law on the subject should be the same as the German, viz., that all congenital anomalies of the genital apparatus that absolutely prevent normal sexual intercourse should be included among the reasons for annulling marriage.

Obituary.

HERMAN JACOB KNAPP, M.D., of New York.

Dr. Knapp died at his residence at Mamaroneck, N. Y., on April 30th. Born in Dauborn, Prussia, on March 17, 1832, he studied medicine at the Universities of Munich, Würzburg, Zurich, Vienna, Leipsic, and Giessen, graduating from the latter in 1854. After a postgraduate course in London, Paris, Utrecht, and Berlin he settled in Heidelberg in 1859, where he was recognized as Privatdozent the following year, and, in 1865, became professor of ophthalmology. In 1868 he came to New York, where he practised until his retirement. From 1882 to 1888 he held the chair of ophthalmology at the New York University Medical College, and from 1888 to 1902 at the College of Physicians and Surgeons, Columbia University, in which institution he was, at his death, professor emeritus. Shortly after his arrival in New York he founded, in 1869, the New York Ophthalmic and Aural Institute. In the same year he founded the *Archives of Ophthalmology and Otology*, which journal appeared in English as well as in German, and was in 1879 divided into the *Archives of Ophthalmology* and the *Archives of Otology*. Dr. Knapp always took an active part in the affairs of the medical profession, belonging to many medical societies. He was the author of a great number of essays contributed to medical journals.

News Items.

Changes of Address.—Dr. Mahlon R. Raby, to 5430 Wayne Avenue, Germantown, Philadelphia, Pa.

The Mount Pocono Sanatorium, which is situated about two and a half miles from Mount Pocono, Pa., was completely destroyed by fire on April 28th.

The Buffalo Academy of Medicine held a special meeting on Tuesday evening, May 2d, to take action on the death of Dr. Carlton C. Frederick, president of the academy.

An Addition to the Syracuse City Hospital.—Work is progressing rapidly on the scarlet fever pavilion of the Syracuse Hospital, and it is expected that it will be ready for occupancy in about a month. The cost is $30,000.

Commencement Exercises of the Atlanta School of Medicine were held on the evening of April 26th. Forty-seven graduates received the degree of Doctor of Medicine, which is the largest class ever graduated from the institution.

A New Building for the Williamsburgh Hospital.—At the recent annual meeting of the Board of Directors of the Williamsburgh Hospital, Brooklyn, it was definitely decided to erect a new building for the institution, and since that time $11,000 has been subscribed to the building fund.

The Clinical Society of the New York Throat, Nose, and Lung Hospital held a stated meeting at the hospital, in East Fifty-seventh Street. The paper of the evening was read by Dr. Parker Syms on the Ætiology of Cancer. The next meeting of the society will be held on October 2d.

Rockaway Beach Hospital Opened.—The formal opening of the Rockaway Beach Hospital and Dispensary took place on Monday, May 1st, and on Tuesday morning its doors were opened for the reception of patients. The institution is free and nonsectarian. The cost of the building was $100,000.

A Sanatorium for Tuberculous Indians.—A hospital for the treatment of Indians suffering from tuberculosis is being erected by the government at Laguna, New Mexico, at a cost of $3,000. The building will be 40 by 33 feet, and fully equipped with all modern appliances, and with competent nurses in attendance.

The New Superintendent of the Long Island State Hospital.—Dr. Robert E. Doran, of Albany, medical inspector for the State Lunacy Commission since last October, has been appointed superintendent of the Long Island State Hospital for the Insane, in Flatbush, Brooklyn, to succeed Dr. William L. Russell, who resigned recently to accept a similar position at Bloomingdale Hospital.

The Santalol Compounds.—Dr. Frédéric S. Mason read a paper on the lactic acid ester of santalol and other santalol compounds at the meeting of the New York section of the American Chemical Society, held on Friday evening, May 5th, at the Chemists' Club. On the same occasion a paper on The Chemistry of Anæsthetics, being the third in a series, was presented by Prof. Charles Baskerville and Mr. Frederic Stanley.

A Ward for Locomotor Ataxia at the Montefiore Home.—Mrs. Adolph Scheftel, of New York, has given $10,000 to the Montefiore Home for Chronic Invalids, Broadway and 137th Street, New York, to endow a ward for the treatment of patients suffering from locomotor ataxia. This donation was given in memory of Mrs. Scheftel's husband who suffered from the disease thirty-five years before his death.

Annonymous Gift to the Tuberculosis Preventorium.—A gift of $50,000, which has been received through Mrs. J. Borden Harriman, will enable the Tuberculosis Preventorium for Children at Farmingdale, N. J., to continue the work of building additions to the institution, which will increase its capacity to 158 beds. The total cost, including equipment and furnishings, will be $125,000, and $23,000 is yet needed to complete the fund.

Hospital Attorneys to be Dispensed With.—The New York State Commission in Lunacy has decided to discontinue the service of all its hospital attorneys after July 1st, transferring the work done by these attorneys to the office of the Attorney General. This will effect a saving to the State of $23,000. The commission also recommends the abolition of the department of the purchasing steward in State hospitals of the Metropolitan district.

The Philadelphia Milk Exhibit.—In connection with the National Conference of Medical Milk Commissions, to be held in Philadelphia on May 20th to 28th, a milk exhibit will be held under the auspices of the Department of Health and Charities, with the cooperation of the Milk Commission of the Philadelphia Pædiatric Society, and other organizations. An interesting programme is being arranged. Both the conference and the exhibit will be open to the public.

The National Tuberculosis Congress.—The annual convention of the Nation Association for the Study and Prevention of Tuberculosis will be held in Denver, Colorado, on June 20th and 21st. Tickets will be sold at reduced rates, the rate from Chicago being $30 for the round trip, tickets being good from June 1st up to October 31st, inclusive. It is expected that a very large number of physicians and sociological workers will attend from foreign countries as well as from various sections of the United States.

To Appoint a Tuberculosis Commission in New York State.—Assemblyman Goodman, of Westchester County, has introduced a bill into the Legislature providing for the creation of a commission to investigate the prevalence of tuberculosis, methods of prevention, treatment, and cure. This commission is to consist of the State Commissioner of Health, three men to be appointed by the Governor—one of whom must be a physician—one senator, and two assemblymen. The bill also provides for the appropriation of $10,000 for the expenses of the commission and it is directed to report to the legislature on February 1, 1912.

New Buildings for the Stamford, Conn., Hospital.—Plans have been prepared for a complete modern hospital plant, costing in the neighborhood of $300,000, to be erected on the Hubbard's Hill site, Stamford, recently donated by Mr. Albert Crane. The total subscriptions to the building fund, up to the present time, amount to $164,000, and it is believed that there will be no difficulty in securing the funds necesary to build and equip the new buildings. The new buildings are designed to accommodate, exclusive of the wards for contagious diseases, 125 patients. There is pressing need for this new hospital, as the present building has been overtaxed for some time.

Faculty Changes at the College of Physicians and Surgeons.—Dr. Henry Pike, a graduate of Indiana University and of the University of Chicago, with which he had been connected since 1903, has been appointed assistant professor of physiology at the College of Physicians and Surgeons, and will have charge of the undergraduate course at Columbia University and of a portion of the graduate courses leading to the degrees of Master of Arts and Doctor of Philosophy. Dr. Warfield C. Longcope, of the University of Pennsylvania, has been made assistant professor of medicine. It is announced that a residence for the president of Columbia will be erected at Morningside Avenue and One Hundred and Sixteenth Street, adjacent to the site purchased last spring for the building of the College of Physicians and Surgeons.

American Society of Medical Sociology.—At a meeting of this society, to be held at the Academy of Medicine on Friday evening, May 12th, the programme will include the following papers: What Animal Experimentation, or So Called Vivisection, has Accomplished for Mankind, by Dr. James P. Warbasse; The Control of Prostitution and of Venereal Disease in this Country and Abroad, by Dr. Frederic Bierhoff; The Question of Abortion from a Social and an Ethical Point of View, by Dr. William J. Robinson. The discussion will be opened by Dr. Abraham Jacobi. All who are interested are invited to attend.

Ethical Proprietaries.—At a joint meeting of the Philadelphia Branch of the American Pharmaceutical Association with the Scientific Section, held at the College of Physicians, Philadelphia, on Tuesday evening, May 2d, Dr. Horatio C. Wood, Jr., read a paper entitled Ethical Proprietaries and Methods of their Exploitation, which was illustrated with lantern slides. J. S. Goldbaum, Ph.D., of the Department of Chemistry of the University of Pennsylvania, presented a paper on Methods of Electrochemical Analysis, which was illustrated with apparatus, etc. An interesting discussion followed the reading of the papers.

Money for New York Hospitals.—At a meeting of the distributing committee of the Hospital Saturday and Sunday Association, held at the City Hall on Monday, April 24th, the treasurer reported that the total collection amounted to about $112,000. The money will be distributed among forty-four institutions, the apportionment being on the basis of the amount of certified free service given by each hospital, without regard to dispensary work. The largest sum goes to the Montefiore Home and Hospital for Chronic Invalids, which receives $9,400, and the smallest to the New York Ophthalmic and Aural Institute, which receives $250.

The Exposure of Food Prohibited.—Commissioner Lederle, of the New York Department of Health, has directed the officers and inspectors of the department to strictly enforce Sections 45 and 46 of the Sanitary Code which relate to the conditions under which various food products may be sold when exposed outside of stores and in the public streets of the city. He believes that the danger to public health through the exposure of foods to contamination by the dust and dirt of the streets is such as to demand the immediate prohibition of the practice throughout the city. The Police Department has also been called upon to assist in this work, and an effort will be made to put a stop to the practice.

Hempstead Hospital to be Discontinued.—About three years ago Mrs. O. H. P. Belmont and several of her friends established this hospital, which has a capacity of about one hundred patients. Mrs. Belmont announces that owing to the lack of support and the failure of the town of Hempstead and Nassau County to pay the hospital for the accommodations furnished to town and county patients the hospital with all its equipment will be sold. It has been offered to Nassau County at $45,000, which represents the cost of the buildings and ground, exclusive of the equipment. Should the county decline to take it over for use as an almshouse, the establishment of which has been authorized by vote, it will be sold to private parties who have already offered to take it over.

American Climatological Association.—The preliminary programme of the twenty-eighth annual meeting of this association has been issued. The scientific sessions will be held in Montreal, Canada, on June 13th and 14th. The first day of the meeting, Monday, June 12th, will be spent in Saranac Lake. A special Pullman sleeping car has been provided to leave New York at 7:15 p. m., Sunday, and a very attractive programme has been arranged for the day at Saranac Lake. On Thursday afternoon the annual address of the president will be delivered by Dr. John Winters Brannan, of New York, and at 7:30 p. m. the annual banquet of the association will be held at the Windsor Hotel. Nearly twenty papers have been listed on the programme, and the meeting gives promise of being very interesting. Ample arrangements have also been made for the entertainment of visiting members and their friends, which include a visit to the new buildings of McGill University, a visit to the Laurentian Sanatorium at St. Agathe, sixty-four miles north of Montreal, at its opening day on June 15th, and a boat ride down the Lachine Rapids.

Vital Statistics of New York.—During the week ending April 22, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,735, corresponding to an annual death rate of 18.17 in a thousand of population, as compared with a rate of 16.92 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 20.40; the Bronx, 14.57; Brooklyn, 16.13; Queens, 17.14; Richmond, 20.39. There were 119 stillbirths. The deaths of children under five years of age numbered 542, of whom 334 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 64. There were 189 deaths from pulmonary tuberculosis, 19 from bronchitis, 169 from pneumonia, 132 from bronchopneumonia, 151 from Bright's disease, 182 from organic heart diseases, and 172 from congenital debility and malformations. There were 18 deaths due to suicide, 2 from homicide, and 55 due to accidents.

The Health of Philadelphia.—During the week ending April 22, 1911, the following cases and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia. Typhoid fever, 9 cases, 6 deaths; scarlet fever, 63 cases, 5 deaths; chickenpox, 42 cases, 0 deaths; diphtheria, 72 cases, 8 deaths; measles, 652 cases, 12 deaths; whooping cough, 63 cases, 5 deaths; pulmonary tuberculosis, 102 cases, 63 deaths; pneumonia, 51 cases, 67 deaths; erysipelas, 12 cases, 4 deaths; mumps, 52 cases, 0 deaths; tetanus, 2 cases, 0 deaths. There were 8 deaths from tuberculosis other than that of the lungs, 20 from diarrhœal diseases under two years of age, and 2 from puerperal fever. There were 45 stillbirths; 29 males and 16 females. The deaths of children under five years of age numbered 128, of whom 86 were under one year of age. The deaths from all causes exclusive of stillbirths, numbered 563 in an estimated population of 1,580,250, corresponding to an annual death rate of 18.53 in a thousand of population.

The East Side Physicians' Association held a clinical meeting on Thursday evening, April 27th. The programme was as follows: Cases of Hydrocephalus Treated with Lumbar Puncture, by Dr. Charles Herrman; An Atypical Case of Infantile Scurvy, by Dr. George D. Scott; Orthopædic Cases, by Dr. Sigmund Epstein; a, Case of Cretinism, b, Case of Cyst of Mediastinum, by Dr. I. Seth Hirsch; Case of Foreign Body in Bronchus, by Dr. Marks S. Shaine; Demonstration of a New Needle Holder and an Operating Speculum, by Dr. Leon F. Garrigues; Demonstration of a Bar Obstetrical Forceps, by Dr. A. J. Rongy; Case of Asthma Cured by Endobronchial Treatment, by Dr. W. Freudenthal; Patient with Stricture of the Oesophagus and Spasm of the Cardia, by Dr. Harry G. Watson; Report of Cases: a, Needle in the wrist simulating Colles Fracture. b, Congenital Phimosis simulating Pott's Disease, by Dr. Dexter D. Ashley; A Case of Transposition of the Stomach, Duodenum and Colon Illustrated with Radiographs, by Dr. J. W. Weinstein; Lantern Slides Showing Tropical Diseases in New York, by Dr. F. M. Shook of the Navy; Lantern Slide Demonstration of the Value of the Röntgen Ray in Diagnosis, by Dr. I. Seth Hirsch.

The Health of Chicago.—During the week ending April 22, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 9 cases, 2 deaths; measles, 377 cases, 8 deaths; whooping cough, 16 cases, 1 death; scarlet fever, 219 cases, 11 deaths; diphtheria, 133 cases, 22 deaths; chickenpox, 82 cases, 0 deaths; tuberculosis, 144 cases, 83 deaths; pneumonia, 85 cases, 128 deaths. There were 7 cases of German measles, 1 of influenza, 7 of cerebrospinal meningitis, 2 of smallpox, and 86 of contagious diseases of minor importance reported, making the total 1,168 cases, as compared with 1,136 for the preceding week and 1,263 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 32, and there were 25 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 182, of whom 109 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 660, in an estimated population of 2,195,551, corresponding to an annual death rate of 15.3 in a thousand of population, as compared with a rate of 15.05 for the preceding week and a rate of 15.7 for the corresponding week in 1910.

Recent Developments in Kidney Surgery.—At a stated meeting of the New York Academy of Medicine, held on Thursday evening, May 4th, the programme consisted of a "symposium" on recent developments in kidney surgery. Papers were read as follows: The Phenolsulphonephthalein Test Preliminary to Prostatectomy and Nephrectomy, by Dr. E. L. Keyes, Jr., and Dr. A. R. Stevens; The Use of Phenolsulphonephthalein for Estimation of Renal Function, by Dr. J. T. Geraghty (Paper prepared by Dr. J. T. Geraghty and Dr. L. G. Rowntree); Some Recent Advances in the Diagnosis of Renal Pain, by Dr. Hugh Cabot; Results of the Replantation and Transplantation of the Kidneys, by Dr. Alexis Carrel. Discussion by Dr. A. A. Berg, Dr. J. B. Squier, Dr. H. Lilienthal, Dr. A. B. Johnson, Dr. E. Beer, Dr. J. Pedersen, Dr. A. R. Stevens, Dr. J. F. McCarthy, Dr. M. W. Ware, Dr. C. Goodman, Dr. A. T. Osgood, Dr. V. C. Pedersen, Dr. L. Buerger, and others.

Gifts and Bequests to Hospitals.—Many bequests were made to Brooklyn charitable institutions by the late Charles Engert, who died on March 17th. The Sisters of St. Dominick of Brooklyn receive $10,000; St. Catherine's Hospital, $10,000; St. Mary's Hospital, $5,000; German Hospital, $5,000; St. Peter's Hospital, $5,000, and the Little Sisters of the Poor, $5,000.

Among the bequests included in the will of Mrs. Amelia Worthington, widow of Right Rev. Dr. George Worthington, formerly Bishop of Denver, are the following: The Children's Hospital, Boston, $25,000; Clarkson Memorial Hospital, Denver, $5,000.

The Supreme Court of Missouri has sustained the validity of the will of the late Robert A. Barnes, of St. Louis, which bequeathed approximately $3,000,000 of his estate for the erection and endowment of a hospital, under the rules and regulations of the Methodist Episcopal Church. The will was contested by relatives.

By the will of Bernard G. Amend, who died in New York recently, the German Hospital will receive $2,000.

By the will of Benjamin F. Chambers, who died recently in Trenton, N. J., the Union Hospital of Cecil County, at Elkton, Md., is the chief beneficiary of an estate estimated to be worth between sixty and seventy thousand dollars.

Society Meetings for the Coming Week:

Monday, *May 8th.*—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence; New York Ophthalmological Society; Corning, N. Y., Medical Association; Williamsburgh Medical Society, Brooklyn; New Rochelle Medical Society; Waterbury, Conn., Medical Association.

Tuesday, *May 9th.*—New York Academy of Medicine (Section in Public Health); Medical Society of the County of Schenectady; New York Obstetrical Society; Buffalo Academy of Medicine (Section in Medicine); Newburgh Bay Medical Society; Jamestown Medical Society; Rome Medical Society; Medical Society of the County of Rensselaer (annual); Practitioners' Club of Jersey City, N. J. (annual).

Wednesday, *May 10th.*—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital, New York; Brooklyn Medical and Pharmaceutical Association; Medical Society of the County of Richmond; Alumni Association of the Norwegian Hospital, Brooklyn; Dunkirk and Fredonia Medical Society.

Thursday, *May 11th.*—New York Academy of Medicine (Section in Pædiatrics); Brooklyn Pathological Society; West Side Clinical Society; Blackwell Medical Society of Rochester; Jenkins Medical Association, Yonkers; Auburn City Medical Society; Buffalo Ophthalmological Club; Society of Physicians of the Village of Canandaigua; Physicians' Club of Middletown; Gloversville and Johnstown Medical and Surgical Association.

Friday, *May 12th.*—New York Academy of Medicine (Section in Otology); New York Society of Dermatology and Genitourinary Surgery; Society of Ex-Internes of the German Hospital, Brooklyn (annual); Eastern Medical Society of the City of New York; Saratoga Springs, N. Y., Medical Society.

Saturday, *May 13th.*—Therapeutic Club, New York.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

April 27, 1911.

1. Men, Manners, and Medicine, By Robert M. Green.
2. Climatic Treatment of Tuberculosis, By Guy Hinsdale.
3. "Common Colds," By James A. Honeij.
4. An Analysis of Forty-six Cases of Prostatectomy (*To be continued*). By Lincoln Davis.

2. Climatic Treatment of Tuberculosis.—Hinsdale thinks that the average tuberculous patient makes his best gains in cold, dry weather when such conditions prevail. But of course there are exceptions, and some do better with a high relative humidity and a warm temperature; these are not numerous and probably include more of the patients in later stages when expectoration is profuse and vitality is low. The old idea about equability of temperature, at least between the temperature of midday and midnight, is not of great importance; all mountainous stations show great variations in this respect. Some variability tends to stimulate the vital activities, but in older people and those who are feeble, great variability is a disadvantage. A moderately cool or cold atmosphere tends to stimulate the appetite and thus favors nutrition. As far as altitude is concerned, it probably has not, *per se*, any great influence. However, altitude is incidentally associated with mountain life or life on the plains, with more sun, less moisture, and scattered population. We should not forget that surgical tuberculosis is always favorably influenced by a seashore residence suitably chosen. It is best to begin with low altitude in patients with more advanced disease showing some consolidation but no excavation; also when both apices or much of one lung is involved and the pulse and temperature are both over 100° F. Patients with hæmorrhagic cases, with early cases with hæmoptysis and without much fever, are benefited by great altitudes. Patients with advanced disease, those with cavities or severe hectic symptoms, should not be sent to great altitudes. A small, quiet cavity is not a counter-indication; hectic symptoms are counterindications. Patients in an acute condition should not be sent away. Convalescents from pneumonia or pleurisy are usually well suited for elevated regions. Patients with advanced cases of tuberculous laryngitis, if good local treatment and freedom from dust can be obtained, may do no worse in elevated regions than elsewhere. In cases complicated with cardiac dilatation we cannot advise altitude; but a cardiac murmur resulting from a long past attack of endocarditis with no sign of enlargement or deranged circulation should not prevent. Nervous derangements of the heart are usually counterindications. Before allowing patients with pulmonary diseases to go long distances or to make any great change to greater altitudes, some caution should be given. In the first place, patients should not make any physical exertion for two or three weeks after arrival. The air may be stimulant, there may be sights to see and many dangerous invitations given, but it is absolutely necessary that the patient should be adjusted to the new atmospheric conditions. Acclimatization is necessary to comfort and safety. In the old days it was accomplished by the slow ride in the stage coach over the plains. We cannot go back to the old methods, and, therefore, we must exercise greater caution. Financial considerations are highly important. Expenses are usually underestimated, and the want of sufficient means, the need to economize as regards the necessities, not to speak of the luxuries of life, is a dreadful handicap and should bar out many a case that succumbs for want of the very comforts he had left behind. It would be far better for such patients if they should enter some special hospital or sanatorium for consumption such as are found in most of our Eastern states. No one should be sent away without definite and satisfactory knowledge of the place to which he is sent, and without a letter of introduction to some favorably known practitioner containing a statement of the main points in the case. In matters of climate, as in many other fields, it is the man behind the climate who will help the patient, save him from errors and indiscretions, advise him and direct him as to local surroundings and enable him so to live that his disease shall be arrested.

3. Common Colds.—Honeij had sent out 15,000 cards to persons living in Boston with questions to be answered referring to "common colds" occurring in Boston from October, 1909, to June, 1910. He found that over half the population had colds during the course of the six months. One fifth of the population was absent from work on account of colds. The average loss of time of 568 individuals was 6 + days for six months. The average loss of money was $21 + for six months, not including individual expenditures for medical treatment, etc. The total loss in six months' time was $12,105.37 for 568 individuals. In addition to this there is a loss of energy, equivalent to $3 + for six months for each person. The most common cold is the "head cold." Most colds occur in the month of March. Individuals from thirty to forty years of age suffer most from colds. Department store employees suffer most in proportion. Half of them lose time on account of colds. Preventive methods are essential in dealing with common colds. Better working conditions, pure air, even temperature, proper ventilation, and the proper amount of humidity are important factors. Nourishment, general hygiene, and proper clothing are necessary precautions as in guarding against all other disease. After the onset of a cold, proper diagnosis is essential to ascertain whether the cold is infectious. Individuals suffering from infectious colds should be isolated.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

April 29, 1911.

1. Practical Experiences with Beriberi and Unpolished Rice in the Philippines, By Victor G. Heiser.
2. Relation of Premenstrual Fever to Pulmonary Tuberculosis: A Study of One Hundred Cases, By Leo Kessel.
3. Lead Poisoning in Illinois, By Alice Hamilton.
4. Value of Animal Experimentation as Illustrated by Recent Advances in Study of Syphilis, By John W. Churchman.
5. Convenient Table in Use of Tuberculins, By George H. Kress.
6. Formation and Functions of Hygiene Committees for Universities, By Mazyck P. Ravenel and William Dodge Frost

7. Peripheral Neural Atrophy of the Thenar Muscles. By [illegible]
8. A Case of Oriental Sore (Dermatitis Leishmaniosis) in a Native Colombian, By T. Darling and R. C. Connor.
9. Miniature Exercise Machine for Infantile Paralysis. By [illegible]
10. Transplantation of Bone for Correction of Depressed Deformities of the Nose. Report of Cases. By [illegible]
11. Potassium Permanganate as a Hæmostatic. By L. Buckle.
12. Unusual Idiosyncrasy to Aspirin. By G. Burton Gilbert.
13. Cause of the Immediate Pain and Abscess Following the Administration of Salvarsan by the Alkaline Solution Method, By B. C. Corbus.

1. Beriberi.—Heiser remarks that so much evidence has accumulated that unpolished rice is an important factor in the prevention of beriberi that it is deemed most desirable to bring about its general use in the Philippines, for a few years at least, in order to test the theory thoroughly. At the most, no harm can result, and on the other hand there is every promise that many hundreds of lives may be saved and a still greater morbidity avoided. Experimental investigations made by Dr. Aron showed that a rice which has only been polished to a point where it still contains 0.4 per cent. of phosphorus pentoxide may be regarded as incapable of producing beriberi. Almost coincidently, similar conclusions were announced by Highet. For purposes of convenience, then, a rice that contains less than 0.4 per cent. of phosphorus pentoxide is regarded as polished rice, and that which contains a greater percentage of phosphorus pentoxide is regarded as unpolished rice. Accordingly, a bill was drafted which had for its purpose the bringing about of the general use of unpolished rice in those places where rice was the staple article of diet. After considerable discussion with physicians, lawyers, legislators, and others, it was deemed advisable to attempt this with a law that would impose a tax of 5 centavos (2½ cents U. S. currency) per kilo on all polished rice sold, whether foreign or domestic. On account of the successful experience with unpolished rice in the prophylaxis of beriberi in the Philippines during the year, and since these data confirm the work of Fraser, Stanton, Aron, Kilbourne, de Haan, and Highet, as reported at the last annual meeting of the Far Eastern Association of Tropical Medicine, it is believed that the time has come for the medical profession to aid in completing the last step in the test which promises to place another weapon in the hands of prophylactic medicine for the eradication of another of the world's serious and costly diseases.

4. Animal Experimentation. — Churchman shows what animal experimentation has done for syphilis. In a period of about seven years the cause of the disease has been established, a specific reaction for its detection has been discovered, its successful transmission to animals has been accomplished, and a drug of apparently first rate importance has been advanced for its treatment. Those who make practical achievement the final test of the value of experimental work, could hardly ask for more convincing evidence than these splendid results provide.

7. Peripheral Neural Atrophy of the Thenar Muscles.—Donley says that the symptoms of peripheral neural atrophy of the thenar muscles are precise and may be easily recognized. They are atrophy and paralysis (or weakness) of those muscles supplied by the thenar branch of the median. In the two cases recorded by him no sensory changes whatever could be discovered on careful examination, nor did the patients complain of any changes referable to the lesion. The muscles affected were, in both instances, the abductor pollicis, the opponens pollicis, and the superficial head of the flexor brevis pollicis. In these muscles was marked wasting, and they failed to respond to electrical stimulation through the median at the elbow; when the current was applied to the muscles directly there was no response to faradism and a very feeble reaction of degeneration to galvanism. Voluntary movements in the wasted muscles were abolished, and nearly a year later showed little, if any, return. He never observed fibrillary twitchings in the affected muscles, nor were they sensitive on pressure. All the other intrinsic muscles of the hand were normal in respect of voluntary movements, nutrition, and electrical response. The distinguishing marks of peripheral neural atrophy of the thenar muscles are: 1, Precise limitation of atrophy and motor defect to the opponens pollicis, abductor pollicis, and superficial head of the flexor brevis pollicis; 2, reactions of degeneration confined to these muscles; 3, absence of subjective sensory changes; 4, absence of objective sensory defect; 5, absence of fibrillary twitching; 6, rather rapid onset of atrophy and weakness.

11. Potassium Permanganate as a Hæmostatic.—Buckle reports a case in which he used potassium permanganate as a hæmostatic. The patient was a Jewish infant, who when eight days of age was circumcised. Two or three hours later the nurse noticed that the bandage and parts of the diaper were saturated with blood. Buckle, finding the oozing very slight, ordered gauze saturated with hydrogen dioxide to be applied to the bleeding surface. This he had found adequate to control hæmorrhage in apparently similar cases. About 7 p. m. he was again called. The bleeding had not ceased, though the oozing was just as slight as before. He applied styptic cotton, adrenalin 1 to 1,000, powdered alum, tannic acid, and solution of silver nitrate, at different times, but without result. The family became so anxious and excited that they took the child to the hospital. There the skin was stitched to the mucous membrane above the glans, in the hope that this would help to check the bleeding; but it did not. In the two days the baby was in the hospital it grew so pale and weak from the loss of blood that the father, not getting much assurance from the surgeons of its recovery, took it "to die at home," as he said. On the fourth day after the circumcision Buckle was called hurriedly. The baby was extremely pale and very feeble. It could not nurse from the breast but when some milk was pressed from the nipple into its mouth it slowly swallowed it. Temperature was subnormal; pulse and heart beats were so weak and rapid that they could not be counted. Buckle again tried vari-

ous styptics, but the result was as disappointing as before. He recalled that on several occasions of slight bleeding from small cuts he used potassium permanganate with good results. He applied powdered potassium permanganate to the wound. The oozing immediately ceased and there was no recurrence of bleeding.

13. **Pain after Salvarsan Injection.**—Corbus, from his experience, covering 100 cases, has found that the pain and induration after salvarsan injection are due to the sodium hydrate. The directions that accompany the tube of salvarsan advise that a fifteen per cent. solution of sodium hydroxide be used in making the solution alkaline. One can readily see how easy it is to get an excess of sodium hydroxide; even one drop might cause an excess of alkalinity which would not only cause excess of pain, but in an ill nourished individual might cause considerable necrosis. Following the Alt-Lesser technique he used a four per cent. solution (normal sodium hydroxide), and his success was good in regard to pain and induration. Only twice has he observed an abscess. In one case the patient was extremely debilitated, and in the other Corbus had to deal with an excessively fat individual. In each of these cases he believes the abscess was the result of the sodium hydroxide. He now uses a two per cent. solution of sodium hydrate. In this way any excess of alkalinity is more easily avoided, the initial pain is lessened, and he finds that uniformly the coagulum formed in the muscles is absorbed, leaving the muscles in a soft, pliable condition ready for a second injection whenever necessary. He first puts the 0.6 gm. of salvarsan in a 25 c.c. graduated cylinder, and dissolves it in 8 or 10 c.c. of hot water. The sodium hydroxide is then added in small quantities until a clear solution is obtained, care being taken not to add any sodium hydrate in excess. Hot water is then added in sufficient quantity to bring the total solution up to 20 c.c.; 10 c.c. of this solution are injected deeply into the buttocks on either side. Great care should be used to keep the injected fluid out of the adipose tissue. The sodium hydrate solution should be sterilized before each injection. This is also true of all the glassware used.

MEDICAL RECORD

April 29, 1911

1. Pulmonary Symptoms as Premonitory Signs of Venous Thrombosis, By Lewis A. Conner.
2. Street Sanitation in New York. With Some Suggestions for Its Improvement, By William Van Valzah Hayes.
3. A Case of Multiple Myeloma with Albumosuria, By Cecil Kent Austin.
4. Drugs in Gastric Therapeutics, By J. W. Weinstein.
5. The Significance of a History of Alcoholic Addiction. By T. D. Crothers.
6. Short Talks with My Students and Others: Being Random Suggestions for the Younger Practitioners, By Robert H. M. Dawbarn.

1. **Pulmonary Symptoms as Premonitory Signs of Venous Thrombosis.**—Conner remarks that pulmonary symptoms are, not infrequently, the first indication of a beginning venous thrombosis, preceding often by several days the local evidences of such thrombosis. Such symptoms are the result of the lodgment in branches of the pulmonary artery of emboli derived from the newly formed, friable thrombi in the peripheral veins. These early pulmonary emboli are usually of small size and the symptoms arising from them are frequently slight and transient. The symptoms of pulmonary embolism and infarction by no means always correspond to the classical descriptions of them. One or more of the cardinal symptoms are frequently lacking. This is especially true of hæmoptysis, which is often absent entirely, and at other times appears only several days after the onset of the other symptoms. The physical signs are usually either those of a more or less extensive plastic pleurisy or of a small area of pneumonic consolidation which lasts only for three or four days. Venous phlebitis and thrombosis, in very many instances, begins in the small peripheral veins, especially in those of the calf, where it may exist for some days before the symptoms of thrombosis of the large veins appear. The chances of pulmonary embolism seem to be much greater at the beginning of a venous thrombosis than later on in its course. Some of the obscure chills in typhoid fever are related to the lodgment of pulmonary emboli.

2. **Street Sanitation in New York.**—Hayes concludes his paper as follows: Dust is dangerous, being mechanically irritating and infectious. The following suggestions for the prevention of dust formation and littering of streets are recommended: A campaign of education already begun to be carried on; the present regulations preventing spitting on the sidewalks should be extended to the streets; improvement in ash removal; laws regarding the complete combustion of soft coal to be enforced; dogs to be banished from the city streets; cooperation of the police in enforcing the sanitary laws essential. The present methods of street cleaning need to be supplemented by more extensive use of flushing; and by use of suction cleaning automobiles. The subways, connected with the streets and really a part of them, merit consideration, as they present problems as pressing as they are difficult of solution. Again, there is seen gross misbehavior on the part of the public; spitting on the tracks in front of the station, and throwing upon them bits of paper and other unsightly articles; and on the part of the subway management, failure to properly remove the warm, stale air laden with dust, sixty-one per cent. of which is made up of irritant filings. From the street dust sifts in through the open gratings, and from them in turn comes the contaminated subway air to be breathed by the pedestrians and residents on the higher level. During the cool months, when the warm subway air rises rapidly, being replaced by the colder air from above, the conditions are not bad for one who would take a rapid journey underground; but during the warm third of the year such travel is undertaken with dread and endured only because of urgent necessity. Improvement could probably be effected in the following ways: The construction of the roadbed opposite the stations so as to admit of thorough cleansing with water. This would, of course, make alterations and repair of the tracks more difficult and costly. Screening of the air coming in through the gratings. The use of dust gathering cars, with funnel shaped screens, to be sent over the tracks at

times in the wake of the trains. The construction of tunnels running into high stacks built in connection with the hotels and other high buildings along the route, through which the air could be sucked out of the subway by means of electric fans or hot radiators, being cleared of its dust at the same time by proper screening.

BRITISH MEDICAL JOURNAL

April 22, 1911.

Chronic Intestinal Stasis.

2. Chronic Intestinal Stasis Treated by Short Circuiting
3. An Address on Arteriosclerosis and the Kidneys,
By Sir Clifford Allbutt.
4. Interdependence of the Circulatory and Respiratory Systems, By Ivy McKenzie.
5. Hepatic Distomiasis (Sheep Rot) in Man,

5. Distomiasis or Sheep Rot.—Ward gives the symptoms of this disease in man. The period of invasion may pass unnoticed clinically, and in the early part the host may gain weight and enjoy a good appetite. There may, however, be slight jaundice and moderate enlargement of the liver. In sheep the minimum duration of this stage is six weeks; in man it is probably longer. Secondly, the stage of anæmia is recognized, and this is supposed to coincide with the maturity of the flukes. Anæmia of the mucous membranes is the most obvious sign, but the symptoms are rather those of toxæmia; in the case about to be considered they were certainly quite disproportionate to the anæmia. Appetite fails or may become depraved, the temperature is irregularly elevated, and the frequency of the pulse increased. Gastric pain and intestinal disorders become evident, diarrhœa and vomiting are not unusual, constipation may be present. The eyes are lustreless and the skin dry; experienced veterinary surgeons have been known to base a diagnosis on the condition of the skin alone. Slight exertion aggravates the dyspnœa which is present, and the third stage soon appears. This is the stage of emaciation and ascites, and is accompanied by increased anæmia and progressive hepatic derangement. Œdema of the eyelids, conjunctivitis, hydrothorax, bronchitis, ascites, and jaundice are among the common symptoms. The fourth stage seems to correspond in time with the emigration or excretion of the parasites, and in those who have survived the third is one of slow recovery from toxic symptoms. Fibrosis and other changes in the liver remain, and may cause permanent ill health. Abscess of the lung and general peritonitis are among the possible causes of disease. As to the management of the disease, treatment with anthelmintics is of no value, since they are not excreted in the bile and so cannot reach the parasites; moreover, any drug that was excreted in the bile in sufficient quantities to kill the fluke would probably kill the host as well. As a matter of fact, we do not know of any drug which is secreted in the bile or circulates in the blood in sufficient concentration to act as a vermicide. Quinine is certainly a protoplasmic poison, and exists in the blood as such, and the same is true of arsenic; but these do not seem to have any effect on blood sucking parasites. We endeavor to stimulate the secretion of bile, with the idea that toxic substances should be washed out and their absorption perhaps prevented. For this purpose enonymin may be given three times a day in pills containing one grain. A marked rise in hæmoglobin will probably take place under this treatment, but this may be due to rest and improved hygiene. Symptomatic treatment follows the usual lines, and even surgical treatment may have to be invoked. Prophylactic treatment is hardly called for in man, but consists of the administration of common salt with any food likely to be affected.

LANCET

2. Declining Birth Rate, By F. E. Fremantle.
3. Notes on Some Victims of a Recent Railway Accident, with Special Reference to Cerebral Fat Embolism,
By Rickman J. Godlee and G. E. O. Williams.
4. Some Ocular and Visual Conditions in Medical Cases.
5. Direct Bronchoscopy. Value of this Method for the Detection and Removal of Foreign Bodies.
7. Ascites Treated by Lymphangeioplasty,
By R. Atkinson Stoney and T. Gillman Moorhead.
8. Measles: Its Treatment and Prevention,
By Robert Milne.
9. A Case of Acute Hæmorrhagic Pancreatitis; Operation; Recovery, By E. Gillespie.
By James Rae.

1. Sensibility of Alimentary Canal.—Hertz, in his first lecture, discusses the tactile and thermal sensibility, the sensations produced by chemical stimulants such as hydrochloric acid, alcohol, glycerin, etc., the sensations of fulness and distention in the œsophagus and stomach.

4. Ocular Conditions in Medical Cases.—Taylor points out that inequality of the pupils in the young points to trouble of the cervical sympathetic; the Argyll Robertson pupil does not always mean tabes dorsalis, but sometimes mere neurasthenia, early syphilis, hemiplegia, paraplegia, general paresis. Ophthalmoplegia externa may signify neuritis of the sixth nerve or of the third nerve, tuberculous meningitis, postdiphtheritic paralysis, intracranial disease, and hemicrania, also myasthenia. Optic atrophy generally means tabes, sometimes tumors pressing on the optic chiasm. Optic neuritis is usually significant of brain tumor. Neuroretinitis is associated with albuminuria, glycosuria, or retinal thrombosis. Hemianopia may occur independently of any other disease.

5. Direct Bronchoscopy.—Tilley states that with the help of Brüning's bronchoscope he has removed a splinter of rabbit bone which had been impacted for nearly three years, also a mutton bone impacted for ten days. He gives the following hints as to the use of the instrument: If a general anæsthetic has been administered, he prefers the patient in the lateral position—left or right according to circumstances—with the head slightly flexed toward the chest. By this means the larynx or upper end of the œsophagus is brought very much nearer to the operator than when the head is

stretched backwards in the dorsal position, and he has a feeling that from the point of view of the anæsthetic it is a safer position for the patient. The surgeon will find it wiser to wear plain glasses or his ordinary spectacles when making the examination, because, even when the patient is under fairly deep anæsthesia, a sudden cough may send a spray of very septic matter into his eye or paralyze his accommodation if cocaine has been freely used to anæsthetize the bronchus. Such a precaution will also protect his eyes from the "stinging" of the exhaled chloroform vapor, which may become a very real grievance during prolonged anæsthesia. Finally, while it would be idle to suggest that neither skill nor practice is necessary for the intelligent use of the bronchoscope in dealing with a very serious and not uncommon accident—viz., the inhalation or swallowing of a foreign body—yet it is very true that a little practice, combined with patience and gentleness, should render any surgeon competent to use the bronchoscope with reasonable assurance.

6. Ionization of Lower Bowel.—Webb has had admirable results from this method in colitis, diarrhœa, flatulence, piles and prolapse, and fissure. He gives details of an improved contrivance of his own to avoid giving pain. Lengths of sausage skin were obtained each about a foot long and tested for freedom from holes by tying one end over a tap, turning on the water gently, and closing the other end. Such as were perfect were soaked for a week in a solution of HgI_2 in alcohol 1 in 500. By tying the end of one of these lengths and invaginating it a smooth membranous bag is formed which can be tied over the rectal electrode above described. If the bag be now filled with fluid some will be seen constantly to filter through. The bag should be lubricated with a nonoily lubricant and inserted into the rectum *empty* and filled with the zinc sulphate solution when *in situ*. This very filling distends the bag so as to bring it into intimate contact with every part of the ulcerated mucous membrane, and the oozing through of the fluid keeps the part bathed with the solution of the salt that it is desired to ionize, while at the same time any tenesmus that may be set up is unable to expel the fluid. The absence of pain to the patient by this method permits of a more frequent application of the treatment than when the wool covered sound is used.

8. Treatment of Measles.—Milne gives his method of treatment and its advantages. During the first four days in these cases, commencing at the earliest possible moment, he has pure eucalyptus oil gently rubbed in, morning and evening, all over the body, from the crown of the head to the soles of the feet. Afterward this is repeated once a day until the tenth day of the disease. The tonsils and pharynx he always swabs with 1 in 10 carbolic oil every two hours for the first twenty-four hours, very rarely longer. In swabbing he places a firm mop of cotton wool, the size of the last joint of the patient's thumb, on the end of a pair of forceps, or ties on a pencil, etc. He thoroughly soaks the wool in the carbolic oil, and then swabs the tonsils and the pharynx as far up and down as possible. The advantages realized by this method, not only in his experience, but in that of every private practitioner who has carried out the method in scarlet fever, are: 1. When this treatment is commenced early—and this is vital—secondary infections never occur, and consequently complications are unknown. 2. With this treatment carefully carried out the children may occupy the same room, and even the same bed, without risk of infection. 3. The economy of the treatment. An ordinary case in the isolation costs fifty dollars; this, perhaps, fifty cents. Therefore it means a saving of millions of dollars annually. 4. Its household economy. The mother is free to attend both the patient and her duties. The father is free to go to work without the slightest risk, and the children equally free to attend school. 5. No after disinfection is necessary, for the disease having been destroyed nothing remains. 6. He has frequently been asked about the disinfection of the patient's spoons, crockery, etc., as these are such a trouble in an ordinary household. There is no disinfection or in any way a keeping of them apart. They are all collected together, washed in the ordinary way, and served out indiscriminately on the next occasion. Thus there is no interruption of the domestic, scholastic, or business affairs of the household. This treatment he has used for twenty-five years in measles.

PRESSE MÉDICALE.

March 15, 1911.

1. My Method of Vaccinotherapeutics. By Mauté.

March 18, 1911.

2. Culture of Tissues *in Vitro*. By Carrel and Burrows.
3. Indications for Total Resection of Superficial Varices, By Alglave.
4. What Œsophageal Spasms Really Are, By Guisez.

March 22, 1911.

5. Cardiac Dynamics, By Martinet.
6. Microphonic Apparatus for Reeducating the Deaf Ear, By Laimé.

March 25, 1911.

7. Professional Responsibility, By Colin.
8. Physician's Responsibility in Induced Abortion, By Bonnaire.
9. Induced Abortion, By Montal.
10. Rights of the Father, By Picqué.

1. Vaccinotherapeutics.—Mauté says this process is due to the researches of Toussaint and Pasteur, although Sir Almroth Wright has made it his own. It is not necessary to complicate the process with search for the opsonic index, however, and Mauté advises his confrères to use vaccinotherapeutics clinically. The injections are painless save the antigonococcic; an exact diagnosis is not always necessary; the process should be resorted to in all acute, subacute, and chronic cases. It is particularly valuable in arthritides, postgonorrhœal and other. In skin diseases, phlegmonous and pustular, good results are obtained, but not in acne, which is only secondarily staphylococcic. In furunculosis the greatest triumphs are obtained and one can almost guarantee the patient a cure. In a case of septichæmia, operated in several times, excellent and immediate results were obtained.

4. Œsophageal Spasms.—Guisez says the word spasm has had much too wide an application in the past; a genuine spasm may pass into a genuine contracture by the irritation of the mucosa caused by the initial contraction, and then into a

real cicatricial stenosis, when the mucosa begins to degenerate and thicken, and definite lesions are produced. Such conditions are frequently produced in elderly subjects with defective dentures who attempt to swallow the food before it is sufficiently insalivated; emotion or fatigue may complicate matters. Treatment is by gradual dilatation with olive headed bougies; a patient search for the opening may be required, when a fine bougie is passed through and left in place; alkaline washes are indicated. The vomiting caused by the retention of food in the dilated part of the œsophagus soon ceases. General antispasmodic and antinervous treatment is useless in elderly patients.

SEMAINE MÉDICALE

March 30, 1911.

1. Muscular Headache, By Rose.

April 5, 1911.

2. Notation and Reading of the Traces of the Pulse, By Bard.

1. Muscular Headache.—Rose points out that there are headaches that do not depend on refraction, the condition of the ears, nose, or teeth, or on any constitutional condition referable to the digestive system. If the fingers are carefully anointed with some easily melted substance and passed over the scalp, there will be found certain subcutaneous particles like grains of sand lying along the muscle fibres; these are due to a real muscular rheumatism, which is the cause of these particular and very painful headaches. There is also a muscular supertension most easily discoverable when the patient is in the lateral decubitus. The muscles of the neck are similarly affected. The causes are weather conditions, prolonged muscular overwork, as by seamstresses, piano players, etc.; it is seen after influenza, rheumatism, toxæmias, especially in women, occasionally in children. As to treatment, some cases yield to the salicylates, but the best of remedies is properly executed massage.

BERLINER KLINISCHE WOCHENSCHRIFT.

March 20, 1911.

The Results thus far Obtained by the Treatment of Syphilis with Salvarsan and the Outlook for a Permanent Cure, By M. von Zeissl.

2. Salvarsan Treatment in Children, By Alfred Doeblin.
3. Contributions to the Resection of the Stomach, By Pochhammer.
4. Acute Atony of the Stomach, By [illegible]
5. Acromegaly Due to Fright, By P. K. Pel.
6. Cardiovascular Diseases in Practice, By G. [illegible]
7. Historical Account of the Theories Concerning the Origin of Urinary Calculi, By Emil Schepelmann.
8. Atophan in Gout and Acute Articular Rheumatism, By Ernst Heller.
9. Crises of Temperature in Tabetics, By W. Stange and S. Brustein.
10. Practical Value of Asurol, By Theodor Meyer.
11. New Things in the Sanitary Administration of the Prussian Army during the Year 1910, By Georg Schmidt.

1. Salvarsan.—Von Zeissl's observations on 200 patients are confirmatory of much that has been written on this subject.

2. Salvarsan in Children.—Doeblin reports six cases in which he employed salvarsan unsuccessfully. All were infants suffering from hereditary syphilis.

5. Acromegaly Due to Fright.—Pel reports two cases of this nature to be added to the one he reported in 1891. Both patients were women; in one the exciting cause of the acromegaly was supposed to be the fright incident upon an explosion, in the other fright caused by a fire. In all three of his cases the acromegaly appeared within a year or a year and a half after the fright. The first morbid symptom was the immediate suppression of the menses.

March 27, 1911.

1. Constitution and Phthisis, By C. Hart.
2. Intermittent Lameness and Disease of the Spinal Cord after Poisoning with Extractum Filicis Maris, By A. Magnus-Levy.
3. Cardiovascular Diseases in Practice (*Concluded*), By G. H[illegible]
4. An Important Form of Functional Occlusion of the Intestine in Infancy and Its Relations to Hirschsprung's Disease, By Blochmann.
5. Paralysis of the Peroneus Ascribed to Salvarsan, By Wechselmann.
6. A Case of Fistula between the Gallbladder and the Vermiform Appendix, By Tamio Tanaka.
7. Technique of Brain Puncture, By M. Borchadt.
8. Decapsulation and Scarification of the Kidneys and Its Clinical Importance, By M. Zondek.
9. Contribution to the Modern Treatment of Gonorrhœa in Man, By Frankl.
10. Vaginal Discharge and Its Treatment, By [illegible]

4. Functional Occlusion of the Intestine.—Blochmann reports three cases, one of which was fatal, of an occlusion of the intestine which seemed to be valvular in its nature and to bring about the clinical picture to which attention was first called by Hirschsprung in 1886 and has since been known as megacolon congenitum. Relief was obtained in two cases by the introduction of a soft rubber tube above the rectum. When it had been introduced to a certain point there was in each case a sudden escape of wind followed by a large quantity of fæcal material. The same was true in the third case, but the relief was not sufficient to save the child's life. He believes that a valvular occlusion is the primary cause of the trouble and that the condition grows worse and becomes malignant.

5. Paralysis of the Peroneus Ascribed to Salvarsan.—Wechselmann does not believe Walterhoefer to be correct in ascribing a case of paralysis of the peroneus, which he ascribed to a neurotoxic action of salvarsan, but thinks it was more probably caused by the syphilis itself.

April 3, 1911.

1. Promotion of Growth by Radium Emanation, By W. Falta and G. Schwarz.
2. The Influence of Radium Emanation upon the Gaseous Interchange and the Circulation of the Blood in Man, By A. Loewy and J. Plesch.
3. The Relations between Kidneys, Suprarenal Capsules, and Elevated Blood Pressure in Human Pathology, By E. Frank.
4. The Value of the X Rays in the Diagnosis of Pulmonary Tuberculosis, By Max Levy-Dorn.
5. Cause and Importance of Scapular Crepitation, By Rudolf Habermann.
6. Bone Cysts in the Os Naviculare, By Gustave Albert Wollenberg.
7. Extensive Necrosis of the Superior Maxilla after Empyema of the Antrum of Highmore Produced by a Mental Cause, By Adolf Blumenthal.

8. Gummatous Syphilis of the Nose, By Felix Peltesohn.
9. Revision of the Law Concerning the Colors Injurious to Health, By Weyl.
10. A Simple and Rapid Method of Quantitative Determination of the Uric Acid in the Urine, in the Blood, and in Other Serous Fluids, By Auerbach.

1. **Promotion of Growth by Radium Emanations.**—Falta and Schwarz show by experiments that the growth of plants is promoted by emanations from radium and that those plants contain more chlorophyll.

2. **Influence of Radium upon Gaseous Interchange and Circulation.**—Loewy and Plesch find that the emanations of radium have no effect on the respiratory metabolism, or upon the oxygen contained in the arterial and venous blood. In eight out of ten persons the maximal blood pressure was reduced by the action of the radium emanations, in four, the minimal pressure also, and two were unaffected. The blood pressure was not increased in any case.

7. **Necrosis of Maxilla after Empyema of the Antrum.**—Blumenthal reports a case of extensive necrosis of the superior maxilla met with in a woman, twenty-nine years old. The necrosis was ascribed to an empyema of the antrum, caused by dental caries, which had not received timely treatment. Other possible causes are mentioned and excluded more or less carefully.

PRACTITIONER.

April, 1911.

1. Hodgkin's Disease, from the Surgical Point of View, By Sir Frederic Eve.
2. Hodgkin's Disease and Intermittent Pyrexia, By F. de Haviland Hall.
3. Some Aspects of Lymphadenoma (Hodgkin's Disease), By H. D. Rolleston.
4. Some Observations on Low Blood Pressures, By W. Edgecombe.
5. A Case of Splenic Abscess; Operation; Recovery; with Remarks, By G. Newton Pitt and C. H. Fagge.
6. Some Further Aspects of Obesity, By Leonard Williams.
7. Septic Infection of the Intracranial Sinuses, By William Taylor.
8. On the Treatment of Progressive Descent of the Uterus, By E. Scott-Carmichael.
9. Radiographic Demonstration of Lane's Ileal Kink, By Alfred C. Jordan.
10. Acute Phlegmon of the Pharynx, with Some Notes on a Recent Case, By James Harper.
11. The Immediate Treatment of Retention of Urine in the Male, By W. Edmond.
12. Three Cases of Peroneal Paralysis, By William Boyd Jack.

1, 2, 3. **Hodgkin's Disease.**—Eve begins by asserting that the operative treatment may be summed up briefly to this effect, "Let it alone." He was surprised, in referring to a recent and widely read work on surgery, to find under the heading of treatment of lymphadenoma the following advice: —"The excision of all enlarged glands whenever practicable is usually desirable." This opinion should not be allowed to pass without remark, for his experience has been that the disease rapidly returns. In former years he was often tempted to remove lymphadenomatous glands when occurring in an isolated group, and especially in those cases of a more chronic character. Lymphadenoma is now assumed to be a parasitic disease, with good reason. The parasite has a predilection for lymphatic and adenoid tissue. There is some clinical evidence for the belief that, in some instances, the disease originates in one group of glands and spreads by continuity to others. The surgeon may often observe it to begin high up on one side of the neck and to spread downwards; then to extend to the axilla on the same side; later to the opposite side of the neck, and thence to the corresponding axilla. Meanwhile, the spleen and distant inguinal glands remain unaffected. It seems theoretically possible that early excision with subsequent preventive treatment might be occasionally successful; but Eve has had, at present, no actual practical experience of such an event. Any statement that local removal of lymphadenomatous glands has been followed by permanent cure should be received with scepticism, unless the glands have been examined thoroughly by a competent modern pathologist. The removal of lymphadenomatous glands is easy, owing to the absence of adhesions. Once the skin is reflected, the glands can be removed almost as easily as taking potatoes from a bag. As regards other treatment, that is dealt with by the medical writers. Arsenic and such products as soamin and orsudan will cause the enlargement to disappear more or less completely, but it returns when the administration of the drug is remitted. The two latter drugs are shown now to be inadmissible owing to their effect on the optic nerve. Hall agrees with Taylor that a varying temperature is common in lymphadenoma; that definite recurrences occur in some cases, the recurrences alternating with periods of complete apyrexia; that the temperature may be continuously high for long periods, and that periods of higher fever may then alternate with periods of low fever; that the recognition of the relapsing forms of pyrexia may be of great assistance in the diagnosis of some doubtful cases. All Hall's cases terminated fatally; there are occasionally remissions, which give rise to unfounded hopes, for the patient sinks lower than ever after them. Mercury and the iodides are not only useless but depressing. Red bone marrow should be tried. Sunshine and systemic tonics are indicated, and the sea air. Rolleston states that treatment may produce very considerable temporary effects, but does not cure the disease. Arsenic and the various organic preparations of it have a marked influence in diminishing the size of the glands, but the effects are not permanent. The new preparation "606" is being tried on lymphadenoma; it is, of course, far too early to judge of the results, but in one very advanced case in which he saw it used it produced a most beneficial effect as regards the glandular enlargement, which rapidly diminished; death, however, occurred within two weeks of its administration. Operative removal of the glands is disappointing; it is difficult or impossible to remove all the affected glands, and recurrence follows. Possibly the use of x rays very shortly after the operation might delay recurrence. They produce a rapid diminution in the size of the glands, and it is said that life is thus prolonged; they destroy the lymphoid tissue, but leave the fibrous tissue unaffected. It must be borne in mind that by free application the lymphocytes and the healthy lymphoid tissue

may be too extensively destroyed and that harm may thus be done. It has been noted that in some instances although rapid diminution in size follows, the glandular enlargement returns very rapidly when the treatment is stopped. It appears that treatment by radium would be difficult from the large amount of radium which would be required to deal with the extensive lesions.

10. Phlegmon of the Pharynx.—Harper's article is a pæan of praise for tincture of iron chloride in this and all other inflammatory conditions of the pharynx; it is superior to the salicylates and to antistreptococcic serum. Opium is absolutely contraindicated; insomnia should be met with chloral combined with digitalis.

PÆDIATRICS.

April, 1911.

1. Neurasthenia in Children, By Clive Riviere.
2. The Orthopædic Treatment of Infantile Paralysis, By Arthur J. Gillette.
3. Tuberculosis in Children, By Herbert M. Rich.
4. Case of Arrested Hydrocephalus, By Emma V. [illegible].
5. Vital Statistics of Twelve Towns in the Island of Cebu, Philippine Islands, By Isaac W. Brewer.
6. Address of the President of the New England Pædiatric Society, By John Lovett Morse.

1. Neurasthenia in Children.—Riviere says, in concluding his article, that the treatment of the neurasthenic boy or girl resolves itself into the removal of the cause, whether overpressure or want of sleep, or both. Change to country air and country pursuits, with cheerful company and a quiet life, will generally complete the cure in these cases. An open, dry locality should be chosen, with much sun and little foliage, so that abundant time may be spent out of doors. Long hours in bed must be provided, cold bathing is useful, and the work of the digestive organs must be studied. In cases where nutrition is very low a full Weir Mitchell treatment may be advisable or necessary. Any special condition, such as anæmia or constipation, must be specially treated, and care must be taken that sufficient time is given for complete recovery. It is probable that a proportion of these cases do not return wholly to their former health, a tendency to relapse may remain, and attempts at brain work may be followed by warning symptoms which teach them to desist. In any case a return to former occupations must be gradual or tentative, and the attention must be concentrated only in short spells at first. The smaller the causative overpressure has been, the more unstable must be the nervous system it has overthrown, and in some cases it may be obvious that a strenuous future is altogether out of the question. Nevertheless, these cases must be saved from chronic invalidism. It must be remembered that a stimulus is needed to call forth a response and, after sufficient rest has been allowed and compensation begins to be established at a low level, these patients must be coaxed further, and the amount of work steadily increased till the level of ordinary living is attained. This entails a carefully planned out life, the work arranged being of a different kind, preferably physical, to that which originally determined the breakdown. At the same time it must be borne in mind that physical exertion carried to excess will lead to disaster as surely as will brain work. Lastly, it may be said that the older the patient the more nearly do his complaints, their causation, and the method of their treatment approach to those of the adult neurasthenic.

5. Conditions in Cebu, P. I.—Brewer, in his account of vital problems of the Philippines, says that one of the greatest desiderata is physicians. In Manila and a few of the larger towns there are physicians, but in the smaller towns and the rural districts there are none. On the Island of Cebu, with a population of over 600,000, and a density of population of 337 per square mile, there are no physicians excepting in the town of Cebu. A large portion of the inhabitants of the island are born, live and die without ever having the services of a physician. Here and there Americans have established small hospitals, but there is a great field for more. The expense will be slight compared with the great returns to be had. If some of the money which now goes to China and other Asiatic countries for hospitals could go to our islands the returns would be as great if not greater. An enthusiastic physician, with a few nurses at his command, could, if located in a provincial town, do more to elevate these people than any other worker. It is hoped that some of the philanthropic people of our country will look into this matter and help us. Any of the churches that have been established in the islands will gladly undertake the work, but it would be best to conduct it on a nonsectarian basis.

CANADIAN MEDICAL ASSOCIATION JOURNAL

April, 1911

1. Eight Hundred and Fifty Cases of Scarlet Fever: Seventy-one Fatal Cases, By John MacRae.
2. Some Considerations in Duodenal Ulcer, By W. H. Rankin.
3. Human Carriers of Disease, By W. T. Connell.
4. Mounting Moist Specimens, By E. L. Judah.
5. Social Problems in Relation to Medicine, By Robert [illegible].

2. Duodenal Ulcer.—Rankin warns the practitioner, in treating these cases, never to give morphine until a diagnosis has been made, for shortly after the administration of this drug, both patient and physician are ushered into a most beautiful fools' paradise. The symptoms subside, and, meanwhile, the fluid escaping through the opening in the duodenum is pouring down into the lower abdomen and pelvis. When the physician has satisfied himself as to the nature of the disease, morphine may then be given, and the patient hurried to the operating table as quickly as possible, for there is but one hope, and that is in surgery. The abdomen should be opened by a free incision, the intestines packed off, the pylorus located, and the opening of the duodenum brought into the field of vision. The crater of the ulcer may or may not be excised, as seems best to the operator. The opening is then closed, first with a row of catgut, and then with a row of silk sutures placed transversely to the lower axis of the bowel. If the ulcer is large and the patient in fair condition, it is well to do a gastro-enterostomy at the same time. The peritoneal toilet is completed by carefully sponging out all fluid and foreign substances that have escaped from the stomach, or the upper and lower abdomen may be irrigated with [illegible] saline solution and

syphoned with tubes after the method of Blake. A stab wound is made in the suprapubic region and a tube inserted into the pelvis for drainage below. The upper and lower wounds are connected by a split drainage tube threaded with gauze, inserted along the ascending colon. The tube may be divided in the middle and united with a couple of fine catgut sutures that will soon absorb and allow the tube to be withdrawn more conveniently in both directions. The after treatment is the treatment of peritonitis in such cases. Elevate the head of the bed, or sit the patient up in the Fowler position; give no food by the mouth until the peritonitis subsides, the ice coil on the abdomen, if necessary, and no morphine after the patient leaves the operating table. The percentage of recoveries diminishes rapidly as the time of operating is delayed after perforation has taken place. Few cases recover if surgical assistance is withheld for forty-eight hours.

Proceedings of Societies

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting Held February 20, 1911.

The President, Dr. Reynold Webb Wilcox, in the Chair.

Acute Dilatation of the Stomach Following Surgical Operations.—The first paper of the evening, on this subject, was by Dr. Edward Wallace Lee. He said that while infrequent, this was one of the most serious complications which might follow any surgical procedure. It was more liable to occur after operations in the abdominal or pelvic cavities, and its early recognition might prevent a fatal termination. Usually the dilatation came on within twelve or fourteen hours after the operation, and in one instance he had observed it within an hour after the patient had been placed in bed. The literature and general discussion of this subject had been altogether too limited, he thought, for a condition of such importance and one which so often proved fatal (in seventy-five per cent. of cases), and this was the chief reason why he presented it.

As to the ætiology, his experience had not been such as to enable him to determine upon any one definite cause. Various theories had been suggested, but experience had shown that this sequela may follow different surgical procedures, regardless of the anæsthetic or the location, extent, or character of the operation. Many mechanical causes had been mentioned, such as spasm of the pylorus, volvulus of the stomach, kink in the duodenum, and pressure on the mesenteric vessels, but he did not wish to speak particularly of this class, since such causes, if present, were self evident. The question had been raised whether the condition was due to a neurosis, producing paralysis, and thus permitting the enormous formation of gases, or to an irritation continuously producing gastric secretion in excess. From his own observation he was inclined to look upon it as due to a neurosis, some serious vasomotor disturbance, rather than to any direct irritation of the stomach itself. The earlier symptoms were apparently those of shock, that extreme kind of shock accompanied with intolerable vomiting. The respirations became frequent and shallow, the pulse rapid and thready. The patient looked as if he had aged suddenly; his extremities were cold, and his skin clammy. Nearly always the urine was scanty. On inspection and palpation the stomach was found to be enormously distended and usually sharply bent upon itself. The distention, extending toward the left, and perhaps causing even bulging of the ribs, pressed upon the diaphragm and interfered with the heart's action. He emphasized the distention toward the left because on the right upper abdomen there was apt to be flatness on percussion, and this was an aid to the diagnosis.

Of a number of cases he had seen Dr. Lee reported five. These, with one exception, were in males between the age of forty-three and seventy. Only one of the patients recovered, and in this instance the dilatation came on after an operation for hernia. The second case was a gallbladder case, the third a suprapubic prostatectomy, and the fourth a cystotomy. In the fifth case, in a woman of twenty-six, the dilatation followed, not an operation, but a burn, and he said he cited this case because it tended to carry out the idea that acute gastric dilatation was of nervous origin rather than due to mechanical irritation of the stomach. Here the dilatation developed three hours after the reception of the burn, which was on the upper abdomen and about six inches square, and nine hours later the patient died.

In the treatment the speaker said that mechanical irrigation was primarily indicated. Even after thorough evacuation, the stomach would often refill, not only with secretion but with gas, and therefore it was advisable to leave the stomach tube in place continuously. The drugs indicated were morphine, to relieve pain and shock; strychnine, to stimulate the heart and for its effect on the vasomotor nervous system (in the hope that it might bring about contraction of the distended stomach); and eserine, on account of its efficiency in inducing peristalsis. The last named was especially indicated if the intestines appeared to be involved. He had never resorted to any of the surgical procedures which had been suggested, as any operation would necessarily increase the existing shock. Gastrostomy, however, might be performed under local anæsthesia, and it had certain indications which were at least theoretically logical.

Dr. Robert T. Morris said that we had to account for several features of acute gastric dilatation along some of the newer lines of knowledge. With this condition we had, following the initial disturbance, increased peristalsis and antiperistalsis, and an extreme degree of secretion of morbid character. Shock, ether, and toxines were all known to derange secretions of the chromaffins, and if these products of deranged secretion overstimulated the inhibitory nerves of the stomach, it would result in practically the same effect as cutting the vagus, so far as the phenomenon of dilatation was concerned. If the hormones secreted in the mucosa of the stomach were at the same time disturbed in action, they might overstimulate secretion of the stomach glands, and that would account

for the excessive quantities of fluid in the stomach in these cases. The fluids attacked by saprophytes, in the absence of normal protection, would undergo fermentative changes, and that would account for the gas which was produced in such quantity.

Dr. MORRIS believed that while shock, ether, and toxines could all disturb the cerebrospinal system, with consequent suspension of vagus action, this system, as a later development of the embryo, was probably more resistant than the primitive sympathetic system, and it was to the latter that we were to look for an explanation for the phenomena of acute gastric dilatation. Dr. Lee's case of acute gastric dilatation following the receipt of a small superficial burn of the abdomen was particularly significant as relating to this view. With a burn, some of the albuminous tissues were transformed into toxalbumin. It looked as though the toxalbumin, absorbed, had overstimulated the inhibitory nerves of the stomach by way of deranged chromaffin secretions, and had secondarily induced the hormones to stimulate the secretory glands of the stomach to the point of forming great quantities of abnormal products.

Practical treatment of cases of acute gastric dilatation consisted of two chief resources, and these were very effective in giving relief. If the patient was placed upon the abdomen, bearing rather more upon the right side, we had mechanical compression of the dilated stomach and unkinking of duodenal angulation. If the stomach was then washed out every hour or two with the stomach tube, the decomposing stomach contents, with their poisonous saprophyte products, were removed. The patients then commonly went on to recovery in a few days.

Dr. ROBERT COLEMAN KEMP said that in all the six cases of postoperative acute dilatation of the stomach he had seen there had been considerable manipulation of the abdominal viscera. In this acute dilatation the stomach was generally not alone concerned. According to his experience, there were four types: The pure gastric, the gastroduodenal, the gastrointestinal, and that in which there was an acute dilatation engrafted on a stenosis of the pylorus with chronic dilatation. The diagnosis must be made by means of the aspirating bulb and stomach tube; the gastric contents being first aspirated and the stomach then washed out. If, after the stomach had been completely emptied, the intestines were found to be still dilated, the case would be seen to be one of mixed type. Acute dilatation was especially liable to occur after Cæsarean section. If a case was purely gastric in character, the patient should be placed on the right side or belly, and the stomach be thoroughly washed out every two hours. If it was of mixed type, resort should be made to the Fowler position. The medication employed by Dr. Kemp consisted of calomel, magnesium sulphate, strychnine, and eserine, as well as large doses of belladonna. He never used morphine and considered it harmful. No food should be given by the mouth, and proctocylsis should be employed for thirst. Continuous enteroclysis with normal saline solution, at a temperature of from 115° to 120° F., for from thirty to forty minutes, by means of a recurrent tube, was of great value in helping to start bowel action. In the mixed cases this also relieved intestinal tympanites.

Dr. A. ERNEST GALLANT said he had seen a dozen cases since 1906, when he first met with this condition, and he had found that the dilatation usually came on three days or more after the operation. In his experience, the patient seemed to be doing well at first, but later there came on a sort of over flow vomiting. Sometimes a pint or a quart of fluid was spilled over, and very soon the vomitus became of a dark green color. A study of the 200 or 300 cases on record seemed to show that the origin of the dilatation was chiefly mechanical, and personally he believed the cause of the trouble to be mechanical compression of the duodenum as it passed behind the mesenteric vessels, as described by Byron Robinson. After this condition had been established the toxæmia portrayed by Dr. Morris no doubt prevailed. In the treatment he relied principally on posture and washing out the stomach with gallons of water. He had found it much simpler to practise lavage with the patient lying on the left side, though later it was well to turn him on the other side. He did not believe the intestines were involved in these cases, for if this was so we would have peritonitis; and no peritonitis had been noted.

Dr. ACHILLES ROSE said that acute dilatation sometimes occurred in cases where there had been no operation, in patients who had previously had gastric dilatation in connection with pyloric stenosis, and the acute attack appeared to be due to the cutting off of the compensation which had existed.

Posture as an Aid in the Diagnosis and Treatment of Cardiac Affections and Dropsical Conditions of Various Origin.—In this paper Dr. HENRY W. BERG said that some diseases enforce the assumption, consciously or unconsciously, of strained positions of the body and limbs, and so characteristic were these postures in various conditions that they played a very important part in the diagnosis of many diseases, both medical and surgical. In other cases a knowledge of the pathology of various affections had taught the physician to put the patient in postures most favorable to the cure of his malady. Again, enforced positions of the patient were practised as aids in the recognition of pathological conditions, as, for instance, chest effusions. Having referred to various other conditions in which posture was made use of in medical practice, he said that the simplest application of it in the diagnosis of cardiac conditions was the employment of the left sided recumbent posture in auscultating the heart. The instinctive demand on the part of patients suffering from advanced cardiac disease for the semierect or entirely upright posture had long impressed Dr. Berg with the fact that the postural treatment of cardiac conditions was of vital importance. The application of such postural treatment, however, was not simple. On the one hand a weak myocardium and insufficient cerebral circulation demanded recumbency; on the other, the most urgent need of the organism, as voiced by the patient, indicated an erect or semierect posture. Much work had been done by various observers to determine the changes which resulted in the position of the heart during the

erect, as compared with the "flat on the back" recumbent posture. It had been shown that there was a gain of from ½ to ¾ of an inch in the depth of the chest cavity in the upright position, and this was equivalent to an increase of the space occupied by the heart, in the standing position, of one sixth of its depth (anteroposterior measurement). Furthermore, the lowering of the various organs by the force of gravity largely increased the longitudinal diameter of the thoracic space occupied by the heart. For these and various reasons, which were mentioned, the erect posture was the position in which the heart did its work under the most favorable conditions, though less work was required from the heart in a recumbent position of the body. The body demanded frequent intervals of rest, even in health, and the constant maintenance of the vertical posture was impossible. In disease, however, with an incompetent heart under stress, every aid to cardiac activity was brought into play, and we found that the patient had a tendency to assume a combination of the erect and recumbent postures.

These principles could be effectively applied as aids in the diagnosis and distinction of the various murmurs heard in patients suffering from organic valvular lesions. Thus, the knowledge that the heart tended to lie more vertically in the erect posture, and more horizontally in the recumbent, involved the conclusion that in mitral stenosis and aortic regurgitation the passage of the blood through the valves was favored by gravity in the erect posture, and that the murmurs heard with these lesions would be louder when the patient was erect or sitting; for the blood current causing, and synchronous with these murmurs was downward. On the other hand, mitral regurgitation and aortic stenosis murmurs would be better heard in the recumbent position, because this favors the direction of the current synchronous with and causative of these murmurs. The murmurs accompanying tricuspid regurgitation and pulmonary stenosis were also best heard with the patient recumbent. The same was likewise true of all anæmic murmurs with the exception of those over the pulmonary valves and of the venous hum, which were best heard in the standing or sitting position, when the pulse was accelerated. In the treatment of valvular disease posture would be an aid only when it was such as to increase the force of the flow through the valves in stenosis and diminish its force in regurgitation. Unfortunately, not one, but several, valves were often affected, and still more frequently a valve was affected with obstruction and regurgitation at the same time. In these cases Dr. Berg had found that that posture which diminished the force of the flow in the regurgitation direction (disregarding the stenosis element of the lesion) would be of most therapeutic value and most comfortable for the patient. This, in the vast majority of instances, was the erect or semirecumbent posture. Mitral regurgitation was much benefited by this, while aortic regurgitation *per se* was not affected by it, though in most cases its complications were thus greatly benefited.

Myocardial changes, whether primary or secondary, he went on to say, very frequently resulted eventually in marked dilatation of the heart, and this in time produced evidences of cardiac failure, such as dropsy, pulmonary œdema, enlarged liver, and renal involvement. In these cases any postural procedure making more room for the dilated heart would enable its weakened muscular wall to work under better advantage, and were the erect posture feasible in such ill patients, it would undoubtedly be the position of preference. These patients, however, often could not sit up either in bed or on a chair; yet the dyspnœa, cyanosis, and orthopnœa precluded the recumbent posture in bed, even when the shoulders and head were raised by pillows. Such patients Dr. Berg had placed in bed with the head of the bed raised as in the Fowler position, or what he preferred to call the reversed Trendelenburg position. The object of this was, first, to remove the pressure on the diaphragm by the action of gravity on the liver and other abdominal organs, and, second, to give the patient the benefit of the increased space resulting from the upright, or, to a lesser extent, the semiupright position. Furthermore, under these conditions the dilated heart was subject to less restriction and worked in space more adequate to its increased size. The legs of the foot of the bed were raised from four to twenty-four inches, on proper supports, but the full elevation of twenty-four inches should be made gradually. The patient's feet should rest against a well padded rest extending across the bed, and padded boards from fifteen to eighteen inches wide should bound the sides of the bed, to prevent him from slipping out during sleep. The head and shoulders should be supported by pillows, and sometimes a bed head rest. The body should lie recumbent on this inclined plane without any bend at the hips, so that the maximum effect of gravity upon the liver and other abdominal organs might be obtained. The speaker had seen patients suffering from cardiac failure as a result of dilatation complicating valvular disease and myocarditis, more especially when mitral regurgitation was present, immensely relieved of their dyspnœa by this posture alone, even before other more direct therapeutic measures were employed.

In many patients suffering from œdema and dropsical effusions due to cardiac failure, with or without a complicating nephritis, the effusion was sometimes so general as to greatly embarrass the circulation, and yet not be sufficient in quantity in any one site to permit of removal by paracentesis or puncture; again, the subcutaneous œdema might be very extensive all over the body, and yet not be sufficient in quantity in any part of the subcutaneous area to admit of drainage by Southey tubes. In both of these classes of cases the reversed Trendelenburg position had proved of the greatest service. Keeping the patient in bed in this inclined plane posture for from twenty-four to forty-eight hours permitted the subcutaneous serous effusion to gravitate to the legs; whence it was readily drawn by two or more Southey tubes inserted into each leg. In one of the cases of which Dr. Berg had records, 12,000 c.c. of fluid was thus drained off in forty-eight hours, and in another, 18,000 c.c. Before he adopted the use of this posture he had found the Southey tubes of but doubtful service, since in patients lying in the ordinary bed in the recumbent

posture only small amounts of fluid were drained away by this means. He had employed the same method with equally good effect in effusions due to renal lesions or to cirrhosis of the liver. The drainage thus made was rapid and thorough, and its rapidity did away with the chief objection to the Southey tubes, namely, that the points of puncture become sources of irritation and infection. For the short period of two or three days in which the tubes were required the surrounding cutaneous surface could be readily protected, and as soon as they were withdrawn, dry gauze dressings were applied with bandages.

Dr. JOHN W. BRANNAN said that Dr. Berg's painstaking contribution was of distinct value in adding to our present knowledge, and we would all be glad to apply his suggestions practically. His employment of the Southey tubes in connection with the modified Fowler position certainly seemed to him a procedure of the greatest utility.

Dr. EGBERT LE FEVRE, having spoken of some of the conditions present, and of the effect of posture in different organic diseases of the heart, went on to say that any case which had to have the upright posture was one doing the best it could under bad circumstances, but when a patient was more or less confined to this he was getting a certain amount of comfort at great expense to the circulation. By keeping such a patient flat for a time, and giving him morphine, we could bring about a readjustment of the circulation which was often of great service. In these cases Nature was trying to meet a deficiency, and the value of the bed rest was that it kept the patient in a posture which enabled Nature to act in as favorable conditions as possible under the circumstances.

New Inventions.

A SELF RETAINING MASTOID RETRACTOR

By CHARLES A. ADAIR DIGHTON, F. R. C. S.,
Liverpool, England,

I have for some time past tried to find a satisfactory self retaining mastoid retractor among those on the market, and having failed in the attempt, asked Messrs. Mayer and Meltzer to make one to my design, which I have every confidence will prove as good as the others have proved bad. It is issued in pairs, right and left. The body is constructed on the mouth gag principle, with ratchet action, the blades terminating, one in an oblong plate rounded off at one end to a point, so constructed that, however deeply it is inserted into the auditory meatus, it cannot injure the tympanic membrane; the other blade terminating in a row of hooks. The plane of the blades is such that, when opened to width of one and a half inch, the action of the two blades is absolutely parallel.

In practice it is used as follows: In the mastoid operation, after making the skin incision, elevating the periosteum, and separating it from the posterior wall of the osseous canal, the retractor with blades closed is inserted from above, the blade with the oblong plate being introduced between the periosteum and the posterior wall of the osseous canal and pushed well down. The retractor is then opened, and the posterior lip of the skin incision engaged with the hooked blade. It is then opened farther, until the posterior lip of the incision is put on the stretch by the hooks, and all the structures in front are pressed against the anterior wall of the osseous canal by the plate blade, thus giving an absolutely clear view of the whole field of operation.

The advantages the instrument possesses are many:

1. It retains its position throughout operation.



2. The one instrument is suitable for all sizes of meati.

3. It mechanically prevents all oozing.

4. It leaves both hands of assistant free.

5. It takes the place of a skilled assistant, and if the operator is attempting to conserve drum and ossicles, as in the Heath operation, does not leave him entirely at the mercy of a careless assistant.

The instrument is made by Messrs. Mayer and Meltzer and the workmanship is all that can be desired.

49 CATHERINE STREET.

Letters to the Editor.

CHRONIC BACKACHE.

To the Editor:

In to-day's issue of your esteemed *Journal*, Dr. Charles Oglivy describes some forms of backache which are frequently seen and less frequently recognized. There is one form of backache which the author has not mentioned, which, according to my experience, is by no means a rare one, but which very few physicians seem to recognize, namely, a peculiar chronic periostitis of one of the spinal processes, generally of a lumbar or sacral vertebra. The characteristics are circumscribed pain on pres-

sure on the affected process. The pain is present especially during the night when the patient is in a warm bed or on awakening in the morning; there is less or no pain during the day while the patient is about. There is slight elevation of temperature in the evening. The pain radiates sidewise or downward; never ceases on its own account, but lessens and gradually will cease entirely under treatment for periostitis, which in this affection is one application of two leeches close to the spinal process from which the pain proceeds, and this promptly secures decided relief. The next step is painting the skin surrounding the affected spinal process once a day with tincture of iodine and internally potassium iodide. According to my experience this treatment has to be continued for a long period, because the pain, although continually diminishing, will only cease completely in the course of time. The benefit experienced by the patient cannot be overestimated. In case of a woman, she is no longer treated for some uterine trouble, which, in reality, does not exist or has nothing to do with the periostitis; and a constant drain on the system, leading to grave symptoms, is gradually removed. The affection is easily recognized by pressing with the finger along the spine on all the processes and finding that one, *and one only,* of these processes is painful on pressure, and when, as stated, the pain is worse during the night. Many women are treated for uterine troubles who suffer from nothing but this periostitis. In the textbooks on gynæcology, as far as I have examined them, this peculiar form of backache is not mentioned.

A. ROSE, M. D.

TRACHOMA AMONG IMMIGRANTS.

NEW YORK, *May 1, 1911.*

To the Editor:

Permit me to thank you for your editorial in this week's issue (April 29th), with this title. I consider the matter of the highest importance both from a medical and a humanitarian point of view. As we, the medical profession, were responsible for the yellow scare about trachoma, as it was due largely to our overzealous agitation that the order of October 30, 1897, classifying trachoma among the dangerous contagious diseases, was promulgated, it is but just that we do everything in our power to have that order rescinded. Failing this, we should at least see that the physicians at Ellis Island and other immigration ports exercise more conscientious care and do not diagnosticate a simple conjunctivitis as trachoma. Such mistakes in diagnosis are very frequent. We have always had a suspicion that our immigration physicians have not always been as careful as they should be, and in order to justify their existence have leaned toward severity rather than scientific exactness. Professor Mandelstamm, the well known Russian ophthalmologist, has distinctly stated that many cases that have been deported as trachoma have on the most careful examination been proved to be simple conjunctivitis. And when one thinks of the indescribable anguish and suffering to which men and women, who have given up their all in order to seek their means of life, liberty, and happiness here, have been subjected, the abysmal despair, often leading to suicide, into which they have been thrown on account of the exaggerated fear of the contagiousness of trachoma, or, what is still worse, on account of the mistaken diagnosis of a not very expert diagnostician, one cannot help exclaiming: O, Science (or rather pseudoscience), what crimes have been committed in thy name!

WILLIAM J. ROBINSON, M. D.

THE OVARIES AND THE SEX OF OFFSPRING.

PUYALLUP, WASHINGTON, *April 23, 1911.*

To the Editor:

Very recently I have learned that two women who had suffered from acute oophoritis, resulting in ovarian abscess, and whom I attended at the time, had since, in one case, become the mother of two boys and in the other of three girls. In both cases it was necessary to remove the ovary. The one whose left ovary was removed has since given birth to boys; and the one whose right ovary was removed has had girls. It may be just a coincidence or it may be a correct natural occurrence. They interested me so much that I thought a record should be made of the cases.

H. B. RUNNALLS, M.R.C.S., L.S.A. (London).

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Handbook of Treatment for Diseases of the Eye (Ophthalmic Therapeutics). By Dr. CURT ADAM, Assistant Surgeon in the University Clinic for Diseases of the Eye, Berlin. With a Preface by Prof. VON MICHEL, Berlin. Translated from the Second German Edition (1910) by WILLIAM GEORGE SYM, M. D., F. R. C. S. Ed., and E. M. LITHGOW, M. B., F. R. C. S. Ed. With Thirty-six Illustrations. New York: Rebman Company, 1911. Pp. xii-264. (Price, $2.50.)

Adam's little book presupposes a certain degree of familiarity with the diagnosis of ocular diseases and is designed primarily for the practitioner. Some points in diagnosis are considered, but the text deals mainly with methods and principles of treatment, local applications, instillations, and various mechanical procedures which are elucidated by a concise and clear descriptive text and a few illustrations. There is a good chapter on eye injuries and first aid. The translation is a satisfactory one, but four names on a rather small title page are a bit of an overload.

Diseases of the Joints and Spine. By HOWARD MARSH, M. A., M. C. Cantab., F. R. C. S., Master of Downing College and Professor of Surgery in the University of Cambridge, etc. New and Enlarged Edition, Thoroughly Revised by the Author and by C. GORDON WATSON, F. R. C. S., Surgeon to the Metropolitan Hospital, Assistant Surgeon to St. Bartholomew's Hospital, etc. With Four Colored and Eight Black and White Plates, and Upward of One Hundred Illustrations in the Text. Chicago: Chicago Medical Book Company, 1910. Pp. xv-632. (Price, $3.)

This book very nearly covers for English readers the field which is here known as orthopædic surgery, and yet the details of mechanical surgery are kept somewhat in the background, as though it were taken for granted that they would be appro-

priately applied as their importance became evident in the history of a case. The well known author is fully equipped for the discussion of mechanics, as it is to him that we owe the diagrams presented in every textbook in explanation of the production of apparent shortening and lengthening in hip disease. And yet he agreeably recognizes the constructive ingenuity of one of our best orthopædic authorities in these words: "The deformities which develop in hip disease are readily understood with the help of the cardboard models contrived and kindly presented to the author by Dr. Ridlon, of Chicago." In a careful discussion of tuberculous joints the writer of this book admits that the best results generally follow a refusal to operate, and yet it is insisted that the resources of minor surgery are not to be neglected.

tical Procedures Employed in Diagnosis and Treatment. By ALBERT S. MORROW, A. B., M. D., Adjunct Professor of Surgery in the New York Polyclinic, etc. With 815 Illustrations, Mostly Original. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 850. (Price, $5.)

We think Professor Morrow has compiled a very useful book, the subject of which has, so far, not been treated in one book dedicated to the subject alone. The authors of textbooks speak of the subject as far as it is applied to their special branch, but it was left to Morrow to collect the entire diagnostic and therapeutic technique, and he has thus added to our bibliography a very useful compendium. The work comprises a description of certain general diagnostic and therapeutic methods, followed by a description of the methods employed in special diseases. The book contains twenty chapters and the subject seems to be fully treated. The illustrations are well selected.

Diseases of the Nose, Throat, and Ear. Medical and Surgical. By WILLIAM LINCOLN BALLENGER, M. D., Professor of Otology, Rhinology, and Laryngology, College of Physicians and Surgeons, Department of Medicine, University of Illinois, Chicago, etc. Third Edition, Revised and Enlarged. Illustrated with 506 Engravings and 22 Plates. Philadelphia and New York: Lea & Febiger, 1911. Pp. xi-983. (Price, $5.50.)

The many good qualities of Ballenger's comprehensive work were noted in these columns on the appearance of the second edition, hardly a year ago. The present publication represents a complete revision of the work in a new dress of type and with notable additions to the text as well as to illustrations. There is new matter in many chapters, of which we may cite vaccine therapy, significance of blood cultures in the diagnosis of sinus thrombosis and otitic sepsis, the surgery of the upper air passages, labyrinthine affections, and several nose and throat operations.

Innere Medizin. I. Teil. Von Dr. GEORG ZUELZER. Leitfäden der praktischen Medizin. Herausgegeben von Professor Dr. PH. BOCKENHEIMER, Berlin. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. iv-330.

Haut- und Geschlechtskrankheiten. Von Dr. FELIX PINKUS, Privatdozent. Leitfäden der praktischen Medizin. Herausgegeben von Professor Dr. PH. BOCKENHEIMER, Berlin. Band II. Leipzig: Dr. Werner Klinkhardt, 1910. Pp. xi-272.

The publishing house of Dr. Werner Klinkhardt has placed on the market a series of manuals which, when finished, will form a textbook of practical medicine, edited by Professor Bockenheimer. Of these, so far, the following have appeared: *Physiology, Botany,* and *Pathology.* Dr. Zuelzer has collaborated in the first part of internal medicine, and while not introducing anything new, he gives a very good review of our present knowledge of internal medicine.

Dr. Felix Pinkus contributes the manual on dermatology. It is well written, and the author has added a short review on the effects of dioxydiamidoarsenobenzol.

MEDICOLITERARY NOTES

Readers of Dr. Alfred Gordon's communication on Psychoanalysis as a New Therapeutic Procedure in Psychoneuroses, in our issue for April 8th, will recognize the source of the ingenious detective stories, The Achievements of Luther Trant, by Edwin Balmer and William McHarg, lately reprinted in the *Evening World.* The exploration of the subconscious mind, as explained in Dr. Gordon's article, is one of the most remarkable accomplishments of modern medical psychology.

Wamb-wark is Anglo-Saxon for the equally Saxon belly ache, and a curious cure for the painful condition is given in the old *Leech Book.* The sufferer was advised to look for a mole, guided by the finely divided earth cast up by the animal, to grasp him "with thy two hands along with his casting up, wave him strongly with thy hands, and say thrice *remedium facio ad ventris dolorem.*" The mole was then to be thrown over the patient's back. There is a connection between emotion and wind, recognized in several popular sayings, and the prolonged diversion of the attention of the sufferer from the iliac passion, to use another venerable phrase, would be very likely to cause an eventual cessation of his symptoms.

* * *

"My father was quite a wit in his way," said Dr. Ben Trovato, reminiscently; "I remember once as he was getting along in years, he complained to me one day of his partial loss of memory. 'I am often at a loss for the proper word to express my meaning, Ben,' he said to me; 'in fact I fear that I am beginning to suffer from aphasia.' Thinking to comfort him, I replied, 'Why, governor, the same thing happens to me, and I am scarcely twenty years old.' The old man looked at me quizzically for a moment; then he said slowly: 'Ben, my boy, in your case the phenomenon is due, not to aphasia, but to ignorance.'"

* * *

Richard Henry Stoddard, in his *Anecdote Biography of Thackeray,* quotes a story of how the great novelist once put up an original prescription. One morning, while Thackeray was in Paris, a friend entering his room found him placing some napoleons in a pill box, on the lid of which he had written "one to be taken occasionally." To a question as to what he was about, he replied: "Well, there is an old person here who is very ill and in distress, and I strongly suspect that this is the sort of medicine she wants. Dr. Thackeray intends to leave it with her himself. Let us walk out together." It will be observed that Thackeray's

method was exactly the opposite of that of most unlicensed practitioners.

* * *

The Ladies' Home Journal for April 1st has an article by Dr. Henry Smith Williams on The Price a Woman Pays for Alcohol, how it ruins her beauty, her health, and her children; we did not believe that a sufficient number of women in America used alcohol as a beverage to make the publication of such an article worth while. The writer acknowledges his indebtedness to Sir Victor Horsley and Dr. Mary D. Sturge.

The Horse Hypnotist, by Charles E. Van Loan in the April month end issue of the *Popular*, is a story of a quack veterinary surgeon that it will not harm any regular practitioner to read. It gives details concerning a sleight of hand trick with a hypodermic syringe that might prove useful in handling a recalcitrant patient who really needed an injection.

* * *

The May *Scribner's* contains some delightful editorial musings upon middle age, the writer protesting with Gibbon against the trite and lavish praise of the happiness of youth. The following dainty and touching verses are by Louisa Fletcher Tarkington:

THE CONVALESCENT.

FROM where I sit and watch, she looks
So feather light upon her bed.

Her breast so delicate and small,
It scarcely seems to rise and fall
Beneath the lightly woven shawl.

Yet they have brought her back to life,
Almost they brought her from the dead.

Her fingers, slim and fluttering,
Pluck softly at the covering,
Pluck at my heart past uttering.

From where I sit and watch, she looks
So little, gentle, so betrayed.

Will she call out for that wee thing
That slipped into the enshadowing,
That could not stay for mothering?

* * *

An Educational Wonder Worker, by Josephine Tozier, will interest all physician readers of the May *McClure's;* it tells of the novel and remarkably successful methods of Maria Montessori in the teaching of young children. Older readers are sure to like The Girlhood of Harriet Beecher Stowe, written by her son and her grandson in collaboration. The fiction in this issue is particularly good, notably A Citizen of Calais, by Marie Belloc Lowndes, and the artistic and masterly serial, The Case of Richard Meynell, by Mrs. Humphry Ward.

* * *

Sir Arthur Conan Doyle completes, in the May *Strand*, the account of the adventures of Sherlock Holmes and his *fidus Achates*, our excellent confrère, Dr. Watson, in solving the mystery of the red circle; they have the assistance of an American sleuth hound this time. In Author and Artist Too, Walter Emanuel tells of various writers who handled the brush almost as well as the pen; and he gives a little sketch of his own, Fleas Nursing Their Young, which we consider to be unique in the history of art. There is an article on the exports of Great Britain compared with those of the United States that will astonish many Americans. One well nigh unbelievable statement is that the English write six times as many novels as we do; they also lead in the export of pharmaceutical preparations. Germany being the nearest rival. In total exports Great Britain surpasses the United States by over two hundred and fifty millions of dollars annually.

NEW PUBLICATIONS

Lecercle, Arthur. Les Maladies de la cinquantaine. Tome I. L'Artériosclérose (évolution clinique et traitement). Tome II. Clinique du cœur d'après l'étude de ses rythmes. Tome III. Le Diabète (le goitre exophtalmique). Tome IV. Les Albuminuries et leur traitement. Paris: Octave Doin et fils, 1911.

Bajenoff et Ossipoff.—La Suggestion et ses limites. Paris: Bloud et cie, 1911. Pp. 119.

Abramowski, Edouard.—L'Analyse physiologique de la perception. Collection de psychologie expérimentale et de metapsychie. Directeur, Raymond Meunier. Paris: Bloud et cie, 1911. Pp. 121.

Ware, Martin W.—Plaster of Paris and How to Use It. Second Edition, Revised and Enlarged. Illustrated with Ninety Original Drawings. New York: Surgery Publishing Company, 1911. Pp. viii-100. (Price, $1.25.)

Walker, Norman.—An Introduction to Dermatology. Fifth Edition. With Forty-three Colored Plates and Seventy-nine Illustrations in the Text. New York: William Wood & Co., 1911. Pp. xviii-346. (Price, $4.)

Pearson, C. Yelverton.—Modern Surgical Technique in Its Relation to Operations and Wound Treatment. Illustrated with Two Colored and Other Plates, and 129 Illustrations in the Text. Second Edition. Revised and Enlarged. New York: William Wood & Co., 1911. Pp. xix-484. (Price, $4.)

Pilcher, Paul M.—Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidneys and Urinary Bladder. With 233 Illustrations, 29 of them being in Colors. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 398. (Price, $5.50.)

Moore, Benjamin.—The Dawn of the Health Age. London: J. & A. Churchill; Liverpool: The Liverpool Booksellers' Co., Ltd., 1911. Pp. 204.

Ross, Ronald.—The Prevention of Malaria. With Contributions by Many Authors. Numerous Illustrations. New York: E. P. Dutton, 1910. Pp. xx-669. (Price, $5.)

Hitzig, E.—Der Schwindel (Vertigo). Als zweite Auflage neu Herausgegeben und Bearbeitet von J. Rich. Ewald und Robert Wollenberg, Strassburg. Mit 12 Abbildungen. Spezielle Pathologie und Therapie herausgegeben von weil. Hermann Nothnagel fortgeführt von Prof. Dr. L. von Frankl-Hochwart. Wien und Leipzig: Alfred Hölder, 1911. Pp. 141.

Clouston, T. S.—Unsoundness of Mind. With Fourteen Illustrations. New York: E. P. Dutton & Co., 1911. Pp. xxxi-360. (Price, $2.50.)

Report of the Commissioner of Education for the Year Ended June 30, 1910. Volume II. Washington: Government Printing Office, 1911. Pp. 1373.

Thirty-fifth Annual Report of the Managers and Officers of the New Jersey State Hospital at Morris Plains. For the Year Ending October 31, 1910. Pp. 49.

Annual Report of the Surgeon General of the Public Health and Marine Hospital Service of the United States. For the Fiscal Year 1910. Washington: Government Printing Office, 1911. Pp. 256.

Hunt, Reid, and Taveau, R. de M.—The Effects of a Number of Derivatives of Choline and Analogous Compounds on the Blood Pressure. Hygienic Laboratory

Bulletin No. 73. Washington: Government Printing Office. 1911. Pp. 136.

Forty-first Annual Report of the Board of Trustees of the German Hospital and Dispensary in the City of New York. For the Year 1910. Pp. 128.

Grimm, R. M.—The Typhoid Bacillus Carrier. A Review. Reprint from Public Health Reports No. 58. Washington: Government Printing Office. 1911. Pp. 17.

Thirty-fifth Annual Report of the New York State Reformatory at Elmira, and the Tenth Annual Report of the Eastern New York Reformatory at Napanoch. For the Fiscal Year Ending September 30, 1910. Pp. 88.

Miscellany.

The Chautauqua Lectures on Nursing.—The lectures issued by the Chautauqua School of Nursing, of Jamestown, N. Y., to its pupils are undergoing revision. The lectures of Course I have already been revised, and we have had the privilege of examining the new version. These lectures deal with the general methods of nursing and with ordinary medical nursing, though some conditions that are not very commonly observed are treated of. A commendable amount of stress is laid upon the inborn qualities of heart and mind which the nurse ought to possess and upon the necessity of her devotion to her calling for its own sake rather than for any reputation or material advantage that may accrue from the successful pursuit of nursing as an occupation. The constant necessity of asepsis in practice is insisted upon even more pointedly than in the original version of the lectures, and the woman who could prove negligent in the matter after these repeated injunctions and detailed instructions must indeed be unfit for the profession of nursing. It is these lectures more than anything else we have ever seen in print that should drive home the lesson of her unfitness upon her, thus leading her to withdraw from the study in time to save her from burdening the profession with another incompetent. These lectures have always been well illustrated, but even this point has been improved upon. Many of the illustrations are selected from textbooks of high standing, but a very large number are from original photographs and sketches. The lectures are now remarkable for their wealth of illustration. From the mechanical point of view the lectures are very pleasing and meritorious. The revision must denote a continued field of usefulness for the school.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of [illegible] fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service for the week ending April 28, 1911:

[illegible]				
China—Amoy	[illegible]	[illegible]	16	1
[illegible]				
China—Pingtau, Shangtun province	Mar.	12-18	Present	
[illegible]				
Japan—[illegible]	Mar.	2-8	5	
Peru—Ancash, department	Feb.	1-28	14	2
[illegible]				
Peru—Callao, department	Feb.	1-28	1	2
[illegible]				
Peru—Lambayeque, department	Feb.	1-28	4	2
[illegible]				
Russia—Kirghis Steppe	Feb.	3-7	7	7
Straits Settlements—Singapore	Mar.	6-11	1	1
[illegible]				
Florida	Apr.	9-15	105	
[illegible]				
Kansas	Feb.	1-28	279	1
Kansas	Mar.	1-30	412	2
[illegible]				
[illegible]				
North Carolina	Mar.	1-31	303	
Tennessee—Knoxville	Apr.	9-15	5	
Texas	Mar.	1-31	107	
[illegible]				
Arabia—Aden	Mar.	1-Apr. 3	57	9
[illegible]				
Canada—Winnipeg	Apr.	9-15	1	
[illegible]				
China—Hongkong	Mar.	5-11	19	7
[illegible]				
[illegible]				
France—Paris	Mar.	26-Apr. 1	8	
Germany—Magdeburg	Mar.	19-25	1	
[illegible]				
India—Calcutta	Feb.	26-Mar. 4		1
India—Madras	Mar.	12-18	98	36
India—Rangoon	Mar.	5-11	129	59
Indo-China—Saigon	Feb.	27-Mar. 5	42	
[illegible]				
Italy—Palermo	Mar.	26-Apr. 1	11	7
[illegible]				
Mexico—Aguascalientes	Mar.	20-Apr. 9		13
[illegible]				
Mexico—Mexico	Mar.	12-25		17
[illegible]				
Portugal—Lisbon	Mar.	26-Apr. 1	17	
Russia—Odessa	Mar.	13-19	3	
[illegible]				
Russia—St. Petersburg	Mar.	12-25	60	14
[illegible]				
[illegible]				
Spain—Valencia	Mar.	26-Apr. 1	15	
[illegible]				
[illegible]				

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending April 28, 1911:

CLARKE, F. M., Acting Assistant Surgeon. Granted twenty days' leave of absence from May 6, 1911.

GOLDTHWAITE, HENRY, Acting Assistant Surgeon. Granted thirty days' leave of absence from April 1, 1911.

GRIMM, R. M., Assistant Surgeon. Relieved from duty in the Hygienic Laboratory and directed to proceed to Savannah, Ga., and assume temporary charge of the service.

HOLT, E. M., Pharmacist. Relieved from duty at the New Orleans Quarantine Station and directed to proceed to Savannah, Ga., and report to the medical officer in command for duty and assignment to quarters.

Iltis, G. W., Pharmacist. Relieved from duty at Pittsburgh, Pa., and directed to proceed to the New Orleans Quarantine Station and report to the medical officer in command for duty and assignment to quarters.

LaGrange, J. V., Pharmacist. Relieved from duty at Savannah, Ga., and directed to report at the Bureau, Washington, D. C., for temporary duty.

Ramus, Carl, Passed Assistant Surgeon. Granted seven days' leave of absence from April 3, 1911, under paragraph 189, Service Regulations.

Schereschewsky, J. W., Passed Assistant Surgeon. Relieved from duty at Baltimore, Md., and directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for duty.

Stimpson, W. G., Surgeon. Granted seven days' leave of absence from April 25, 1911.

Stoner, J. B., Surgeon. Directed to proceed to Pittsburgh, Pa., and assume command of the service.

Wertenbaker, C. P., Surgeon. Directed to proceed to Fortress Monroe, Va., and inspect unserviceable property on hulk *Jamestown*.

Board Convened.

Board of medical officers convened to meet at San Francisco, Cal., April 24, 1911, for the examination of Assistant Surgeon A. J. Lanza, to determine his fitness for promotion to the grade of Passed Assistant Surgeon. Detail amended as follows: Surgeon Rupert Blue, chairman; Passed Assistant Surgeon F. E. Trotter; Passed Assistant Surgeon M. W. Glover, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending April 29, 1911:

Bayly, Rozier C., Lieutenant, Medical Corps. Relieved from duty as transport surgeon on the *Logan* upon arrival at San Francisco, Cal., about November 12, 1911, and will report to the Adjutant General of the Army for further orders.

Deshon, George D., Major, Medical Corps. Orders directing him to proceed to the Philippine Islands for duty, on July 5, 1911, revoked.

Ferguson, James B., 1st Lieutenant, Medical Corps. Relieved from active service under the provisions of an act of Congress March 4, 1911.

Fisher, Henry C., Major, Medical Corps. Left Columbus Barracks, Ohio, on ten days' leave.

Freeman, Charles E., Captain, Medical Corps. Relieved from duty at Fort Miley, Cal., and ordered to the Army General Hospital, San Francisco, Cal., for duty.

Glenman, James D., Lieutenant Colonel, Medical Corps. Left Army General Hospital, San Francisco, Cal., on thirty days' leave of absence.

Griffis, Frank C., Lieutenant, Medical Reserve Corps. Ordered to Fort Robinson, Neb., for temporary duty.

Kerr, Robert W., Lieutenant, Medical Corps. Relieved from duty as surgeon on transport *Sheridan* on arrival at San Francisco, Cal., about October 12, 1911, and will report to the Adjutant General of the Army for further orders.

Knox, Howard A., Lieutenant, Medical Corps. Resignation accepted by the President.

Lincoln, H. F., Lieutenant, Medical Reserve Corps. When his services are no longer needed on the transport *Crook* will proceed to Fort Apache, Arizona, for duty at that station.

Richardson, William H., Captain, Medical Corps. Relieved from duty at Army General Hospital, San Francisco, Cal., and ordered to Fort Miley, Cal., for duty.

Ruddy, William P. J., Lieutenant, Medical Reserve Corps. Recently appointed, will proceed to Fort Myer, Va., for duty at that station.

Suggs, Frank, Lieutenant, Medical Reserve Corps. Upon withdrawal of troops from Fort Egbert, Alaska, will proceed to Seattle, Wash., for further orders.

Each of the following named officers is relieved from duty at the station designated after his name, to take effect at such time as will enable him to comply with this order, and will proceed at the proper time to San Francisco, Cal., and take the transport to sail from that place on or about September 5, 1911, for the Philippine Islands, and upon arrival at Manila will report in person to the Commanding General of the Philippine Division, for assignment to duty: First Lieutenant John T. Aydelotte, Medical Corps, Fort Sam Houston, Texas; First Lieutenant Harry R. Beery, Medical Corps, Fort Benjamin Harrison, Ind.; First Lieutenant Joseph Casper, Medical Corps, Fort Du Pont, Del.; First Lieutenant George W. Cook, Medical Corps, Fort Douglas, Utah; First Lieutenant Arthur O. Davis, Medical Corps, Fort Oglethorpe, Ga.; First Lieutenant Joseph W. Love, Medical Reserve Corps, Fort Banks, Mass.; First Lieutenant Herbert I. Harris, Medical Reserve Corps, Fort Snelling, Minn.

Each of the following named officers is relieved from duty at the station designated after his name, to take effect at such time as will enable him to comply with this order, and will proceed at the proper time to San Francisco, Cal., and take the transport to sail from that place on or about October 5, 1911, for the Philippine Islands, and upon arrival at Manila, will report in person to the commanding general, Philippines Division, for assignment to duty: Lieutenant Colonel Guy L. Edie, Medical Corps, Attending Surgeon, Washington, District of Columbia; Major William E. Vose, Medical Corps, Jackson Barracks, La.; First Lieutenant Taylor E. Darby, Medical Corps, Fort McPherson, Ga.; First Lieutenant Ralph G. De Voe, Medical Corps, Fort Worden, Wash.; First Lieutenant James S. Fox, Medical Corps, Fort Sam Houston, Texas; First Lieutenant Glenn I. Jones, Medical Corps, Fort McDowell, Cal.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending April 29, 1911:

Payne, J. H., Acting Assistant Surgeon. Appointed an acting assistant surgeon from April 20, 1911.

Births, Marriages, and Deaths.

Married

Farmer—Orr.—In New York, on Tuesday, April 25th, Dr. Harlow G. Farmer and Miss Dorothy Orr.

Wilson—Tyler.—In Williamsburg, Virginia, on Monday, April 17th, Dr. James Southall Wilson and Miss Julia Gardiner Tyler.

Died.

Cooper.—In Colorado Springs, Colorado, on Sunday April 23d, Dr. Horace T. Cooper, aged eighty-two years.

Fuchs.—In St. Louis, Missouri, on Wednesday, April 19th, Dr. Gustav Fuchs, aged seventy-five years.

Herzstein.—In New York, on Thursday, April 27th, Mrs. Dora E. Herzstein, wife of Dr. Samuel Herzstein.

Jackson.—In Hudson, Massachusetts, on Sunday, April 23d, Dr. Cornelius S. Jackson, aged sixty-seven years.

Lathrop.—In Marshfield, Wisconsin, on Sunday, April 23d, Dr. Henry A. Lathrop, aged sixty-one years.

McLean.—In Monrovia, California, on Friday, April 14th, Dr. Percy R. McLean, aged twenty-three years.

Nash.—In Norfolk, Virginia, on Wednesday, April 26th, Dr. Herbert Milton Nash, aged seventy-seven years.

Nichols.—In Pulteney, New York, on Monday, April 24th, Dr. Lyman M. Nichols, aged seventy-five years.

Norris.—In Baltimore, Maryland, on Monday, April 24th, Dr. Jacob D. Norris, aged sixty-seven years.

Pettijohn.—In Kansas City, Missouri, on Saturday, April 22d, Dr. Norman J. Pettijohn, aged seventy-one years.

Pontius.—In Lockport, New York, on Saturday, April 22d, Dr. George Allen Pontius, aged forty-four years.

Slosson.—In Youngstown, Ohio, on Sunday, April 23d, Dr. Henry Slosson, aged seventy-five years.

Spahr.—In Bridgeville, Pennsylvania, on Saturday, April 22d, Dr. Clarence Spahr, aged sixty-seven years.

Strock.—In Baltimore, Maryland, on Monday, April 24th, Dr. Frederick G. Strock, aged forty-nine years.

Talson.—In Wheeling, West Virginia, on Wednesday, April 19th, Dr. George W. Talson, aged seventy years.

Triece.—In South Haven, Michigan, on Thursday, April 13th, Dr. William G. Triece, aged seventy-four years.

New York Medical Journal

INCORPORATING THE

Philadelphia Medical Journal and The Medical News

A Weekly Review of Medicine, Established 1843.

VOL. XCIII, No. 19. NEW YORK, MAY 13, 1911. [illegible]

Original Communications.

ASTHENIA UNIVERSALIS CONGENITA.

BY CHARLES LYMAN GREENE, M. D.,
St. Paul, Minn.,
[illegible]

Asthenia universalis congenita doubtless represents a lost opportunity to many clinicians who, like the writer, have for years been noting and, to some extent, correlating its various symptomatic expressions. To the acumen of Professor B. Stiller, of Budapest, we owe the identification and full description of this ailment, congenital in foundation, curiously capricious in its periods of expression, and protean in its clinical manifestations.

If we accept his views we find that our profession stands convicted of a multitude of errors, medical and surgical, of omission and commission. Assuming with him that a large number of persons are born asthenic and that this defect involves every structure and function of the body, one can readily follow his argument, which brings into one pathological circuit a multitude of ailments hitherto regarded and treated as separate and distinct conditions. Among these are the so called phthisical habitus, neurasthenia of the commoner type, certain apparent renal inadequacies, functional albuminureas, nephroptosis, gastroptosis, enteroptosis, and that enormously predominant group of dyspepsias, known as the gastric neuroses.

Stiller insists that an abnormally fluctuating or actually floating tenth rib (*costa decima fluctuans*) is almost pathognomonic of this condition, and this the writer believes to be true, though to him the general structural stigmata are even more interesting.

These may be placed under several heads:

(a) *Outward signs.* Small features, or such as appear small in relation to the cranial proportions, are the rule, and a soft fine skin is usually observed, which, in cases presenting decided symptoms, is usually more or less pallid, loose fitting, and relaxed. The figure is as a rule slender, the bones delicate, the thorax long, narrow, or flattened, with sloping ribs, narrow epigastric angle, and the costal stigma described above. The upper and lower thoracic apertures and the pelvic inlet and outlet are said by Stiller to be narrowed. The scapulæ are often poorly supported and the inferior angle is usually prominent in the active cases, which are almost invariably underweight.

The appearance of the abdomen, even when decided enteroptosis is present, may be misleading, showing, even when the patient is erect, but slight evidence of abnormal protrusion in sharp contrast to the cases of pendulous abdomen, such as occur quite apart and distinct from the asthenic habitus. Visible pulsation of the abdominal aorta is frequently noted, and in all women, and even in men, the abdominal muscles reveal abnormal weakness under the palpating hand.

(b) *The heart and bloodvessels.* Stiller emphasizes the fact that in these cases hypoplasia of both structures exists, and the writer believes from personal observation that the fluoroscope will usually show a small, vertically placed, low lying heart (basocardial "drop heart"), and that such hearts are easily strained and rendered irritable or temporarily incompetent by unwise exertion. Stiller also states that asthenic individuals almost wholly escape degenerative diseases of the heart, bloodvessels, and kidneys, and while the writer's personal observation makes him feel that exceptions to this statement must be admitted, it is, nevertheless, generally true.

(c) *The lungs.* The lungs seem to be sluggish as regards expansion, as determined by fluoroscopic examination, and the areas of percussion resonance at the apices, as determined by Krönig's method, usually show a low maximum height, slight respiratory excursion, and frequently a marked inequality between the two sides. In most instances this last finding unquestionably points to past arrested tuberculosis, a fact of special interest in view of Stiller's claim that the asthenic habitus is precisely what has hitherto been described as the phthisical habitus, and that its victims offer in their bodies just the abnormities of structure and disturbance of function which invite tuberculosis infection.

(d) *The stomach.* Gastroptosis of varying degree will be found, usually unattended by marked dilatation or, at least, in the case of men, unmarried women, or primiparæ, by any excessive prominence of the belly wall. In nearly all such cases, nevertheless, the low level splash sound may be elicited, inasmuch as facultative atony is almost invariably present. Any of the multitude of gastric neuroses may be present and find expression in hyperchlorhydria, heterochylia, hypochlorhydria, achlorhydria, or achylia. The first two conditions being much the most common, gastric hyperæsthesia is common, pyloric spasm not uncommon, and all cases of cyclic vomiting and anorexia nervosa seen by the writer have distinctly shown the stigmata of asthenia. These asthenic individuals are almost always victims of chronic self starvation when they appear in a physician's office.

(e) *The intestines.* As might be expected, ob-

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stipation is an almost invariable accompaniment of this disease. Furthermore, the writer has yet to encounter a case of mucous colitis in which the asthenic stigmata were absent. Despite this fact both conditions are readily overcome under proper treatment in a large majority of the cases.

(f) *The blood.* Active cases usually show some degree of anæmia. The commonest form, according to the writer's observation, is of the mild secondary type—but chlorosis in the young girl is usually found to be associated with asthenic stigmata.

(g) *The kidneys.* In relation to movable kidneys most observant clinicians must long ago have thrown overboard the ætiological factors given in our textbooks. The occurrence of this condition at all ages, in young, unmarried women, and to a less degree in certain slender, lax muscled men, places most cases of nephroptosis absolutely outside the circle of ætiological absurdities hitherto accepted. Furthermore, the almost invariable coincidence of gastroptosis and nephroptosis and the frequency of hyperchlorhydria, hyperæsthesia, and pyloric spasm practically does away with the older interpretation of that dubious syndrome, Dietl's crisis. The writer has taught his students for years that Dietl's crisis, ninety-nine times out of a hundred, means spasm of the pylorus with superacidity, gastric or duodenal ulcer, splanchnic arteriosclerosis, gallstones, cancer, or appendicitis. Serum albuminuria in youth and childhood without demonstrable renal lesions is usually, if not always, associated with the asthenic habitus and marked subnutrition, and the patients need rest and a generous diet rather than the restricted regimen so often prescribed.

Furthermore, the writer has found many cases of the asthenic type in which the urea output and general nitrogen excretion were far below normal, even though no evidence of organic disease of the kidney was present, and many of these suffered symptoms of chronic uræmia. Practically all asthenic patients show a subnormal nitrogen excretion if any active symptoms of functional derangement are present, and a rise in the nitrogen excretion keeps pace with the improvement obtained under treatment.

(h) *The nervous system.* Stiller's observations regarding the relationship of the commoner form of neurasthenia, i. e., that occurring in poorly nourished, slender individuals, is fully borne out by the writer's experience. Asthenic patients are usually mentally quick, impressionable, emotional, but lacking in capacity for sustained effort and thorough self command and control. They are often energetic, inclined to "go on their nerves," as the saying is, but break down under sustained mental strain. This type stands wholly apart from the florid type of neurasthenics and corresponds to that class which best reacts to the rest cure and suggestion.

Time will not permit a discussion of the many interesting relationships which asthenia shows, but a few words may be said with relation to the incidence of the disease with special reference to its periods of symptomatic manifestation and to age and sex.

Doubtless the comparative immunity of children to the more decided functional disturbance is readily explainable by the activity of the child life, and in the case of the boy, and for the same reasons, immunity is generally carried into manhood. Furthermore, in specially well cared for, well nourished individuals of both sexes, leading well ordered uneventful lives, no serious manifestations need ever appear.

That asthenic individuals as a whole and at all ages are peculiarly vulnerable to tuberculosis, the writer firmly believes, and moreover at all ages, though especially in adult life, they bear acute disease less well, lose weight more readily and rapidly, convalesce more slowly and less satisfactorily than normal individuals. In persons who have been under treatment for general asthenia the putting on of flesh is coincident with and measures their improvement. So long as they retain this and the increased muscle tonus induced by the accompanying exercises they remain well, but marked loss of weight means almost invariably a renewal of symptoms. At least ninety per cent. of the writer's cases in adults have been in women, and hardly one per cent. has failed to recover under appropriate and complete treatment.

(i) *Prophylaxis.* Asthenic children are undoubtedly born of asthenic parents in most instances, but the subject of eugenics cannot properly be dealt with in this paper. Any child, however, who is so born or any who presents the stigmata of general asthenia should be especially watched over and protected. A properly guarded infancy, nourishing foods, proper bathing, hygienic clothing, and properly regulated exercises are the chief requisites, and such children should be especially guarded from overwork and overexercise, and be subjected to no forcing process. They should be taught self-control and, even though they be delicate, any habit of introspection or tendency to exaggerate trivial complaints should be carefully guarded against. In a large measure the care of these individuals is precisely what one would prescribe if he regarded their structural peculiarities as representing the phthisical habitus and a distinct predisposition to neurasthenia.

Treatment of the active symptoms. It is evident that nothing short of a volume would suffice to describe the manifold symptoms through which bad function may manifest itself in asthenic cases. Fortunately, however, aside from such treatment as is purely symptomatic and self evident in the light of any competent examination, the treatment resolves itself into two chief factors; *first*, the improvement of nutrition; *second*, the proper use of suggestion. It is astonishing how promptly symptoms disappear under absolute rest, isolation, and a carefully increased but generous semisolid diet. The writer orders patients fed at intervals of two or three hours, avoiding the administration of large quantities of liquids and increasing the food supply rapidly, so that in a few days the victim of gastric neurosis or even anorexia nervosa finds herself eating surprising quantities of nourishing food. Passive exercises and, later, resisted movements are introduced, massage being employed from the beginning.

Suggestion is carried out along the usual lines for neurasthenic cases, and as soon as the patient

has gained several pounds beyond her previous maximum, or has at least been brought up to it, more active exercise is gradually begun and continued from day to day until the patient is taking a large amount of exercise but holding and even gaining weight. The writer firmly believes that this treatment should be adopted in the care of all patients who are able to pay the necessary hospital charges and special nursing fees. In other cases a change from the city to the country or even rest at home with increased feeding may prove sufficient; but, in the writer's experience, such cases seldom completely recover and are either failures or remain more or less invalided and subject to relapses.

It is evident that this paper touches but briefly and inadequately upon an enormously important subject, but the writer feels justified in placing this fragmentary discussion before you because of its vital relation to the medical, and especially to the surgical procedure of our day. If Stiller is right, as the writer firmly believes, practically all of the visceral ptsoses must hereafter escape the surgeon's knife. Most of us have already decided that little benefit and much harm have accompanied the attempts at surgical replacement and fixation in relation to the kidneys and stomach. We may also find that the asthenic habitus has been the cause of many derangements and faulty positions of organs within the female pelvis which *seem* to need recourse to surgery, but which too often show no benefit from surgical procedure.

There is absolutely no limit to the pain manifestations of asthenia. These may be such as to point to relaxation of the sacroiliac ligaments, to chronic neuralgias, trifacial, sciatica, or what not, to uterine disease, gastric or duodenal ulcer, gallstones, or derangements of almost any organ of the body, yet whatever the location and however great the intensity they disappear like magic under rest and proper nutrition.

The writer firmly believes that we have to thank Professor Stiller for opening a new field in modern medicine for more accurate diagnosis and effective and rational therapeutics.

Lowry Arcade.

CONTRIBUTION TO THE STUDY OF FATS AND LIPOIDS IN ANIMAL TISSUE.

By Jonathan Wright, M. D.,
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While it probably will not work out in such a neat and satisfactory manner as Ehrlich's recently developed ideas of chemotherapy would indicate, that there is to every toxic molecule which is fabricated in the body, however complex, some specific valence or yearning for some particular drug that would make it harmless, a desire for a better life, as it were, if we only know where to find it and how and when to apply it, we may be very sure that little advance in anything but a fitful manner can be expected from empirical efforts in the therapy of the future.

We must, indeed, know all about the molecular affinities, chemical and physical, of the various agents of immunity and infection before intelligent endeavor can be made in any kind of therapy.

While with the fats the formulæ seem fairly simple and their affinities fairly well known, they being esters of glycerol and some basic fatty acids, easily breaking up into these components under the influence of a cell lipase, whence arises the soap forms which are capable of osmosis, the case is far different with the lipoids, a convenient term first used, it is said, by Kaiserling and Overton to designate a number of bodies, such as protagon,[1] which have since been shown to be mixtures of more intimately associated chemical elements. The supposed proportion of the elements in cholesterol is C_{27} H_{44} (or H_{46}) O. The molecule contains a double bond. It is supposed to belong to the terpenes and has an alcohol hydroxyl in its stereochemical makeup.[2] It is the only one of the class of terpenes found in animals and thus makes one of the ties which link the animal to the vegetable kingdom where the terpenes abound. It represents an unsaturated monatomic alcohol, and, as we have seen, was one of the substances chosen by Lehmann for the study of fluid crystals.

While some progress has been made in our knowledge of the structural chemistry of cholesterine, a very great deal remains to be done. Of the physiological significance of this important body practically nothing is known. The probability is that the chemical work will follow the same course as that which resulted in the clearing up of the constitution of the terpenes, and that then, aided by a great advance in our knowledge of other physiological bodies and of metabolism in general, the problem of the origin and function of cholesterin in the system will be solved."[3] "As to the origin of cholesterin, the manner in which it is absorbed, transported and lodged in the body, we still know nothing" (Aschoff).

These are very recent expressions of opinion on the part of those most likely to appreciate the situation, but within the last two or three years a considerable amount of information is emerging into light in regard to cholesterin and lecithin, especially in the domain of immunology. It has been shown that cholesterin, in the form of long shining threads and crystals or in strongly double refracting drops or in other combinations with lipoids, fat, and albuminoids, is found in nearly all kinds of animal tissues, at least under certain conditions. It is, indeed, these "certain conditions" that are the problem, but as its form and its combinations seem to depend on them it seems very likely that further research will, by comparative methods, solve much of the mystery in regard to it. We have seen it, apparently in different combinations, in the surface epithelium of tonsils, in the red blood cells, where in relatively small amount with lecithin it is said to form thirty-three per cent.[4] of the solid ingredients, in the

protagon which was not the same as that of Gamgee, Gies, and Cramer. Since it is said that lecithin in a perfectly pure state has never been isolated the question to an outsider seems still subjudice.

lymphocytes or plasma cells and free in the lymph spaces. If we are permitted to judge from the result of Mannini's analysis of the dried leucocytes, they seem to consist in this state of fat and lipoids in a proportion of twenty per cent.[5] Permeating tissue as it does, forming such a striking part in the microchemistry of the tonsillar surface epithelium, the prominence cholesterin is assuming in immunology cannot fail to reveal other interesting affiliations as our knowledge advances. In the cholesteatoma of the ear, in the gallstones of the liver, where it forms combinations with other substances and presents most beautiful so called myelin figures, in the crypts of the tonsils as a constituent of the keratotic degeneration of the epithelium which the bacteria permeate freely, its occurrence is due to precipitation by the neutralization of the alkalies.[6] In these places cholesterin has become familiar to the surgeon, and in them all it is apparently the product of epithelial cell secretion or epithelial cell degeneration. It would seem, from the work of Albrecht and Adami and Aschoff, that in reality the substance, which Lange[7] and still more recently Schultze[8] have demonstrated in the pulmonary alveolar epithelium, is cholesterin. Liebreich had remarked upon its presence in epidermoid structures, when Salkowski sought to confirm it by his own observation; but his technique, in spite of the reiteration of his belief in its freedom from fault, seems justly to have laid him open to the criticisms of Unna and Godoletz.[9] While I cannot assume that my own work must be free from error the evidence of its presence in the horny layers of the tonsillar epithelium seems conclusive, but it is by no means confined to the surface areas and it is easily demonstrable in the parenchyma of the tonsil. It has been shown to exist in the suprarenal capsules, and I can confirm reports of its existence in the cells of the straight kidney tubules. While the Benda-Fischer method may fail sufficiently to differentiate the soap from the cholesterin in other combinations, there seems every likelihood that as an oleate of cholesterin, when it is demonstrated both by the Benda-Fischer method and by Dietrich's modification of the Lorain Smith process, it is in reality present in many cells. I have adduced some evidence suggestive of its presence in the tonsillar epithelium in combination with lecithin, and this has been shown for other cells, usually, however, in varying proportions. Thus, animal experiments showed[10] that in acidosis and in glycosuria the blood was especially rich in cholesterin and markedly poorer in lecithin. In acidosis without glycosuria the lipoidæmia showed rather the character of cholesterræmia in connection with a simultaneous lecithinæmia. This somewhat coincides with the observation of Liefmann and Cohn,[11] who showed that small quantities of cholesterin inhibit or diminish the lecithin hæmolysis in sensitized animals.

How enormously efficient cholesterin is in certain combinations in deviating the complement and thus acting as an antitoxine may be appreciated from the investigations of Iscovesco[12] and others, who have shown the antihæmolytic properties of cholesterin when used in a hæmolytic system *in vitro*. It seems probable that cholesterin is the protective lipoid in the red globules against the hæmolyzing soaps. Thus we see at least here in the red cells the explanation of the existence of cholesterin as an oleate of cholesteryl, giving as it did in my technique a reaction both to the soap and the cholesterin stains. The efficiency of the cholesterin is exhibited in Richini's confirmation[13] of Iscovesco's work, and I wish to remind the reader in this connection of the extreme tenuity of the layer of oil in Rayleigh's experiment on the coating just sufficient to abolish evidences of the molecular action of the water beneath. Richini referred to the recent work of Hauptmann,[14] who had shown that 0.8 c.c. of a solution of cholesterin of a dilution of *one to a hundred thousand* is sufficient to prevent hæmolysis. According to Pribram,[15] "Ransom was the first to prove that between cholesterin and saponin a certain relationship prevails of such a nature that tissues containing cholesterin have in some way the power to bind saponin." Saponin is a glucoside (C_{32} H_{54} O_{18}) which is poisonous, and among its various combinations it is also bound by lecithin. Hence the erythrocytes are sensitive to saponin on account of their cholesterin contents, while the serum which also contains cholesterin is able to protect the erythrocytes. "It has been already pointed out that Pasucci found that about a third of the dried substance of the erythrocytes consisted of cholesterin and lecithin," and Pribram draws attention to an important observation of his own on the erythrocytes. He found that the *permeability* of their membranes, which, by the way, have been shown to be richer in cholesterin and lecithin than the protoplasm within, grew with the *decrease* of the cholesterin constituent. That is as much as to say that cell vulnerability stands in a direct ratio with the contents of its outer phase in cholesterin, quite aside from the conclusion "that a certain poison preventing rôle is inherent in the action of cholesterin"; and this seems to be exercised thus in a protective way against both endogenic and exogenic inimical agents. He puts the cholesterin contents of the erythrocytes as low as .151 per cent., but it must vary greatly in different animals and in different states of the same animal. He has shown that feeding rabbits cholesterin and its esters increases markedly the amount of cholesterin in their blood. This has encouraged a beginning of the therapeutic use of cholesterin, which, so far as I know, has as yet resulted in nothing worthy of scientific note.

Lecithin has emerged from the chemistry of the nervous system in a very uncertain light as a definite chemical compound, much less as one whose stereochemical formula has been worked out. Abderhalden declares it is impossible to say in just what form lecithin exists in the tissues. In its combination with the proteins it shows a bewildering

profusion of differentiations which make it probable that the same organ in different species of animals presents analogous cells which contain lecithin each in some slightly different proteid combination. It even seems likely that in the egg, for instance, the lecithin of the yolk differs from that of the white. With such variations, to say that every cell contains lecithin, as Abderhalden does, adds a good deal to the uncertainty of ever being able to recognize lecithin in its pure state as anything but a hypothetical substance. It is said, however, to be combined with various fatty acids, being itself a combination of glycerol, a fatty acid, a phosphoric acid radicle, and a choline radicle, thus containing in addition to the hydrocarbon combinations both phosphorus and nitrogen. We may then regard, as more indefinite than the language would imply, the recent assertion that "extract of beef's liver evaporated to dryness and taken up by acetic ether at 60° C. makes on cooling a deposit which one may purify and recognize as lecithin,"[16] and if the substance remaining in solution in the ether is cholesterin, they must certainly both be in states of impurity that defy chemical analysis.

Lecithin first came into prominence as an important factor in immunology by the discovery of Kyes and Sachs,[17] that it is the activator or complement which anchors the cobra poison to the red blood cells with hæmolytic results disastrous to most animals. Its importance as one of the normal constant lipoid constituents of the red blood cells themselves since then has been well established, in proportions to which allusion has already been made. Some more recent work has shown, to some extent, under what conditions the lecithin contents of the cerebrospinal system, where it is more abundant than elsewhere, varies in amount and, in relation to pathological processes, in a way that is interesting. Having been determined "to be the main constituent of the diffused myelin of normal tissues" (Adami and Aschoff) it has a peculiarity which some assert distinguishes it from the other lipoids, while some say it shares it with cholesterin. Put in water it does not dissolve but swells up and thus increases its bulk. Pribram[18] has shown how remarkably sensitive to the influence of salts and carbon dioxide, in their great absorbing power for water, are the substances which make up the cerebral and spinal nervous matter. A very minute quantity of calcium chloride, for instance (0.00024), is sufficient to make lecithin suspension sensitive to precipitation by means of the alkaloids in acid media.

Though a little aside from our present subject, I yield to the temptation to interject a note on the bearing which this great and sensitive absorbability of lecithin for water has upon observations I have made on the basement membrane [illegible] the [illegible] gland [illegible] [illegible] The [illegible] [illegible] the presence in it of any efficient amount of smooth muscle cell, but the resiliency of the gland is largely supplied by the investment of elastic tissue in the stroma around it and [illegible] immediate vicinity. Lecithin has been shown to enter largely into the composition of the gland cell secretion. Lecithin in the milk causes its more rapid saponification and absorption. When nasal secretion is active, during a coryza or other vasomotor disturbances, its quick imbibition of water and swelling would be followed by the recoil of the passive elasticity of the tissues around the gland, and [illegible] [illegible] [illegible]

of the results obtained by Gengou[23] with colloid solutions and inorganic matter as well as those of Buxton[24] and his associates, though they show the effects of salts and other substances in the serum upon these colloid materials and they draw attention to analogous effects on the living cell. Höber looks upon the cell as surrounded by a hull of albumen and lipoid and attributes the numerous effects of the deposit of salts on it to this fact. This can only be intelligible by keeping in mind its colloid labile physicochemical state, without allowing the intrusion of the idea of anything as "cementing" the parts together.

As I have repeatedly instanced the experiments of Loeb and others upon the deposit of electrocytes in the muscle, at the terminal nerve filaments, when the trunk is approximated to an electric current, I will not again repeat the evidence of the part this neuroelectrolysis plays in muscle contraction, but I introduce it here in order to point out the significance of the observation I have made on the presence of cholesterin and lecithin in striated muscle fibre. It may be remembered that I spoke of the black cholesterin stain showing sharply in the narrow transverse bands of the muscle fibres removed with the tonsil, and of the more diffused condition revealed by Ciaccio's stain of what he supposes to be lecithin in the same structure. Since these are some of the substances making up the sarcolemma as well as the striations, for it has been pointed out that these outer phases of the colloids (the cell membranes) are in some cells sent through the cell body as septa, we see the application which we can make of the idea of the lowering of the cell tension by means of the salts. They riddle the outer phase or cell membrane, as expressed in the terms of Bethe in referring to the work of Höber[25] in a communication to which I have already referred. I quote again from the paper of Porges and Neubauer: "The physicochemical structure of the lecithin serves as an important support of this theory, for while lecithin, in a pure state, on account of its hydrophil properties, may allow the penetration of water and of the salts dissolved in it in the cell, it appears to exist, under the influence of salts, in a thickened state which does not imbibe water and is impenetrable for substances not soluble in the lipoids.[26] It seems probable that slight changes in the environment bring about changes which alter its permeability. Such a function would be of importance for food absorption, since food is for the most part insoluble in the lipoids. An important consideration in this respect is the reversibility of the lecithin precipitate." I think it necessary to add that the same degree of importance, greater in the view of the immunologist, is to be attached to the invasion and repulsion, exercised by the cell in virtue of its lipoid membrane, of bacteria. "The power of concentrated solutions of many salts to clear up lecithin suspensions may be the cause of their hæmolytic activity in supertonic solutions; for the hæmolytic and the lecithin dissolving power of the different salts are entirely parallel." Finally their investigations showed that there was an evident relationship of lecithin precipitation and of its solution with the survival or death of cells and tissues brought in contact with the salts.

It is a peculiarity the lipoids share with the other colloids, organic and inorganic, that different concentrations of the same salts clear up or precipitate them, thus acting as reversing agents. As we have seen, this is particularly the case with lecithin. The various salts of sodium and potassium, and particularly those of sodium and magnesium, the phosphates and the oleates (especially as we have seen in the case of cholesterin), are all factors, and by their formation and dissolution, by their precipitation and adsorption they ring the changes on the surface tension of the cells and their contents, and these changes are the phenomena, some I know will say the epiphenomena, of life. Many of these things have come into prominence in the work which has been done on the practical application and in the theoretical explanations of the reaction of Wassermann for the detection of syphilis.[27] It seems highly probable that it is to the interaction of lecithin and cholesterin that we are to ascribe many of the phenomena exhibited by the complement and anticomplement; for, in a general way, we are to look upon lecithin as the activator of toxines or as an amboceptor which fixes them to cells, and in this or perhaps some other way it acts as an antigen in the preparation of a specific serum. Cholesterin seems in many reactions its antagonist, but in some reactions this antagonistic influence is not so apparent, and under certain conditions we may well believe, from what has preceded and from the intimate way in which we have seen it associated with lecithin in the normal cell, that it will be shown to be a synergist, at least in some physiological reactions. Just as it has been shown, in the case of the influence of salts upon the lipoids and upon the colloids into which they enter as constituents, that different concentrations make for apparently antagonistic vital actions, so in the mixtures of the lipoids, of which morphologically and by microchemistry we have seen so many indications, we may well look for evidence of the same paradoxical phenomena.

Some protest has been raised against the assumption that a lipoid acts as a complement; thus Liefmann and Cohn[28] say that the question whether complement and lipoid stand in any connection with one another in regard to hæmolysis was considered by them and work was done on the split components of the complement (globulin, albumin, middle prod-

November, 1908.

I again draw attention to the work of these investigators and their associates. So far as I have observed, their valuable observations have failed to attract attention. Some of Gengou's work may be [illegible] Bordet and his associates.

[24] Höber. *Chemie der Zelle*, Second edition, 1906.

[26] In criticism, or rather in connection with this, I would remind the reader that there were indubitable evidences of ether, from inhalation having entered the living lymphocyte cell in the tonsil and having dissolved the neutral fat, though I have no assurance that it acted thus on the lecithin and the cholesterin. One must proceed in one's deductions as to the actions of the lipoids in the tissues with caution, for while cholesterin and lecithin are soluble in ether under ordinary conditions and have an avidity for the alkaloids, it is said that lecithin circulating in the blood is not soluble in ether, while De Waele (*Zeitschrift für Immunitätsforschung*, iii, 1909) remarks, as to the rôle of the lecithins with alkaloids, that the lecithins favor their absorption in small doses, while the lecithins, in large doses, interfere with the action of alkaloids.

[28] Liefmann and Cohn. *Zeitschrift für Immunitätsforschung*, etc., [illegible] 88, July, 1910.

uct, end product). There was no success in substituting, for any of the constituents, a lipoid or a lipoidalbumin; there was also no success in dissolving any of them in alcohol or ether. Naturally the authors conclude no connection between lipoids and complements has been proved.

Although lecithin may act as an antigen in the Wassermann reaction Peritz says that its injection in a syphilitic patient stops for a time a positive response, yet that the serum of most syphilitics contains a higher percentage of lecithin than normal. Barium sulphate, which precipitates lecithin, when injected, restores the positive reaction, from which it is argued that it is the agent of hæmolysis; yet the increasing intensity of the Wassermann reaction is found to be parallel with the rise in the lecithin contents of the blood serum, and this, it has been shown, follows an increased ingestion of lecithin with the food. Peritz showed also that lecithin in the serum markedly increases in amount in syphilitics after vigorous mercurial treatment. In children the lecithin contents of the bone marrow is normally much richer than in adults. In the bone marrow in adults, who have syphilitic paralysis, lecithin is very much diminished or absent, which is not the case with patients dying with other wasting diseases, though there are some exceptions to this in very old people. Yet it is denied by Goldfast that lecithin stimulates growth as has been urged by some investigators.[29]

While lecithin joins with cholesterin in the form of a cholesteryl oleate in the formation of myelin as it is found in the brain, it differs from that found in egg yolk. Sigmund Fraenkel has found for the spinal cord that over two thirds of the solid matter are lipoids, and of these lecithin is the chief. For much of this there is to be found confirmation in the work of Mühlemann and indeed of all other investigators, but Mühlemann[30] asserts that lipoid appearances are demonstrable not only in the protoplasm of the nerve cells but also in their nuclei and in their nuclear bodies. "There appear in the nucleoli brightly shining bodies which are provided with a lipoid border." There are some indications in my own work that they are found as well in the nuclei, especially the nucleoli, of other cells. Indeed, there are indications of other than a morphological and a tinctorial nature to cause us to look upon lecithin at least as a regular associate of the nucleoproteids. It is said that twenty-five per cent.[31] of human lipoids have a fat splitting function, that they constitute part of a lipase which is contained in the lymphocytes or the blood serum. Lecithin is split up quicker than neutral fat, an indication of its more labile nature, and it then works as an accelerator of the saponification of neutral fat, acording to Usuki.[32] Bergel believes that it is due to this property of the lipoids, especially of the lymphocyte, that the tubercle bacillus[33] with its fatty, waxy, envelope undergoes bacteriolysis. This ferment body, it is to be supposed, is a nucleoproteid. It is suggested by the experiments of Satta and Fasani[34] that "the lipoids of the liver hasten the autolysis of its albuminous substances," when placed in vitro in the thermostat. The work of Citron and Klinkert[35] is more interesting and presents a novel feature in the suggestion that not only are the lipoids concerned as antigens in the activities aroused in the system against the organisms of syphilis and of tuberculosis, but that the lesions, produced by the organisms, the breaking down of the protoplasm of the tissues, also furnish lipoids as antigens against the action of that broken down tissue itself. In other words, there is a bacterial antigen and a coagulation necrosis antigen and both bodies are lipoids. The latter, the tissue antigen, may be furnished by heterologous tissue: hence the Wassermann reaction, with lecithin, with normal liver, with heart tissue, acting as antigen in the preparation of the system. Bang, in his review of the immunological aspects of the lipoids,[36] also thinks it possible that they may act as real enzymes or as constituents at least of zymoplastic substances, for instance in those taking part in the coagulation of the blood. From some investigations on thrombokinase, carried out by Dr. Strong in the laboratory of the Manhattan Eye, Ear, and Throat Hospital, it seems likely that this ferment is a product of the nuclei of bloodvessel wall cells or of those cells in the vicinity of the bloodvessel wall, while it may be remembered it was in epitheloid and especially in endothelial cells, in or in proximity to capillaries, that in my work the Ciaccio process demonstrated the presence of lecithin, or lipoids of some kind in the nucleoli. Bang's list of lipoid activities is rather comprehensive, it must be acknowledged, and into them all we cannot go. Various experiments have shown that the foreign lipoids are toxic, while the "domestic" lipoids are not, in the animal economy. Bogomolez[37] has asserted that hen eggyolk, deprived of lipoids, loses its anaphylactic properties. "It is certainly not an accident," Bang says, "that the highly organized cells, like the nerve cells and the cells of the organs of generation, are always rich in lipoids." This suggestion, it seems to me, has little force, since lipoids are too generally distributed to lend distinction to any cell by their presence. It is more by a study of the ways in which they act and from the coincidence of their presence and certain physiological functions that we are to judge, so far as histological methods are concerned, of their significance.

Fraenkel[38] concludes his biochemical researches on the lipoids of the brain with the surmise: "Perhaps there is reason to believe that the variety or specificity of the tissue lipoids (as demonstrated by himself and by others whose work he reviews) indicates a physiological connection with the fact that the different tissues have the power of assimilating or taking up out of the circulation different substances. Perhaps also the specificity of the pharmacological influence upon certain constituents of the

in the ferments which plays an important part in the fight in the lymph glands, spleen, etc., against the tubercle bacillus (see *Central-*

[29] *Berliner klinische Wochenschrift*, 32, August 8, 1910.
[30] *Ibid.*, 1910, No. 35.
[31] Ivar Bang. *Ergebnisse der Physiologie*, viii, p. 463.
[32] *Zeitschrift für Immunitätsforschung*, vi, p. 332, 1910.
[33] Fraenkel. *Ergebnisse der Physiologie*, viii, p. 212, 1909.

tissues stands in a relationship to the lipoid specificity of the tissue." The blood cells are rich in lipoids and, as has been said, it is too early to speak of any class of cell having a preponderance of lecithin or of chloresterin as a mark of distinction from other cells. We have seen in the macrophages evidences of the presence of the lipoids, and since evidence is accumulating that it is the lipoids which play an important rôle in the defense and the infection of the organism, since we know that the macrophages are the morphological forms which have also been detected as active in these processes, the association of the two is of significance, but we may be sure that the attributes of a physical kind which distinguish the lipoids are of too general a nature, the layers of surface tension between them and crystalline solutions and other bodies are capable of being utilized in too many mechanical ways to permit us to regard them in any specific light. Advancing knowledge of them, while it will probably reveal the specificity of some of their combinations, must at least increase the multiplicity of the evidences of their inference in all vital processes.

In making an excerpt from the work of Ciaccio[39] on the part played by lecithin in certain inflammations, especially of the lymphoid tissue and in digestion, I have avoided many of the conclusions he has drawn from his own valuable observations, though he has not done so in a dogmatic way at all. While this portion of Ciaccio's work has no direct bearing on the immunotological side of the lipoids, in its association of lecithin with the macrophages in inflammation and in nutrition it has an indirect bearing on it. It helps us also in getting back to the tonsillar problem with which my own work has been concerned. In summarizing, he says that in hæmatopoietic organs a lipoid of lecithin like nature is elaborated which serves as nutrition material for the cells having their origin in the organ. Whatever may be the origin of these cells (the lecithin cells), whether from fat holding cells, from myeloid tissue, from the fixed cells of bone marrow, they are elements which are loaded with reserve food material for the nourishment of the myeloid cells. This fact is proved by the presence of lecithin in the myelocytes, megarocytes, and in the stem cells or mother cells of the hæmoglobin holding elements.

In lymphoid tissue the lecithin for the most part seems to have its origin in the cellular digestion by the phagocytes of old erythrocytes and leucocytes. One for instance may easily follow all the phases of the process, in the spleen and in the lymph glands, which are displayed in the protoplasm of the macrophages. In these elements at the final stage of the digestion process one finds various substances collected; pigment, lipoid, nuclein, etc.

With these macrophages, whose lecithin is derived from the digestion of the old cellular elements, we find other cells, which have the same form and size as the macrophages, and in their protoplasm numerous lecithin grains and drops are contained, that is, they possess the same properties as the lecithin cells of the myeloid tissues. It is, however, to be remarked that such cells in the lymphoid tissue are more numerous than in the myeloid.

In certain inflammatory areas the endothelium seems to have absorbed lecithin as the result of phagocytic action.

"In every fat cell the fat contained in the vacuoles is split up during its activities, then emulsified it passes the membrane which I have called the lipoid cuticula, which in this case has the function of an osmotic membrane. While the fat is passing this membrane it is collected in the neighborhood of the nucleus and changes its own nature: if one, as a means of comparison, makes use of my method and that of the osmic acid process, one can narrowly follow the change of ordinary fat into lecithin."

In bringing to a close this imperfect review of the activities of the lipoids in vital processes, it will be understood that starting from a specific standpoint, that of tonsillar function, I have attempted to develop a wider consideration of the question of the lipoids in the tissues, but while I have urged that it is misleading to expect from such study the discovery of anything specific in their action, since it is dependent upon fundamental principles in chemophysics, I have tried not to lose from view their importance in the mechanism of the surface infection of the lymphoid material in the throat.

44 WEST FORTY-SIXTH STREET.

A SERIES OF STUDIES OF NERVOUS AFFECTIONS IN RELATION TO THE ADJUSTMENTS OF THE EYES.

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SIXTH STUDY—FIRST PART.

Facial Expression as Influenced by the Adjustments of the Eyes and as Elements in the Ætiology of Certain Important Nervous Disturbances.

In the course of our studies thus far it has been found necessary to refer, from time to time, to the habitual expressions of the face or to the pose of the head or of the body or to all, of persons subject to the affections which have occupied our attention. The fact that, in general, these personal peculiarities of individuals affected by one or other of a considerable number of serious nervous complaints have not been discussed by authorities nor regarded as of sufficient consequence to merit even an allusion is, after all, not conclusive against the importance of the study upon which we are about to enter. I have, elsewhere, during a good many years, endeavored to show that the subject is one of practical importance to the physician, that it is not simply a matter of fanciful speculation nor even a subject worthy only of a student of art, but a subject of signal value to the medical practitioner as well as an interesting one to the physiologist.

Indeed I trust that I may be pardoned if I strive to emphasize this view by perhaps needlessly repeating that I believe that the study of facial expressions and of the poses of the body as they are related to the adjustments of the eyes should take a very high place in the attention of all who are in-

[illegible] and on certain lipoid forming cells (lecithin cells).

terested in the ætiology of nervous affections and even of a number of most important diseases not classed as nervous troubles. Far removed as the subject would appear, to one who has given it scant attention, from serious medical study, it is a most important branch of medical science.

We have already touched upon the subject in the former study, but the problem is much more far reaching than would be suggested by those passing allusions.

In the space which can be assigned to the discussion of the subject in these studies it will be impossible to do more than to indicate in a general and more or less superficial way some of the outline principles which prevail in the really broad and important field of research which will occupy our attention in this study and in the equally essential study of the bodily pose as influenced by the adjustment of the eyes.

It is long since I recognized many of the habitual expressions of the face as results of muscular tensions induced by efforts auxiliary to the normal tensions of muscles more immediately concerned in directing the positions and movements of the eyes.[1] The peculiarities of bodily pose as related to adjustments of the eyes were early associated with these facial expressions and some of the effects were indicated.

In the present study we may best confine our attention principally to the habitual facial expressions which attend certain forms of eye adjustments, although it is difficult to separate logically the muscular tensions about the face from those controlling the habitual pose of the body. In attempting therefore, to simplify by discussing apart one region from the general muscular system we lose something in clearness while striving to avoid complexity.

In Sir Charles Bell's exquisite little treatise on *The Anatomy of Expression* he attempted to define "why a certain proportion and form of face is beautiful, and conveys the notion of capacity of expression." He adduced, in his charming style, some interesting facts without classification but left the philosophy of expression where he found it. Indeed, Sir Charles's work was a contemplative recreation rather than a philosophical study. Darwin went further, tracing the muscular actions of the face in connection with the emotions. Others, like Lavater, attempted to associate character with the lines of facial expression. None of these touched upon the underlying causes and peculiarities of the habitual tensions of the muscles underlying the surface of the human countenance.

Coming, then, directly to our subject, it may be said that, associated with certain adjustments of the eyes we may expect to find certain peculiarities of facial expression and that, with relaxation of the efforts to adjust the eyes in the interest of clear vision these habitual peculiarities of expression disappear, either wholly or in great part. Thus, in sleep, the face of the sleeper assumes an expression of repose. This is especially true of the face in death when the face often exhibits a kind of passive beauty which was not associated with that face in life, at least not in waking hours.

But these active expressions have to do not simply with the appearance of the face which we study; many of the aches, the tics, the tremors and other phenomena of a more or less unpleasant nature may and often do arise from these facial adjustments, dependent upon the anomalies of the adjusting apparatus of the eyes. It is, therefore, not as a study in æsthetics alone that this subject is introduced here but as a serious inquiry into some of the causes of certain classes of nervous troubles.

It would be beyond the design of this study to attempt to define or to classify all the anomalies of eye adjustments or all the peculiarities of expression arising from them, but we may make a general classification which will serve to suggest the relations between the two classes of phenomena, the muscular tensions on the one hand and certain nervous affections on the other.

Aside from the incidental references to the relation of bodily pose and facial expression to adjustment states of the eyes, as they appeared in my contributions to the subject of Anomalies of the Ocular Muscles in 1887 and subsequently, the earliest contribution to this interesting subject appeared in *Science* May 6, 1892, and later, at the meeting of the American Medical Association in June of the same year there was presented a short paper on the influence of the state of the adjustment of the eyes as related to the expressions of the face, but except for a brief résumé of this address, no further exposition of the subject appeared in the English language except the summary given in my work on the *Motor Apparatus of the Eyes* and in some short papers. The complete address as it was prepared for the American Medical Association, however, was published in October, 1892, in the French language, in *Annales d'oculistique*. Since the subject has not been discussed at length in our own language I have concluded to follow, in this study, somewhat closely along the lines of that article, making use largely of the same ideas but modifying them to meet the advance in knowledge both of the principles of ocular adjustment and of the laws governing the habitual expressions of the face.

And first I would like to repeat what was there said in respect to a science of expression, namely: "If there is such a science it must conform to the laws of every true science. There must be such a uniform relation between the phenomena and their causes that, given certain causes, the phenomenon can be accurately predicted, and on the other hand, the elimination of certain causative elements should result in the discontinuance of the phenomenon."

No system dealing with facial expression which would conform to such a law had been proposed by any one of the classes of observers up to the time of the publication of these early papers.

In order to lay a foundation for our discussion I trust that I may be pardoned for introducing some elementary principles with which a large proportion of readers are already familiar.

Eliminating conditions of disease or of temporary causes of stimulation, the conditions of adjustments of the eyes which may influence the action of the facial muscles may be divided into three classes, namely, 1, those in which, the head being

in the primary position, the visual lines would *tend*, in a passive state, to rise above or to fall below the line of the horizon; 2, the conditions of orthophoria or heterophoria, and 3, the conditions of declination.

Referring to the first group, the direction of the axes of the orbits differs in different crania resulting in a variation in the direction of the axes of the eyes in passive adjustment. Thus the direction of the ocular axes may coincide with the horizon (eutropia), or the visual axes may tend above it or below it.

In the most favorable adjustment in this respect the visual lines would fall very slightly below the horizon, but for convenience of discussion we may tentatively assume that this adjustment is at the horizon. Should the visual lines, however, tend to rise materially above the horizon, the condition is known as anophoria or anotropia, while, should these lines tend to fall materially below the horizon, the adjustment is known as cataphoria or catatropia.

These three states of adjustment, eutropia, anaphoria and cataphoria, have an influence on the expression muscles but more especially do they influence the pose of the head and that of the body.

In considering the second group we must eliminate the impression that we are dealing with any condition of disease or of deformity. We are not to include in our discussion conditions of paralysis or strabismus. In defining this second group we must also do so independently of the conditions of the first or third group, for while, as a matter of fact, the conditions of the second group are usually resultants from the first and third, we avoid confusion by defining them by themselves. The grouping has reference to the relations of the visual lines to each other whether they are in the best plane, above it or below it. A condition of equilibrium under these circumstances, when in the passive state the visual lines are parallel, the adjustment is known as orthophoria; when there is a tendency for the visual lines to approach each other but when by an automatic or a voluntary effort parallelism may be maintained, the adjustment is esophoria. On the other hand if the tendency is for the visual lines to diverge while the automatic effort still maintains a parallelism, the adjustment is exophoria.

Another condition of heterophoria is that in which the tendency is for one visual line to rise above its fellow. It is known as hyperphoria.

Persons with either of these conditions do not, necessarily, experience any conscious effort in adjusting the eyes but there are often symptoms of a disagreeable kind resulting from the vigilant, even though automatic, exertion demanded to maintain the proper adjustments.

The third group of adjustment conditions of the eyes which claims our attention, declinations, is one of great importance, indeed is, in large measure if not altogether, responsible for a group of expressions and, in association with the expressions arising from the groups above mentioned lead to a variety of especial tensions of the facial muscles.

To gain an idea of the adjustment in declination we may imagine the back of the eye, where the image is formed, laid out in lines like those on the map of the hemispheres of the globe; lines of meridian running up and down, other lines running from side to side. Now, if the meridian running from the south to the north pole extends upward exactly vertically (the head being in the primary position and the eye being directed exactly straight forward) there is no declination, but if this vertical meridian leans to the east or west, that is, to the right or left, there is said to be declination, negative if the north pole leans toward the median line of the face, positive when it leans away from it.

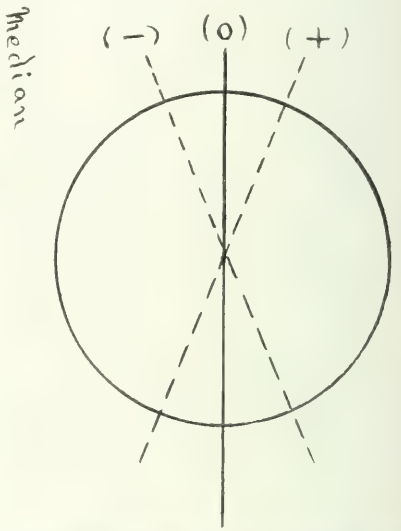


FIG. 1. Illustrating the position of the vertical meridian when declination is manifest, and the position of that meridian when one or other form of declination exists. (*O*) Vertical meridian; (—) vertical meridian tilted toward the median line; (+) vertical meridian tilted toward the temporal side.

In cases of declination it does not follow that the leaning in the two eyes will be of the same sign; one eye may manifest positive (+) declination and the other negative (—), or one eye may not indicate any declination while the other may show a positive leaning. The existence of a negative leaning in one eye while there is an absence of leaning in the other is extremely rare. These declinations are, if not always, at least very generally present where there is found either of the three conditions of heterophoria and they are usually, if not always, the inducing cause of the heterophoric conditions. They also modify the facial expressions of heterophoria to such an extent that they are always to be taken into consideration. Indeed it is impossible to separate the expressions of heterophoria, when these exist, from those induced by declination.

In order, however, to discuss the subject in as simple and uncomplicated a manner as possible the expressions of heterophoria and of declination will be discussed separately. Of course the fact that the expressions are usually a complex from both groups of conditions must not be lost sight of.

Let us then for the moment assume that we have conditions, first of anaphoria or cataphoria or, second of heterophoria, independent of the influences of declination. With the first group we need delay only for a moment. The typical expression of anaphoria is a compression with flattening of the brows. As it is, when of marked extent, usually accompanied by a leaning of the head and body forward we may better consider it when we come to discuss the pose of the body in connection with the adjustments of the eyes. On the other hand, with cataphoria the brows are elevated and often strongly arched. As in this case the head is usually thrown backward we may also consider the expression in common with the bodily pose.

Coming then to heterophoria we have somewhat complicated elements entering into our problem.

Assuming first the condition of orthophoria, eliminating declination and the conditions of the first group, in other words, having a condition elsewhere designated as *eutropia*, we should expect such a state of repose of all the facial muscles that the expressions of emotion would have the most complete play and therefore a condition of the most typical beauty, depending upon the anatomical construction of the face. It is a rare condition in real life but beautifully illustrated in some of the finest examples of Greek statuary.

The great elasticity of the muscles of the face together with the peculiar characteristics of the subdermal tissues in childhood and early youth, and the loose and wrinkled character of the skin in advanced age, disguise, to a greater or less extent, the characteristic expressions arising from the peculiarities of adjustments of the eyes. The types are most conspicuous therefore in early adult and middle age.

The types of expression from heterophoria, differing from that of orthophoria, may be divided into three classes, each of which by variation, especially in the form and extent of declination, may be subdivided into several subordinate types, all differing materially from the type of orthophoria.

In my attempt to illustrate these types in the accompanying diagrams I have assumed in each case the same head and the same anatomical conditions of the face. In the diagrams the lower jaw appears in one case broader, in the other narrower than in the face of orthophoria. In fact this appearance is induced, not by the difference in the anatomy of the different cases but in the muscular actions which we are about to study. All these forms may, by relief to the tensions of the face muscles, be resolved into the expression of orthophoria as shown at Fig. 2. This in fact is the daily routine experience in the correction of the defects of adjustment of the eyes. The reader is referred to the Fig. 1 and 2 in the preceding study for an illustration of this change.

The figures here suggest the *typical* expression of the purest form of the adjustment defect. There are of course, important deviations from the type which space does not permit me to illustrate.

With the state of orthophoria (and in this connection we are to understand also *eutropia*, an absence of adjustment for anaphoria or cataphoria and, for the moment, excluding the consideration of declination) the muscles of the eyes are in a state of equilibrium and the expression is one of a greater degree of repose than is found with any other state of ocular adjustments. (Fig. 2.) The eye brows which constitute one of the most striking of all the facial features, form a moderate and regular curve, marking the border of the orbit. The brows are neither strongly arched nor yet flattened. The inner extremity of the brow descends toward the nose, but does not turn downward into the depression bounded by the nose and the orbit. There is no sharp turn or sudden increase or curve at either extremity. The lips, in repose are firm but not compressed and the upper one neither protrudes nor sinks behind the other. The chin is rounded, neither square nor pointedly oval. The lines which mark the forehead are not usually conspicuous even in advanced age. The nasolabial lines curve outward beyond the angles of the mouth to a moderate

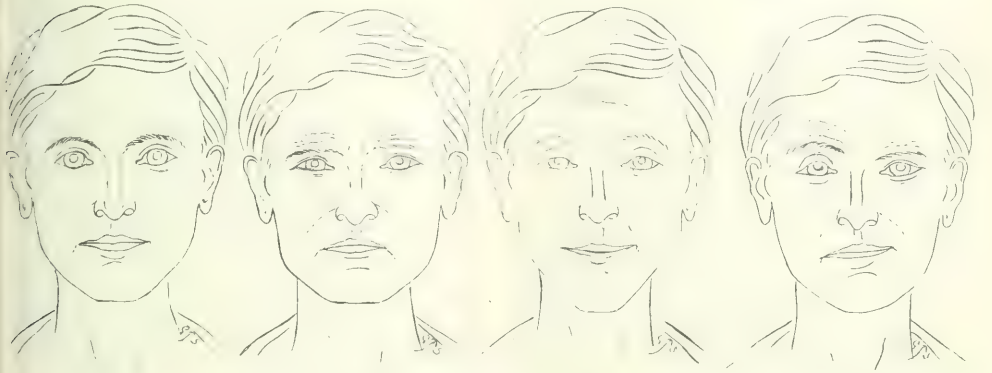


Fig. 4

extent, less horizontally than with esophoria and less vertically than with exophoria. The curved line below the lower lid is nearly in exact conformity with the curve made by the upper lid when that is moderately raised.

The absence of special tensions of the facial muscles, in such a well balanced face, permit a quick and easy play of the features and an easy and interesting expression of varied emotions, while the habitual absence of any forced regulation of the eyes or of the face is conducive to mental equilibrium and to physical comfort and endurance.

With esophoria (see Fig. 3) the brows are compressed, often flattened. The extremities often curve suddenly downward, the inner extremity sinking into the depression bounded by the nose and orbital border. The eyelids are, in a majority of cases, not as fully opened as with orthophoria and less separated than with the typical form of exophoria. The rather strong vertical lines (interciliary lines) making each an angle with the inner extremity of the brow, extend upward, nearly parallel, upon the forehead, as is shown in the diagram. The upper lip is usually short and the curve of the centre of the mouth upward is often pronounced. The lips are firmly compressed in repose but in young persons with deficient physical force the lips may be habitually open. The chin is broad and the nasolabial lines make a wider excursion outward than in the case of orthophoria. The lines running downward from the inner canthus also spread more broadly than the corresponding lines with orthophoria.

With exophoria (Fig. 4) the brows are usually strongly arched, often drawn upward upon the forehead, the inner extremity being removed above and away from the upper extremity of the nose. The lines in the skin extending upward from the nose, when present, most commonly diverge as they ascend. The transverse lines of the forehead are usually conspicuous and higher than those of esophoria. The upper lip is long, the centre of the mouth curves downward and the chin is pointedly oval. The facial lines are more nearly toward a vertical direction than with orthophoria, giving to the face a suggestion of length. The lips are not compressed but are loose and slightly open.

The condition hyperphoria is characterized by irregular features (Fig. 5). The tendency of one visual line to rise above the other demands a restraining effort in which the facial muscles often play an important rôle. On the side, the visual line of which tends to rise above the other, the brow is depressed, while the brow of the side whose visual line tends below is elevated. Thus the brow and neighboring tissues of one side aid in depressing the front of the eye, while on the other hand, by the elevation of the opposite brow less demand is made upon the muscles directly involved in the act of rotating the eye upward.

These opposing actions, demanded by the relations of the visual lines in hyperphoria, affect the whole of the musculature of the face resulting in an absence of harmony of the two sides. The angle of the mouth of the side on which the brow is depressed is drawn upward, while the other angle is depressed. Thus one side of the face is longer than the other. On one side the lines of esophoria are found, and on the other those of exophoria.

To some of the more mixed types of facial expression and to apparent exceptions to the general classification just advanced, especially to those arising from declinations where no heterophoria is manifest, we may direct but a moment's attention, though it will be necessary to return to them later.

Since the conditions of heterophoria arise, in general, as a result of declination and since with declination we have the underlying elements of heterophoria the conditions here described might perhaps be ascribed to declination, yet as a matter of fact these facial expressions are secondary, arising either from the adjustments of heterophoria *or from efforts made in avoiding these conditions.* Hence there may be expressions corresponding to those above described as peculiar to heterophoria although neither of the heterophoric conditions may be manifest. The muscular efforts would in both cases be similar.

With a view to associate the character of the muscular tensions of the face more particularly with the peculiarities of adjustments we may recall some of the principles already mentioned in relation to the facial expressions.

As has been remarked, owing to the absence of excessive tensions demanded by adjusting efforts in the case of orthophoria, the eyes having for their axes, in the passive state, the most favorable plane, that is, the head being in the primary position, at or very near the horizon, also it being assumed that no important condition of declination exists, the collateral aid of the facial muscles is not brought into requisition and hence there are expressions of repose and of harmony, but a harmony which permits of a quick response to a great variety of expressions of emotions. Passing to the less favorable adjustments we may, in recalling some of the peculiarities of expression, proceed to a brief analysis of the reasons for those peculiarities.

1. *Esophoria:* General characteristics, brows depressed; palpebral fissure often narrow; lips firm and upper lip short; posterior portion of the wing of the nose drawn slightly upward; lower part of face broad; superficial lines or grooves upward from the nose distinct and erect, especially in middle life and later; transverse lines upon the forehead low; the nasolabial and canthomalar grooves spreading.

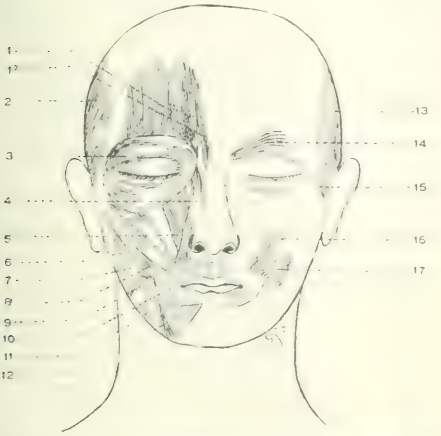
Let us examine the muscular states which tend to induce these characteristics.

The internal rectus is, in respect to the ocular adjustment in esophoria, the dominating force. To antagonize this dominating muscle[2] a voluntary and constrained tension of its most direct opponent, the external rectus, is demanded. With the muscular flexibility of childhood, or in the case of persons with leisure endowed with a vigorous muscular organization, this single muscle, the rectus externus, with the slight collateral aid which it may receive

[illegible] I have [illegible] tion, certain tendencies of heterophoria are induced. These explanations need not be repeated here

from other eye muscles acting less directly, may be able to accomplish the office of an effectual opponent of the internus with little, if any, apparent aid from the facial muscles. As the muscular flexibility, however, becomes less and as greater demands are made upon the energies of the individual, more especially when the preponderating force of the internal rectus is considerable, the collateral aid of the muscles of the face becomes a necessity. Exceptionally this collateral aid and its effect is seen on the faces of young children.

The object to be accomplished is to supplement the action of the external recti by assisting in the rotation of the eyes outward. There are no extra-orbital muscles by which a direct drawing of the eyes can be effected. There are, nevertheless, muscles, by the aid of which certain pressure can be brought directly upon the eyeballs and certain tissues may be indirectly brought to bear to induce



horia. *1*, Frontal muscle; *1a*, descending portion of frontal muscle; midal muscle; *5*, elevator muscle of the upper lip and wing of nose; lesser zygomatic muscle; *7*, masseter muscle; *8*, larger zygomatic muscle; *9*, laughing muscle; *10*, circular muscle of the mouth; *11*, triangular muscle; *12*, depressor muscle of lower lip; *13*, temporal scia; *14*, corrugator of the brow; *15*, inferior auricular muscle; *16*, canine muscle; *17*, laughing muscle.

pressure against the inner side of the globes of the eyes in such a way as to aid materially in turning their anteroposterior axes outward.

To aid in our study of the various influences of the facial muscles in all these adjustments of heterophoria I have prepared the accompanying diagram, Fig. 6, to which reference will be made as we proceed.

A careful study of the facial muscles will enable us to perceive the manner in which this indirect assistance is accomplished.

The descending slip of the frontal muscle, (*1a*), if brought into action will draw the inner extremity of the eyebrow downward and toward the side of the nose. In this it will be aided by the small and deep fasiculus of muscle the corrugator of the brow (*14*), the combined action forcing before it a certain amount of tissue in the direction of the inner angle of the eyelid opening. If the circular muscle of the eyelids (*3*) contracts in connection with these, the pressure is intensified, with the resulting greater pressure which is brought to bear to press a mass of substance downward and inward. This pressure, not modified by other forces, would push the anterior axis of the eye ball outward and downward; but a restraining and yet a cooperating force is, at the same time, brought from below. The elevator of the upper lip and of the wing of the nose (*5*) arising from the superior maxillary bone near the angle of the lid opening and inserted into the border of the lip and the wing of the nose, operates, in contraction, its origin being the fixed point, to force a certain amount of tissue upward into the inner canthus.

Leaving out of consideration some other forces, one of the more indirect must be mentioned. The greater (*8*) and the lesser (*6*) zygomatic, the long cheek muscles, by a certan direction of their influence become also concurrent factors in this system of action by pressing the lower and outer fibres of the circular muscle of the lids inward. Making the angle of the mouth their fixed point and acting in continuation with the inner fibres of the depressor muscles of the lower lip (*12*) and with the triangular muscle (*11*), the action of these four muscles separately would be in a straight line and the effort would be to lengthen the mouth without influencing the circular muscle about the eye. Another muscle, therefore, becomes a part of the system and the circular muscle of the mouth (*10*) by a firm contraction, shortens the mouth, gives the two zygomatics an oblique direction across the face, and thereby, by the pressure against the outer and lower portion of the circular eye lid muscle, it contributes to press that muscle inward.

Thus it is seen that by the instrumentality of the forces mentioned a wedge of tissue is introduced between the eye ball and the inner wall of the orbit, creating a propelling force against the eye from the inner side, thereby rendering assistance to the external rectus. It is not difficult to trace the effect of the action of these muscles upon the facial expression.

The brow is depressed by the action of the frontal as well as by that of the circular muscle. Its inner extremity is drawn down into the space bounded by the nose and orbit by the descending slip of the frontal (*1a*), and the vertical furrows in the skin result from the action of the corrugator of the brows (*14*). The horizontal lines of the forehead, curved or nearly straight, result from the action of the frontal and of the circular muscle (*1* and *3*) of the lids. The contraction of the elevator muscles of the upper lip and wing of the nose (*5*) draw the wings of the nose slightly upward, shorten the upper lip, raising its centre, while the combined action of zygomatics (*6*, *8*), the circular muscle of the mouth (*10*), and depressor of the lower lip (*12*) gives firmness to the lips, shortens the mouth, and draws the outer corners down, the whole combination giving a fullness to the lower part of the cheeks and suggesting breadth of jaw. It may readily be seen also why the main lines or furrows of the face should diverge strongly.

Having the scheme of action of the facial muscles in esophoria in mind, we arrive at the *rationale* of the exophoric expression with less difficulty.

II. *Exophoria.* General characteristics: Brows raised; palpebral fissure often wide; upper eye lid rather conspicuous; upper lip long; corners of mouth often drawn up, the mouth curving down at the centre; lower part of the face usually narrow; principal grooves of the face more vertical than in orthophoria; transverse lines on the forehead mostly above the centre.

The tensions are reversed from those of esophoria. The purpose is no longer to crowd a mass of



Fig. 7.—Illustrating the slanting of t[illegible] upward, suddenly curving do[illegible]

tissue into the orbital space at the inner canthus but to remove, as far as possible, all pressure in this locality. In esophoria the excess of labor is imposed on the internal rectus and every favoring circumstance is brought to bear to render it aid.

Pressure can not be brought to bear at the outer canthus as it can in the former case at the inner canthus, but pressure is removed from that locality to such an extent as the circumstances of the case demand or the ability of the individual can accomplish, so that there may be no unnecessary obstacle to the free rotation of the eye inward, the condition with which the internal rectus has to contend.

Instead, therefore, of forcing the eye brows downward and drawing their extremities inward, the person subject to exophoria pulls the brow upward and outward, the influence of the occipital muscle, through the medium of the tendinous portion connecting the frontal and occipital muscles, contributing to the action. Should one wish to test this let him place the fingers upon the surface of the occipital muscle at the back of the head and then elevate the brows strongly. The occipital muscle will be felt to act. This drawing up of the brows causes folds in the skin at the upper half of the forehead and the direction in which the skin is drawn gives to the vertical folds above the nose a divergence above. On the other hand, making the origin of the depressor of the lip (*12*) the fixed point while



[illegible]

the circular muscle of the mouth (*10*) is relaxed, the elevator of the upper lip and wing of the nose, in conjunction with the depressor of the lip, draws the tissue at the inner side of the eye downward and out from the orbital cavity, while it lengthens the upper lip and the aperture of the mouth.

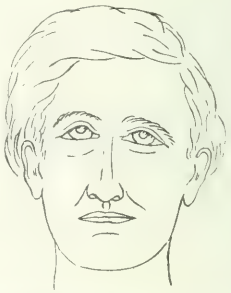
The action of the zygomatics, in connection with the depressor of the lip, now no longer forced by the circular muscle about the mouth to act obliquely, draws the lines of the face downward and narrows it at the lower part.

III. With hyperphoria the expression combines, to some extent, that of esophoria on one side and of exophoria on the other. Thus, we find the brow of one side depressed while the angle of that side of the mouth is drawn up. The other brow is elevated while the corresponding angle of the mouth is depressed. The facial lines or grooves correspond to this irregular and unsymmetrical action of the underlying muscles.

As has been already intimated, the demands upon the auxiliary forces of the facial muscles may depend, to a certain extent, upon the general muscular condition of the individual. Even if, in childhood and youth, the facial muscles are brought into active requisition, the cushion of fat overlying the muscles, may in some measure serve to disguise the effect.

Individual temperament or habitude, as well as peculiarities of the bony structure, may also modify the effects of the efforts to bring to the adjustments of the eyes the adventitious aid of the facial muscles.

Especially do certain peculiarities of declination induce types of expression which are not strictly in conformity with the types of expression described



[illegible] declination

or which appear in certain cases to run counter to the principles of classification which have been laid down.

With declinations we have the potential elements of heterophoria, but since the adjustments do not yield to the tendencies, the expressions may be and usually are modified from those which are induced when the adjustments are such as to indicate one or other of the heterophoric conditions.

These apparent exceptions to the general rules depend upon the *proportion* of degree of declination of the two eyes. For example, should there exist in one eye a considerable degree of declination and in the other a less degree of the same sign, we may have the general expression of hyperphoria, while had the degree of declination of the same sign been nearly equal for the two eyes the expression would be that typical of exophoria. That varying degrees and proportions of declination should modify the expression is not only not in unconformity with the principles laid down, it is on the other hand quite in conformity.

There are, however, expressions arising from de-

clinations even when no heterophoria is manifest, which render it easy not only to recognize the class of declination but to tell the direction of the leaning of the meridian of each eye.

In one form, for example, both the brows slant up from the temples toward the median line, the internal extremity ending almost in the general direction of the line of slant, or suddenly curving down at the inner end as it is seen in the diagram at Fig. 7.

With this form of brow we find positive (+) declination of both eyes and of nearly equal extent in each.

In another form a double positive (+) declination, but in which the extent of the leaning is materially different, we have an habitual expression in which the eyebrows ascend from the inner extremity, extending outward, forming what I have called "bird's wing" eyebrows (Fig. 8). With both of these forms we often find more or less exophoria.

Still another form frequently seen is that in which not only is one brow compressed while the other is elevated, but the asymmetry of the face extends to the actual position of the eye ball, for the eye below the compressed brow appears lower, sometimes much lower, in the planes of the face than its fellow. Such a form is seen at Fig. 9, and is not at all unusual nor is the diagram exaggerated. Here the declinations are extremely unequal of the same sign or that of the depressed eye has positive the other negative declination.

Again, both brows may be rounded in a sort of rainbow fashion, in which, again, there is declination of different signs for the two eyes, or the declination, if of the same sign, is of very different degree in the two eyes.

A single other form of expression will be noticed among the many which may result from the causes we are discussing. In some cases of double positive (+) declination, even some in which there may be a very marked exophoria or, still more, a marked diverging strabismus, the eyes are pressed close to the nose, giving a "narrow" appearance to the face. The pupillary distance in the case of a full grown adult may be about the same as that of a child of seven or eight years of age. It is not very rare to find one of these cases in which the pupillary distance is little more than two inches, although the head is of full adult size. This peculiarity is seen in the diagram, Fig. 9. The reason for this would appear to be that from the persistent pressure of the eye ball against the cushion between the inner wall of the orbit and the eye ball, the cushion has been atrophied, permitting the globe to approach the bony wall with only the layer of connective tissue as a separating medium.

To describe and analyze all the various forms of expression which an experienced observer may readily associate with various forms of adjustments of the eyes would demand more space than can be given here.

In a second part of this study we may inquire into the reasons for some of the pains, discomforts, or other nervous phenomena which result from these forms of facial tensions.

[illegible]

Philadelphia.

O. S. G., aged about forty years, carpenter by occupation, was taken ill with typhoid fever, December 31, 1909. While in bed about two weeks, he felt a pain in the costal region on the left side and in the region of the seventh [illegible] the size of a silver dollar, in this region, which persisted for several months. The pain shifted toward, and was most acute about an inch below, the left nipple. On account of the pain he was unable to lie on the left side. About the middle of October, 1910, a discharge took place from four openings in an area near the costal margin of the rib, which discharge was mostly serous in character, but at times bloody and purulent. The patient never noticed fever at any time. On December 13, 1910, I obtained a couple of drops of pus and isolated a very motile bacillus, non liquefying, non gas producing, non acid producing, which was agglutinated with the patient's serum in twenty minutes in dilution of one to forty.

I then made a vaccine from this culture by growing the organism in a solution of two parts normal salt solution and one part plain bouillon, at 37° C. for one day. This was sterilized and used as the vaccine. On December 23, 1910, one and a half cubic centimetre of the vaccine was administered subcutaneously in the forearm. Following the inoculation, in twenty-four hours, the patient had fever, pains in head and back, great swelling of forearm, attended by slight pain and discomfort, just as when he was stricken with the original disease.

Six days later a second dose was given, this time only one half cubic centimetre being used. This was followed by swelling at the point of inoculation and the discharge appeared more watery. At this time pain was much lessened and patient could lie in any position to sleep.

Six days later, a third dose of one half cubic centimetre was given and this was followed by swelling, but no pain. At this time two sinuses were entirely closed and a third closing.

After another six days, a fourth dose of seven tenths cubic centimetre was given, followed by a feeling of discomfort; no fever, nor was there much œdema of the arm around the site of inoculation. The pain was greatly lessened, and seemed to focus at the costal region. One of the two openings, which was closed, reopened, and the discharge was thicker and more profuse for five days.

Another inoculation of seven tenths cubic centimetre was given, six days later, and following this there was slight reaction locally and generally. No pain in or around the left nipple, but present over the costal cartilages.

Another inoculation of one and one half cubic centimetre of vaccine was followed by very little reaction, except that the discharge was more profuse right after the injection.

On February 5, 1911, following an inoculation of one and one half cubic centimetres of vaccine, when the needle was withdrawn a few drops of blood oozed from the puncture. Within an hour the patient was seized with intense rigors, lasting for about twenty or thirty minutes, followed by slight fever and prostration, this condition lasting, off and on, for twelve hours. The discharge gradually and rapidly decreased, and within twenty-four hours, the sinuses had all closed and have (except for twenty-four hours) remained closed up to the present day, a period of twelve weeks. There is no pain, no soreness, no swelling, nothing in fact to indicate that disease had existed except for the scar. No vaccine was administered after that given on February 5, 1911.

It appears that the last dose of vaccine, given February 5, 1911, entered a small vein, and exercised a most beneficial effect upon the process. I did not standardize the vaccine, as I believe that the estimation is, in most cases, scarcely even approxi-

mate, and it differs widely in the number of bacteria for each cubic centimetre, depending to a great extent upon personal equation.

[illegible] Medical College.

PUPILLARY DISTURBANCES IN THE ALCOHOLIC PSYCHOSES.*

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During recent years, while our conception of the proper and most suitable methods for the care and treatment of individuals suffering from mental disorders has been undergoing such radical changes, there has occurred coincidently a more definite endeavor to bring about a solution of the problems of causation and diagnosis. Concomitantly with this movement, there has been a progressively increasing attempt to introduce an adaptation of the methods of the general hospital to the study of mental disorders in order to promote our knowledge in this field of medicine. Thus our viewpoint has been transposed to a more advanced station. The position of the pathological laboratory in psychiatric hospitals is not a new one, but the increasing presence of well equipped laboratories for biological, chemical, physical, and psychological researches stand as delimiting signs on the boundary of an epochal advancement.

In psychiatry as in the other branches of medicine, the search for the diagnostic key has been an absorbing one. To psychiatrists, such an aid would be peculiarly valuable, if for no other reason than because it is frequently true that the lines of differential demarcation between similar disordered mental states is at best but hazy and vague. Although fraught with great interest, the pathognomonic sign or symptom of any psychosis has yet to be found. Among this group of supposedly pathognomonic signs, certain pupillary changes, usually associated with organic cerebral disease, have been given a position of great importance.

Historically, it is interesting to note that some sort of pupillary examination was made in the ninth century by the Persian, Rhazes, but as a part of our neuropsychiatric diagnostic armamentarium, a recognition of the value of certain abnormal pupillary reactive changes, has been only since the description in 1869 by Robertson (1) of the anomalous light reaction, to-day known by his name. This disturbance of the light reflex came to be looked upon as pathognomonic evidence of the existence of certain organic cerebral diseases, and it was due to the subsequent extensive researches of Thomsen (2), Siemerling (3), and others that it was first shown that similar disturbances might occur in different types of alcoholic intoxication. Similarly, it was shown (4) that certain pupillary anomalies could no longer be considered as evidence of organic brain disease. Within more recent years, anomalies in the pupillary reactions have been described (5, 6) in the supposedly purely functional psychoses. The voluminous literature on this diagnostic sign attests the interest which has been shown in the study of iridoanatomy and physiology in states of health and disease. As a general conclusion it is most clearly indicated that aside from those cerebral conditions in which the pathological findings can be predicated, there are many other psychoses, included under the heading of toxic or functional, in which pupillary anomalies may be observed. As a corollary to this it may be said that certain of these anomalous reactions can not longer be looked upon as final evidence of the existence of organic lesions of the brain giving rise to mental symptoms.

Among those psychoses included under the rubric of toxic, alcohol is frequently the sole inciting reagent, although again often found in association with other toxic bodies. It can hardly be admitted, however, that this intoxicant possesses so momentous an importance in the causation of mental disorders, as has been recently attributed to it by Stöcker (7). Although a considerable amount of attention has been paid to the pupils in intoxication from alcohol, and many observations have been recorded, it is not desired to go into the literature of this phase of the subject extensively. Only a few relevant points will be mentioned.

Considering all the psychic disorders, without reference to their nosological disposition, statistics (8) show that disturbances of the pupillary light reflex occur relatively frequently, that is in twenty-four per cent. of all cases, but that the occurrence of the Argyll Robertson pupil is very rare in conditions of alcoholic intoxication, being found in only 1.43 per cent. of Retzlaff's cases. Weiler (9) concluded that only a small percentage of alcoholics showed pupillary anomalies, and that a lasting reflex pupillary spasticity did not occur as a result of uncomplicated alcoholism. Statistics on the other pupillary anomalies are not so abundantly given. In looking more discriminately at these figures, it is found that these disturbances are limited in their occurrence to a few diseased mental states such as paresis, tabes, and cerebral lues, while in other psychoses they are comparatively infrequent. It is not within the province of this presentation, however, to dwell upon the three disease entities previously enumerated excepting in so far as they may be mentioned in the consideration of certain pupillary anomalies occurring in those mental states associated in close relation ætiologically or symptomatologically with alcoholic excesses. The anomalous pupillary reactions which may be observed in the different clinical types of alcoholic intoxication at times offer information of considerable clinical interest. Retzlaff (8) found that about twelve per cent. of all alcoholic psychoses show abnormal variation in the pupillary light or accommodative reaction. The observations of Nonne and Thomsen, as cited by Margulies (10), agree with this figure. These variations, according to Nonne's extensive observations, include in the order of frequency of their occurrence, sluggish light reaction, anisocoria, irregularity, light reflex iridoplegia, and absence of both light and accommodative reaction. Associated with these pupillary reactive abnormities, a complete oculomotor paralysis is more rarely found. Weiler (9) found an anisocoria in eight per cent. of his cases and in only six per cent. was there a

[illegible] Society of the District of [illegible]

sluggish light reaction and in no case was this entirely absent.

During the past three years, at the Government Hospital for the Insane, there have been among those whose hospital career was terminated, either by death or discharge, eighty patients in whom the diagnosis of an alcoholic psychosis was made at staff conference, and of this number, twenty-seven were considered suitable for this analysis, all uncertain or in any wise complicated cases having been eliminated. In this series were included cases of delirium tremens, acute alcoholic hallucinosis, Korsakow's syndrome, pathological alcoholic intoxication, and alcoholic pseudoparesis. In thirteen of these pupillary anomalies were found,[1] which, in the order of the frequency of occurrence, included sluggish direct light reaction, anisocoria, absent sympathetic reaction, absent or sluggish consensual light reflex, irregularity in outline, absent or sluggish accommodative reaction, and light reflex iridoplegia. The paucity of material makes statistical deductions of no value here, and for the same reason in regard to the relative value of these different types of abnormal reactions, conclusions can not be drawn. Yet it is noteworthy, that nearly fifty per cent. of these cases did show one or more pupillary anomalies. A typical Argyll Robertson pupil was noted in only one instance. The occurrence of slight irregularities is apparently not of great importance. The observations of Miklozewski (4) and Weiler (9) show that an alternating anisocoria apparently can not be taken as an evidence of the presence of an organic lesion of the central nervous system, as he found this to occur not only in some normal individuals, but also in several diseased conditions among which were included some of a purely functional type. However, Raimann (11), from his observation of cases of alcoholic intoxication in which there had been associated with pupillary anomalies concomitant ocular muscular paralyses, concluded from his pathological studies that in these cases the disturbances were due to a central intoxication. Bödeker (12) found minute hæmorrhages in the region of the nucleus of the third nerve and in other areas in the floor of the fourth ventricle and he believed that these were essentially the explanation of the signs observed clinically in his cases. This brief digression into pathological anatomy is only to emphasize that we cannot always be too certain that we are dealing with purely functional disorders.

Among these diseases of the nervous system the symptomatology of which is based upon fairly well known and definite organic changes, paresis not infrequently may offer difficulty in the differential diagnosis, where the question of alcoholism arises. Clinically, the manifestations of mental disorder ætiologically dependent upon alcoholic intoxication, which paresis may most closely simulate, are those disease pictures known under the terms of alcoholic pseudoparesis and Korsakow's syndrome. Without our present day laboratory aids, it is often most difficult, at times even impossible, to make the differential diagnosis in these conditions at a satisfactorily early date, diseases where the decision is of vast importance from the antipodal prognostic moment which each state carries with it. Among the cases which have been under observation, there are two which so well emphasize these points that a brief résumé of the records will be given.

Case I. J. C., 18,852. On first admission in 1909 he remained in the hospital for only one month, having been discharged by the courts as not insane. The examinations at that time were not completed and the diagnosis could not be made with certainty, but paresis and alcoholism were considered, the former condition being favored. He was admitted for the second time on November 4, 1910, at the age of fifty-four years. There was a history of mental disorder in the family. Patient had had syphilis when twenty-two years old, and had used alcohol excessively since twenty years old, and there was a history of one or more attacks of delirium tremens. On admission he was much excited and confused and resisted treatment; disoriented in all fields. The pupillary examination showed the following condition: Left larger than the right, both slightly irregular in outline, did not react to light either directly or consensually. There was a slight adhesion noted in the left iris. On the next morning it was noted that he had not slept during the night and had continued to become progressively more excited. The pupils remained unchanged. On the third day he was somewhat more quiet, but still confused and disoriented. Pupils did not react to either the direct or consensual light tests, both were irregular, and the right was larger than the left. The knee jerks were equally exaggerated. On the fifth day, following a good night's sleep, he was much improved, was oriented, and could give a fair account of his past life, although not of his present illness. He was decidedly euphoric, happy, and contented. There was a constant logorrhœa involving trivial details and a wealth of reminiscence. It was learned from him that during the first few days after admission he had visual hallucinations. On this day, pupils were irregular and unequal as before, [illegible] also, to accommodation. Knee jerks exaggerated. From this date on, his improvement was uninterrupted. Wassermann test of the blood serum was double positive but with the cerebrospinal fluid, negative, and in the fluid the Noguchi test was negative and the cellular content was not increased. At the time of his discharge as recovered, the pupils were still unequal and irregular. The diagnosis was alcoholic pseudoparesis.

Case II. A. F., 18,876. A fisherman, forty-two years old on admission, November 24, 1910. The family history was unimportant. Nothing of moment ascertained concerning the patient's early history. Had always worked as a fisherman and had enjoyed good health throughout life. Denied lues. Began using alcohol when fifteen years of age. During the past summer he was on shipboard where the entire crew was drinking heavily, several having shown some mental symptoms. During the early summer he complained of pains in the legs which he characterized as rheumatism. In July he was sent into a hospital with the diagnosis of multiple neuritis and mental symptoms, for which he was treated and discharged, again being sent into a hospital three months later as "insane." At that time he was confused and disoriented, there was a marked tenderness along the nerve trunks of the arms and legs, no paralysis or loss of sensation. Pupils were equal, inactive to light, speech was normal, and there was a coarse tremor of the face and hands. On admission to this hospital, a month later, he was disoriented, apathetic, and lethargic; memory was impaired, insight entirely lacking, no delusions or hallucinations. No signs of a neuritis, pupils were equal, irregular in outline, did not react to light either directly or consensually, but did to accommodation. No ocular paresis. Knee jerks were exaggerated. Cerebrospinal fluid showed a positive Noguchi test, an increase of cells with a relative increase of plasma cells and a positive Wassermann reaction. There was no change since the time of admission excepting possibly an increasing degree of dementia.

It is important to note that alcoholic pupillary anomalies generally clear up quite rapidly, as in the first case cited, whereas those due to syphilitic conditions do not, and so much so is this true that

[1] [illegible] nation as carried on without the aid of apparatus.

However, the writer is inclined to maintain that a persistent disturbance of the pupillary reaction cannot be dependent upon alcohol alone, and in only one instance, a chronic alcoholic dement, did Margulies (10) find persistent changes. This also is in accord with Weiler's (9) observations. The records of the majority of the cases included in this analysis do not offer any observations on this point. In the first case here cited, there was a luetic infection and here the lumbar puncture was of value in excluding a paretic condition. The second case is interesting to show that paresis may be entirely masked by alcoholism and it might be mentioned here that we must in this instance consider the possibility of a Korsakow's syndrome superimposed upon the paretic lesion. In this case there was a most definite history of alcoholism with mental symptoms and accompanying polyneuritis with no history of syphilis on admission to the hospital from which he was transferred. On admission here it was plainly evident that the individual was deteriorated, and the question arose: Is this dementia secondary to a Korsakow's syndrome? More complete examination with the added aid of the clinicopathological examinations decided the question quite readily.

In Korsakow's syndrome pupillary changes are not uncommon and in some instances, particularly in the early stages, the diagnosis is practically impossible between this condition and paresis. Here, as in the cases of senile dementia and dementia præcox, it is often impossible to delimit the symptoms due to alcohol from those due to the basal mental disorder of which the alcoholic excess is only symptomatological. In the six cases of Korsakow's syndrome here analyzed, all showed pupillary anomalies, sluggish light reflex being the most common, but in no case was this reflex entirely absent. In the typical cases the diagnosis might not be so difficult, but quite surely, in the second patient previously reported in the early stages of the illness, the diagnosis of a Korsakow's syndrome would be more probable than that of paresis. This case certainly demonstrated excellently the great value which would have been rendered in the early stages of the disease by a chemicocellular examination of the cerebrospinal fluid.

In the records of the three cases of pathological alcoholic intoxication examined, no pupillary anomalies were noted. It is very possible that had these eyes been examined sufficiently early, some abnormal reaction might have been observed; that is, those patients are brought into the clinic after the anomalies have disappeared. The work of Gudden, Vogt, and Tomaschny is of interest in this connection. It was shown by Gudden (14) in a study of several hundred individuals while still intoxicated who were brought into the clinic by the police, that there was a marked decrease in the pupillary light reaction in more than fifty per cent. of all the cases, this decrease varying from slight to a complete fixation. With the cessation of the action of the intoxicant the pupillary reaction became normal; that is, within a few hours. Gudden considered these changes to be due to a general cerebral intoxicant action analogous to that occasioned by chloroform and ether narcosis, and further, that in the stage of drunkenness the pupillary reaction is correlated with a degree of clouding of consciousness, and consequently by this examination, we have an additional means for determining the probability of responsibility where criminality is being considered.

Vogt (15) carried Gudden's idea a little farther, and from his experiments on normal and mentally defective individuals, the latter including imbeciles and idiots, he concluded that alcoholic drunkenness does not cause pupillary anomalies in normal persons, but that in those with an inherited or acquired defective central nervous system, small doses of alcohol cause marked effects. He considers in this regard that chronic alcoholism produces in the central nervous system a condition which may be looked upon as an acquired defect, and he suggests in a general way that we may use this means for its detection.

Tomaschny (16) carried the ideas of Gudden and Vogt to the point of actual experiment. Several individuals pending sentence for criminal acts were sent into the clinic for observation of their mental state, the question of their responsibility having arisen. On the principle that if alcohol once rendered the individual irresponsible, it should be able to do so again under experimental conditions, those persons were made drunk and their mental reactions noted during this period of intoxication. In all those in which alcohol produced an abnormal reaction, pupillary anomalies were observed, whereas in malingerers, attempting to simulate the abnormal effects which might be expected from the alcohol, it was found that the pupillary reactions were not in any way varied from the normal.[2]

Although from these somewhat incomplete experiments, the three observers mentioned drew conclusions of considerable importance as to the value of this method of procedure in determining the mental status of the individual concerned, it is quite probably true, as Weiler (9) has pointed out, that, as the dose of the alcohol was not carefully proportioned to the size of the individual, accurate deduction of a quantitative nature cannot be made from such experiments.

In conclusion, both from the few cases here reported and from the literature, it may be said that although pupillary anomalies occur quite infrequently among alcoholics and particularly the Argyll Robertson pupil is rarely seen, still it is plainly evident that the occurrence of this diagnostic sign cannot always be taken as final evidence of the presence of organic cerebral disease.

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Government Hospital for the Insane.

THERAPEUTICS OF SYPHILIS.

By Victor Cox Pedersen, A.M., M.D.,
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(Concluded from page 872.)

Case XVIII. S. R., referred by the courtesy of Dr. Solomon Rottenberg. Russian, saleswoman, twenty-one years old, single. Admitted November 30, 1910, to the People's Hospital, when 0.5 gramme was administered. Diagnosis, chancre of the tongue (*syphilis insontium*). Family history, negative. Has not the slightest idea as to how she became infected. Is not engaged to be married or receiving the attentions of any young men. The photograph shows the excavated chancre very well. Likewise the result at the end of about four weeks. The treatment of the chancre was surgical. Owing to the great sloughing in its walls no *Treponema pallidum* was found in scrapings. The patient refused to allow a piece to be cut out from the tongue for examination. The chancre has healed completely and at present writing, January 3d, even the induration is gone. The patient has gained about four and a half pounds in two weeks and looks greatly improved in health. This will be a very valuable case to follow as the years progress because of the immediate benefit. The serum test on November 17th and 21st, strong; December 3d, positive; December 19th, almost negative; January 3d, negative. No syphilis of eyes.

Case XIX. J. M., single, U. S., clerk, nineteen years old. Admitted to the People's Hospital November 20, 1910. Diagnosis, syphilis second stage. Family history, negative, also previous history. Drinks and smokes moderately. Has had usual diseases of childhood. Present history, always has had a marked phimosis for which circumcision was suggested, in his childhood. About week after intercourse a large chancre involving the whole of the mouth of the foreskin appeared. Treated by mercury injection with little effect on the chancre or the skin lesions. Rash appeared, which did not yield well to the mercurial treatment; 606 decided on. Injection was given N[illegible]



Case XVIII. S. R. [illegible]

Improvement in the conditions immediately appeared, the circumcision healing promptly and the rash disappearing positively but rather slowly. The blood pressure was not materially affected by the injection, the range being from 103 to 110. The weight remained constant at about 163 pounds. The photograph shows the rash just before the admission to the hospital. The serum test on November 19th, 22d, and 28th was positive; on December 1st and 5th, weak; December 12th, very weak; December 19th, almost negative; December 31st, negative. This patient was un-



Case XIX. J. M. [illegible] front.)

grateful and disappeared before a second photograph could be secured. He was last seen January 7th, when rash was still faintly present.

CASE XX. A. A., German, forty-one years old, single, brassworker. On February 1, 1909, at three o'clock in the morning, patient was awakened by a severe pain in the right thigh above the knee. A few days later the leg from the knee to the groin was swollen and remained so until an abscess which had formed at the knee was cut, after which the swelling at the knee disappeared, but the swelling near the groin remained. Various doctors treated him for rheumatism of the muscles, but was never treated for syphilis or skin disease of any description, as far as he knew. In August, 1910, he went to Sharon Springs.



CASE XVIII.—S. R., enlargement of chancre is well shown, as well as mucous patch on tongue. (From above.)



CASE XVIII.—S. R., about four weeks after injection, the enlargement of the tongue is slightly present, but disappeared completely in about another week. (From above.)



CASE XVIII.—S. R., enlargement of chancre and thickening of tongue. (From above.)



CASE XVIII.—S. R., about four weeks after injection, showing excavation healed and enlargement decreased. (From below.)

N. Y., to take the sulphur baths and massage. After the first massage there was a slight discoloration which became gradually darker. On September 9th it was lanced by a physician at Westport, N. Y., releasing about a cupful of bloody water. The wound was permitted to close without being thoroughly drained. On September 19, 1910, Dr. Lewson again opened the wound, after which he referred the patient for 606. The serum test was weak to positive. The blood pressure varied from 119 to 142, 0.5 gramme 606 was given November 7th. Patient improved





Case XIX.—J. M., S. [illegible] very marked large and small macular eruptions almost universally distributed, salt rheum appeared [illegible] had been given regularly for several weeks.

in bed until November 21st, and was subsequently observed at short intervals. No effect on the limb was observed. The lesion later proved to be an osteomyelitis.

CONCLUSIONS.

Syphilis has been historically known for many hundred years and its well established characteristics have been studied during this time, as to chronicity and tendency to relapses. Many cases have been cured permanently by mercury and potassium iodide. Hence, it would be premature and immature to think that these drugs may be supplanted as if by magic. Since the observation of the cases reported in this paper in January, 1911, the writer has administered salvarsan to about thirty other patients in all of whom immediate benefit occurred. This leaves the main question open: How permanent and enduring are the results of salvarsan? If permanent, then a wonderful discovery for the relief of syphilis has been made. But this question remains for the next twenty years to decide.

Another question still unanswered is: What is the best dose? Originally 0.3 gramme was proclaimed as correct. Now it is 0.6 gramme; indeed, some of the German observers have given more. Here, again, only patient study and long continued observation will answer the question.

If the results of salvarsan shall be shown to be temporary rather than permanent, by relapses which have already been appearing in the hands of many careful observers, then the question arises: How frequently may the medicine be repeated in the correction of such relapses? Here, again, only many careful observations, distributed of necessity widely the world over and persisting through the next twenty years, can in human experience furnish the solution of this problem. Again, only time reckoned in many years can answer the question, through the study and record of many cases: Given

a relapse, will a repetition of salvarsan be better than a resumption of mercury and iodide? Such a question is of far reaching importance!

Finally, in closing, the words of Marshall (*Lancet*, February 25, 1911) cannot be improved: "The two main questions to be decided are: First, is arsenobenzol capable of replacing mercury and iodides in the treatment of syphilis? Secondly, if it is incapable of doing this, is it of value as a third weapon against syphilis? Before any drug can replace mercury and iodides it must be proved capable of producing one or more of the following effects: (1) The realization of an abortive cure of syphilis; (2) the prevention of tertiary or parasyphilis manifestations; and (3) the healing of syphilitic lesions with greater rapidity, greater constancy, and, at the same time, with less liability to relapse and recurrence than is the case with mercury and iodides. It must compare favorably with the latter as regards dangerous toxic effects."

In the main, it is rational and conservative to leave all these points for settlement by many years of time and by a larger and larger record of carefully studied cases.

45 West Ninth Street.

A BACTERIOLOGICAL STUDY OF THE HUMAN BILE.

Especially as to the Presence of the Typhoid Bacillus.

By Philip Francis Williams, M. D.,
Philadelphia,
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(*From the Clinical Laboratory of the Philadelphia General Hospital.*)

This study was undertaken to determine the occurrence and constancy of the typhoid bacillus in the bile. As a number of epidemics of typhoid fever have occurred in different localities, in different institutions, and in ordinary homes, the question as to the cause of the dissemination led to the isolation in a number of instances of what are now known as typhoid carriers. Both at autopsy and during life the typhoid bacillus was isolated from the excretions and from the blood of individuals convalescing from the disease; from excretions and bile in others never having had typhoid infection. From contamination of clothes, articles of food, water, and milk, small epidemics of the disease took place. The bile is a natural culture medium, especially for organisms of the typhoid group, and in those dying of typhoid fever or from intercurrent disease, this organism has been demonstrated by cultural methods as long as eighteen or twenty years after the original infection. Therefore, it was determined to study carefully, for a time, the bile from all autopsies at the Philadelphia General Hospital, to determine the presence of carriers or to isolate the organism in those having died of the disease. The technique of the method of obtaining the bile was as follows:

When the abdominal wall was opened the gallbladder was exposed and a prominent surface seared with a heated knife blade; with a sterile syringe 5 c.c. or more of bile was withdrawn through this seared area, and inoculations immediately made into 10 c.c. of bouillon with 1 c.c. of bile; the tube of bouillon was then placed in the incubator for twenty-four hours at 37.5° C. The remaining bile was centrifugated and washed with sterile water until a sediment remained free from tenacious material. Smears were made from this sediment and stained by Gram's method; this was done to determine the presence of any organisms which might not develop in the bouillon. In those cases in which gallstones were present in the bladder or duct they were placed in a sterile test tube, washed several times with sterile water, rinsed with boiling water, and placed in a sterile Petri dish. They were then crushed with a sterile instrument and a loopful of the material in the centre of the stones placed in 10 c.c. of bouillon, which was incubated for twenty-four hours at body temperature. From these bouillon cultures, from the bile, and from the stones hanging drop cultures and smears were made and studied at the end of twenty-four and forty-eight hours. All smears were stained by Gram's method.

If a motile bacillus was observed in the hanging drop preparation an agglutination test was made, using a known typhoid serum in a dilution of one to forty. In case a growth took place in the bouillon subcultures were made in routine in the following media: Shake cultures in agar and gelatin; in litmus milk and into bouillon; plates were made, using agar and smear plates of Drigalski-Conradi medium. This last medium was used in order to differentiate between the typhoid bacillus and organisms of the colon type. The typhoid bacillus usually showed a small semitransparent bluish colony, and the colon bacillus was generally but not always evidenced by a more abundant pinkish or reddish opaque colony and accompanied by a change in the color of the medium. In case of mixed cultures, subcultures were made from colonies on the agar plates and efforts made to determine their identity.

In the study of the calculi present, the same technique was adopted throughout. In none of the cases in which calculi were present, was there a previous history of typhoid fever, and in the clinical history symptoms referable to the gallbladder were mentioned in only three cases.

In all, one hundred and one specimens of bile were studied, and, in addition, twelve calculi examined. Of this number, organisms were recovered in eighty cases, and from the calculi organisms were recovered in six instances. The organisms that were observed most frequently were those of the colon type. In thirty-seven, pure cultures of the colon bacilus were present, and, in association with other organisms, *Bacillus coli* was observed thirty-five times. The typhoid bacillus was recovered in two instances; one, in which typhoid fever had existed thirteen years previously, and in the second instance, from a person dying as a result of typhoid perforation.

A very interesting observation was made regarding the presence of a large Gram positive bacillus which was found in twenty-six cases. This organism was morphologically and tinctorially identical with the *Bacillus aerogenes capsulatus*. This organism developed abundantly in the bouillon cultures where colon and other organisms developed, and in a number of instances anaerobic cultures

were also made of these mixed growths. A culture containing an abundant development of this large bacillus was injected into the ear vein of a rabbit; the dead rabbit was incubated at 37° C. for twenty-four hours. At the end of this time there was distention of the abdomen; crackling was observed in the subcutaneous tissue and when the abdomen was punctured, a gas escaped which was inflammable and burnt with a blue flame. At autopsy, the liver was found to be macerated and distinctly emphysematous; the heart was macerated and in a necrotic state, being very friable. Spreads made from the heart's blood and liver tissue showed the presence of the same large Gram positive bacillus as was observed in cultures. Capsule formation was observed in a number of bacilli in spreads and a few organisms showed spore formation.

It might be mentioned at this point, that the typhoid bacillus was identified by an actively motile Gram negative bacillus; bluish colonies on the Drigalski-Conradi medium; a uniform cloudiness in bouillon; no gas formation; no liquefaction of gelatin; no indol production; no coagulation of milk, and agglutination tests positive in dilutions of one to forty in thirty minutes with known typhoid sera. The colon bacillus was identified by the production of gas in gelatin both in shake and stab cultures; production of indol; (in fifty-seven instances) acidulation and coagulation of milk, usually within forty-eight hours; turbidity and pellicle formation in bouillon; and a number showed active motility, but were not agglutinated by known typhoid sera. Besides these organisms previously mentioned the following general résumé of the organisms found is appended.

The number of cases giving typhoid histories were twelve; of these two patients died of perforation of intestine. *Bacillus coli* was isolated in one case in pure culture, and in mixed culture with *Bacillus typhosus* in the second case. In twenty-one, no organisms were demonstrable by culture or spreads; and of these a typhoid history was obtainable in only one patient. Five of the specimens which were sterile were from cases of tuberculosis.

[illegible]
*G. N. Coccus ..... [illegible]
[illegible]
Staphylococcus Pyogenes Albus..... [illegible]
[illegible]
*G. N. Coccus ..... [illegible]
[illegible]
*G. N. Spore bearing Bacillus..... [illegible] in one
[illegible]
B. Coli ..... [illegible] in two
B. Coli ..... [illegible]
[illegible]
[illegible]
B. Coli ..... [illegible]
B. Aerogenes Capsulatus ..... [illegible] in
[illegible]
[illegible]
[illegible]
B. Lacti Aerogenes ..... in one
[illegible]
B. Aerogenes Capsulatus ..... [illegible]
[illegible]

1.	B. Coli	negative	B. Coli
2.	B. Coli	negative	B. Coli Streptococcus
4.	B. Liquefaciens Fluorescens	negative	Sterile
6.	B. Pyocyaneus	negative	Sterile
	B. Aerogenes Capsulatus....		
8.	B. Coli	negative	Sterile
	B. Aerogenes Capsulatus....		
10.	Staphylococcus Pyogenes Albus	negative	B. Coli Staphylococcus Pyogenes Albus
11.	No bile culture.....	negative	B. Coli
12.	B. Coli	negative	B. Coli

Of this whole number twenty-one specimens of bile were sterile both as regards the presence of organisms in spreads as well as in cultures. There was a small number of organisms which were not specifically identified; among these we may mention a Gram negative coccus arranged in pairs, chains, and groups, but not obtainable upon solid culture media.

From the bile of a still born child there was obtained, in culture and spread, a bacillus about the size of a typhoid bacillus with spore upon the end, resembling morphologically the *Bacillus tetani*. This was probably the *Bacillus putrificus coli*

In nine cultures, an unidentified organism occurred as long unsegmented filaments, and again as short rods; these were five to seven micra in length with square ends, Gram negative, no true branching, and in hanging drop preparations were sluggishly motile in some instances. This organism may represent a leptothrix or the *Bacillus gracilis cadaveris* of Sternberg.

In twelve of these cases a history of typhoid fever was obtainable, ranging from forty-three years previously down to death, during the disease from intercurrent typhoid perforation in two instances. In only one case which gave a previous history of typhoid was the bile sterile.

From these studies it appears that the gallbladder is a very frequent and favorable nidus for the lodgment of bacteria of various kinds. It seems interesting to have demonstrated by cultural tests and by animal inoculations the presence of the *Bacillus aerogenes capsulatus*. It will be seen that the typhoid bacillus was obtained in two cases out of twelve, that gave a history of typhoid infection. From results cited by various observers it appears that the typhoid bacillus may reside in the bile only intermittently and that the question of acute, chronic, and intermittent carriers has a great deal to do with the detection of this organism in the bile.

This work was begun at the suggestion of Dr. R. C. Rosenberger, director of the clinical laboratory, and I wish to thank him for much valuable assistance.

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VISCEROPTOSIS; AN IMPROVED ABDOMINAL BINDER.

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To speak of visceroptosis as a distinct disease is merely telling half the story. This term can be applied only to the comparatively infrequent acquired form of ptosis of the abdominal viscera. In the broader conception of this disease, as pointed out by Stiller, the symptom complex of its three main components, atony, enteroptosis, and nervous dyspepsia, which were until recently regarded as distinct diseases, should be classed under the general specific disease of "congenital universal asthenia." Clinically, the three components of this disease are not equally represented in its symptomatology, and any one of them may show greater prominence in a given case. Thus gastric and intestinal atony may predominate in one case, while in another the dyspeptic or enteroptotic symptoms come into greater prominence.

In by far the greater number of cases of visceroptosis a constitutional predisposition can be demonstrated. It usually develops after puberty, and is brought about by many factors which tend to deplete the system. Insufficient or poor quality of

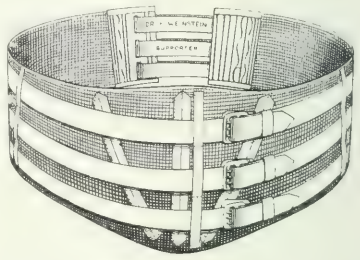


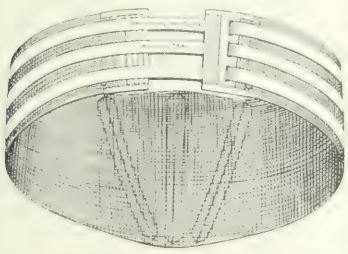
Fig. 1.—Dr. Harris Weinstein's binder for visceroptosis; front view.

food, causing emaciation, will, in course of time, produce enteroptosis in those predisposed to it. Hard labor and many other unfavorable conditions of life may be regarded as predisposing factors to this disease. In those not predisposed to it, displacement of the viscera is brought about by mechanical causes which increase intraabdominal pressure. Thus frequent pregnancies with a resulting flabby abdominal wall, tight lacing, and other traumata tend to the acquisition of visceroptosis. Clinically it is not difficult to differentiate between the two forms of the disease. The acquired form does not present the stigmata of degeneration always present in the constitutional asthenic type, and notwithstanding the displacement of the abdominal organs, symptoms may be absent or comparatively mild.

The constitutional type presents well recognized structural features and a varying symptomatology depending upon the preponderance of its component factors. These individuals are thin, long necked, more or less round shouldered, narrow chested, and long waisted, presenting the so called *habitus enteroptoticus*. The epigastric angle is sharp and small, and the navel appears to be abnormally distant from it. The epigastrium is sunken and flat, frequently presenting a diffuse pulsation, while the lower abdomen, particularly in multipara, is prominent and bulging. The entire skeletal musculature is thin and weak. A floating tenth rib is present in many of these cases, but it is not a *sine qua non* of this type. Through the thin abdominal

walls the entire outline of the stomach may at times be seen, both the lesser and greater curvatures appearing as faint shadows moving up and down with the respiration. When the rectus muscles are separated, peristalsis of the small intestines can be observed. These patients are generally anæmic, emaciated, and depressed.

A functional examination of the stomach reveals in most cases a high hydrochloric acidity, but a complete anacidity is by no means a rarity. This variability of the secretory function is of nervous origin and is not due to pathological changes in the glandular mucosa. The severer forms of gastroptosis are always accompanied by motor insufficiency and it is in this class of cases that gastric symptoms are very distressing. The subjective symptoms are referred mainly to the stomach and the nervous system. The appetite is, as a rule, very poor, amounting to complete anorexia; in a few cases there is an abnormally increased appetite. A sour or bitter taste in the mouth is almost always complained of, and, judging by the patients' complaints, must be very distressing. Epigastric pressure is present even on an empty stomach, and may or may not be aggravated after the ingestion of food. Even a small quantity of food, sometimes only a few mouthfuls, gives a sensation of epigastric fullness, making it impossible to continue the meal. There is a bloated feeling referred to the gastric region; at times a sensation of emptiness or dragging and of *globus hystericus*. There may be belching, sour eructations, pyrosis, occasionally indefinite pains in the epigastric region or behind the sternum. The accompanying constipation in these cases is due to the small quantity of food ingested and to the intestinal atony. The nervous manifestations are usually expressed in loss of energy and initiative, restlessness, sleeplessness, a sensation of overpowering fatigue, a faint feeling referred to the præcordium and paroxysmal tachy-



Weinstein's binder for visceroptos

cardia. In my estimation the loss of appetite is the most serious of all the symptoms, enfeebling an already weakened constitution by undernutrition.

The treatment of the acquired type is mainly mechanical. A properly applied abdominal support solves the problem. Such, however, is not the case in the asthenic type. The ideal treatment is prophylactic and must be begun in infancy. Children born of neurasthenic parents or when alcoholism or chronic infections enter into the family history, are the ones who later develop into this degenerative type. These children are generally pale and ill nourished and show evidence of an unstable nervous system even in early childhood. Judicious treatment during childhood, with a view to strengthening the system, will accomplish much toward upbuilding a naturally weak constitution. This should include properly selected diet, open air exercises, general massage, and whatever drugs the individual case may require. When this constitutional anomaly has already developed, we may still, prophylactically, do a great deal toward minimizing its baneful effects. Tonic treatment, fattening and nourishing food, and a well fitting binder worn for months after confinement may help to tide them over the child bearing period, when the disease usually displays its most distressing symptoms.

The dietetic treatment of a fully developed case with gastric symptoms due to gastroptosis and accompanying atony, should have the twofold object of sparing the stomach excessive work and of supplying the system with sufficient nourishing food to fatten and strengthen the patient. Small and frequent meals answer the purpose admirably. The selection of food should not be left to the patient. Full directions should be given by the physician as to the frequency and character of the meals. Five or six meals a day of high caloric value serve the purpose best. The diet should be mixed, consisting of all the various foodstuffs with a liberal allowance of fat. Large quantities of liquids should under no circumstances be allowed. The drugs of greatest value are the bitter tonics, strychnine, iron, arsenic, and the glycerophosphates. Massage and electricity may supplement the dietetic and drug treatment, but they have not proved of great value in my hands.

An abdominal binder should constantly be worn, and it is no exaggeration to state that without proper support of the abdominal viscera all other treatment is of no avail. Failure to relieve these sufferers, despite our best endeavors, is often due to insufficient support afforded the displaced organs by most abdominal bandages on the market. To fulfill the proper requirements a binder must raise and hold up the abdomen, at the same time pushing the viscera upward and backward. For this purpose I devised a bandage which seems to meet indications, and has so far given me the greatest satisfaction. The bandage is built on the same principle as all the others, having, however, as an extra enforcement six elastic straps, three of which arise from each side of the body of the binder. These straps cross posteriorly and when brought around to the front are buckled, thus affording additional support to the bandage. The tighter the straps are drawn the more snugly does the bandage hug the abdomen and there is no possibility of its loosening. The four lower straps push the abdominal wall upward and backward and retain it in that position. The upper two straps are made use of [illegible] individuals only.

I desire to express my thanks to Messrs. H. C. Bode and Company for their invaluable aid in constructing the bandage.

825 Lexington Avenue.

THE OPEN TREATMENT OF FRACTURES.

Method of Insuring Perfect Anatomical Reduction Followed by Immediate and Lasting Immobilization of Fractured Bones, which Does Not Involve the Necessity of Leaving a Foreign Body in the Tissues.

By Walter H. Taylor, M.D.

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Bone ferrules, bone splints, silver wire, steel plates and screws, and other materials too numerous to mention have from time to time been used in the fixation of bone. That these substances may be buried in the tissues and left there with impunity in many cases is unquestioned, though the fact of their frequent failure to meet our expectations in this regard must be admitted. The Lane plate is probably the best of these buried splints in use at present, but it is open to the objections common to all internal fixation devices which require to be left buried within the tissues. We now rarely leave silver wire in the abdominal wall, even in cases of ventral or umbilical hernia, where the indications for doing so seem greatest. Could a fractured bone be adjusted accurately, and immobolized perfectly, without the necessity of leaving a steel plate buried in the tissues, a distinct advance on present methods would probably be attained, provided that fixation by this means could be quickly and easily accomplished.

The device, which it is the object of this communication to describe, leaves little to be desired in so far as immobility is concerned, yet everything is readily removable after union is completed. Its application is extremely simple, requiring no more skill than sufficient to place the fractured ends in apposition. It consists of the following parts: (1) Four bone screws, three inches long, to each of which a two inch long cross piece has been welded, about half an inch from its head; and (2) several pieces of quarter inch steel rods of various lengths, ranging from two to five inches long. They are used in the following manner:

The fracture having been cut down upon and the bone exposed, one of these screws is inserted in the upper fragment about half an inch above the break; another screw is inserted in the same fragment from two to three inches above the break. The lower fragment is treated in the same way, one screw half an inch or so below the break and another two or three inches lower. These four screws are driven more or less at random, without regard to their alignment, or to the apposition of the fractured ends. It is probably better to have the screws placed to the right side and to the left side alternately, as the subsequent purchase in the bone will be greater by thus covering a wider path. About all that is necessary, however, to bear in mind in driving these four screws, is to see that they are driven deeply into good solid bone, and that their cross pieces lie more or less transversely to its long axis. When this is done, and not until then, the surgeon directs his attention to the careful approximation of the fracture, letting the screws assume what direction they please. When the fracture is coapted to his satisfaction he holds it so while his assistant lays the round steel rods, which act as girders loosely in the angles formed by the screws and their cross pieces, connecting up the several screws. The rods may be held together temporarily on the cross pieces by means of silk thread. These rods are long enough to overlap each other considerably on each side of the screw. The fracture is still mobile and every slightest change in the position of the fracture causes a corresponding turning and grinding of the several steel pieces. Absolute immobility is now attained by surrounding each screw head, cross piece, and adjoining rod, with thick, quickly drying plaster of Paris. The two screws near the break, being close together, are incorporated in one and the same mass of plaster. The highest screw with its cross piece and steel rods is surrounded by a separate mass, as is also the lowest.

Thus we have three balls of plaster surrounding the only flexible points and rendering the whole splint rigid as a frozen root. The plaster, if desired, may be made to incorporate everything in one continuous solid cylinder, from the highest screw head to the lowest, and the best way to do this is to have all the screws to pierce one piece of double gauze, four inches by eight inches, before entering the flesh; this piece of gauze should then be held up by the sides and corners in such a way as to form a trough, at the bottom of which are the steel rods and cross pieces. Thick plaster of Paris is then poured into this gauze trough so as to envelop everything in sight. Additional steel rods may be dropped in the plaster if desired. The gauze is then folded round this solid sausage shaped cast, and the fracture held in position until it is set. The purchase which the plaster has on the screws must be tremendous; and, on account of the fact that each screw is driven into the bone independently of its fellows, that they are inserted radially toward the centre of the bone, and that the several screws are separated from each other transversely on the shaft, as well as longitudinally, it follows that the purchase in the bone must be hardly less secure than in the plaster.

The uppermost and the lowermost screw may be driven through the skin without extending the wound. Indeed, in some cases where it is not thought advisable to make an open wound, all the screws may be driven through the skin. The fracture might then be reduced by the aid of the x ray, and a snapshot fixation made by quickly surrounding the joint with plaster. Subsequent x ray revelations could hardly fail to approve what has been done under x ray supervision. I have never used the device in conjunction with the x ray and without making an open wound, but I see no reason why this should not be one of its most attractive features.

Further security can be provided by applying a padded back splint to the limb and passing a plaster of Paris bandage over this and over the plaster splint in front, in such a way as to approximate the back splint to the line of screws without constricting the limb, a space in the centre being left uncovered for the purpose of dressing and inspecting the wound. While I have laid stress on the necessity of having the screws deeply imbedded in the bone, a moulded back splint applied in this way by preventing the bone from receding from the screws might make a very slight penetration of the bone

surface and answer the purpose admirably. This suggestion is applicable more particularly to those cases of simple fracture in which it is desirable to avoid making an open wound and to produce as little traumatism as possible.

I believe this fixation device to possess several points of excellence not incorporated in any other contrivance designed for the purpose, and the description is submitted in the hope that it may be accorded a trial in the treatment of certain cases of fracture. Its parts can be readily procured. Any blacksmith can weld the cross pieces and cut a few quarter inch steel rods in a few minutes. The simplicity of its application, due to the fact that the coaptation of the fracture is effected after the screws have all been driven, is a feature of considerable advantage. The possibility of fixation of a simple fracture under x ray guidance without making an open wound should be considered as worthy of trial, although I have not had occasion to use it in this way. Lastly, no foreign body is left within the tissues after union of the fracture is completed.

Room 8 Ruttan Block.

Correspondence.

Letter from London

Hodgkin's Disease.—Election of Direct Representative to General Medical Council.—Account of the First Major Operation Under Ether in Europe.

At a meeting of the Medical Society of London Dr. F. Parkes Weber read a paper on Hodgkin's Disease. He said that in true instances of this disease the lymphatic glands of some one region of the body were much more enlarged at first than the others as if they constituted the primary focus or centre of the disease. Sometimes the glands on one side of the neck were affected first, occasionally the primary affection lay in the retroperitoneal glands, or in the mediastinal glands. When localized in the latter situation it might give rise to a regular tumor mass. In one case the superficial glands which at first formed a prominent tumor on one side of the neck shrivelled up during the course of the disease so as to become hardly noticeable. The disease superficially appeared to be in process of cure, but in reality the thoracic and abdominal lymphatic glands and the lymphatic tissue of the spleen were becoming gravely affected. With regard to diagnosis Hodgkin's disease might perhaps be simulated by malignant disease of the abdominal viscera (suprarenals), with secondary infiltration of lymphatic glands in the neck, and attention had been drawn by Rolleston and others to the possibility of cases with splenic enlargement any pyrexia suggesting a diagnosis of malaria or enteric fever. In only a few cases was the patient's temperature chart helpful in diagnosis. When there was any fever it was mostly of an irregular kind with a moderate evening rise, but occasionally a long regularly recurrent periodic type of fever was met with, the chronic relapsing pyrexia of Hodgkin's disease, which had been called the Pel-Ebstein symptom owing to the writings of Pel and Ebstein in 1887. A very remarkable example of such cases was one recently recorded by Dr. C. H. Melland, in which pyrexia extended over eight months. Less regular recurrent pyrexial crises were of rather common occurrence. During the pyrexial periods the superficial lymphatic glands were sometimes observed to swell. Wherever possible the diagnosis of Hodgkin's disease should be confirmed at an early stage by the excision and microscopical examination of one of the enlarged lymph glands. Arsenical therapy and Röntgen rays were of great use in many cases of Hodgkin's disease, even if a permanent cure could not be effected. The great difference in the character of the progress of the tuberculous lymph glands and the lymph glands of Hodgkin's disease furnished another argument against the view that Hodgkin's disease was caused by the tubercle bacillus.

Owing to the vacancy that has arisen in the General Medical Council by the death of Dr. L. S. McManus, an election of another direct representative for England will take place. So far two candidates are in the field, Mr. George Jackson, F. R. C. S., Eng., a former direct representative, and Dr. J. A. Macdonald, of Taunton, who is seeking election for the first time. Dr. Macdonald is an important official of the British Medical Association and will probably receive the support of a large number of members. Mr. George Jackson, in an election address, states that among the many matters requiring attention, one of the most urgent is that more stringent regulations should be adopted with regard to unqualified practice and quacks generally. He also advocates a return to the principle of modified pupilage by which students would learn how to treat the patient as well as the disease. Mr. Jackson served on the council from 1902 to 1907.

A very interesting account of the first major operation under ether in Europe is given by Dr. F. W. Cock in the *University College Hospital Magazine*, as follows: Dr. Boott, a general practitioner of Gower Street, W. C., informed Robert Liston, the surgeon of University College Hospital, or rather North London Hospital as it was then called, that he had used ether successfully on a dental case in his own house. Liston sought the aid of Peter Squire, the well known chemist of Oxford Street, in order to fashion an apparatus for administering ether, and the inhaler was first tried on his nephew, William Squire. The latter, profiting by the experience on himself, gave the anæsthetic to Liston's patient. The patient was a man of thirty-six years, suffering from disorganized knee joint, and it was decided to amputate. The mouthpiece was applied by Squire and the patient soon sank into insensibility. William Cadge, Liston's junior, compressed the femoral artery, and Ransome, the house surgeon, held the limb. Liston rapidly completed the operation, in 25 seconds according to Palmer, the dresser. The inhalation had been stopped as the operation was begun. On coming round, the patient tried to lift himself and asked when the operation was going to begin. On being shown the stump he fell back and wept. Liston acknowledged the success of the new anæsthetic by the remark, "The Yankee dodge, gentlemen, beats mesmerism hollow." This was a sarcastic hit at Dr. Elliotson, a physician

of the same hospital, who practised the occult art in connection with medicine. The notes of this case are still extant. The dresser who wrote them remarks that not the slightest groan was heard from the patient, nor was his countenance at all expressive of pain.

LETTER FROM EDINBURGH.

New Nursing Home.—Gift to Elgin Hospital.—Sanitation in Lewis.—Zoological Garden for Edinburgh.—Death of a Distinguished Edinburgh Graduate.

EDINBURGH, *May 4, 1911.*

A strong appeal is being made to the citizens of Edinburgh for help in providing a new nursing home for patients of limited means. It is pointed out by the promoters that, in the event of serious illness which cannot be satisfactorily treated at home, the needs of the wealthier class and of the poor are amply provided for, the former by nursing homes, and the latter by charitable institutions. There is, however, a large class of the community, comprising those who live in homes of limited accommodation, or in lodgings, for whom no sufficient provision exists. These persons cannot afford to pay the charges of ordinary nursing homes, yet at the same time they have neither the right nor the desire to appeal to charity. In serious illness, either their recovery is retarded by the want of suitable accommodation, invalid cooking, and nursing facilities, or they are compelled, against their will, to become the inmates of charitable institutions, and thus to encroach upon funds and services provided for those who are really destitute. A sum of £10,000 is asked for, and already a considerable portion has been subscribed. An influential committee has been formed of which Lord Dunedin is chairman and Dr. Chalmers Watson is honorary secretary, and the scheme has had a most auspicious start. Should any reader of the *New York Medical Journal* happen to have a soft corner in his heart for Edinburgh, his dollars will be most gratefully received.

Gray's Hospital, Elgin, has received an offer from Lord Mount Stephen of 250 shares in Northern Pacific Railway Company of the par value of £5,000 ($25,000). These are paying a dividend of 7 per cent. equal to £350 per annum. The offer is conditional that the people of Elgin contribute £5,000. The trustees of the hospital recently appealed for more funds, and this offer is a response to the appeal.

Dr. Murray, medical officer of health for the island of Lewis, has issued his annual report in which some interesting facts are to be found. Lewis, it may be mentioned, is an island in the Hebrides, and has a very high mortality from tuberculosis, due to the insanitary conditions in which the people live. Dr. Murray emphasizes the necessity for education of the people in sanitary matters. In his joint capacity as medical officer of health and school medical officer, he has given in most of the schools visited lectures in Gaelic on the prevention of consumption and the care of school children. He reports that in all the districts visited the women attended in large numbers, and in the case of senior pupils the lecture was also made the subject of a composition exercise in school. His object, he says, is to create a "divine discontent" with things as they exist at present, as a necessary preliminary to reform. The manufacture of tweed, a staple industry of these parts, has grown almost phenomenally in recent years, and in some parts employs nearly every woman in the district. This means long hours for the women, and Dr. Murray fears it will eventually produce deterioration in the health of the female population. Another point mentioned in the report is the futility of closing schools as a means of preventing the spread of infectious disease, because the children meet and play together at one another's houses, under conditions much more likely to spread infection than at school. He also mentions that church services, Sunday schools, and religious meetings in private houses are potent factors in the spread of infectious diseases.

In a former letter reference was made to the proposal to establish a zoological garden in Edinburgh. The idea has not yet been lost sight of, and appears at last to be taking definite shape. Dr. R. F. Scharff, secretary of the Royal Zoological Society of Ireland, has recently visited Edinburgh at the request of the zoological society of Scotland. He has inspected the various sites suggested as suitable for a Scottish zoological garden with a view to advising the society. The great objection to the scheme is the rigorous climate of the Scottish capital, its exposed position, and its prolonged winter which begins in October and is seldom really over till the middle of May. Dr. Scharff is reported to have expressed the opinion that the climate of Edinburgh is in no way worse than that of Dublin, from the point of view of keeping animals in the open. In Dublin, lions not only live in the open all the year round, but thrive and breed well. They have some summer in Dublin; a Scottish summer consists of three hot days and a thunderstorm.

A Scotsman and an Edinburgh graduate, Dr. John Duncan Gregorson, lost his life in the recent massacre of the British mission on the Assam frontier. Dr. Gregorson was born in Lochgilphead, Argyllshire, in 1871. He graduated M. B., C. M. at Edinburgh University in 1894, and after a course of postgraduate study he practised in Leytonstone for a few years. His desire to study tropical diseases, however, led him to accept the post of medical officer to a group of tea plantations in Upper Assam. There he carried out some valuable work on malaria, ankylostomiasis, cholera, and dysentery, and recently he published some interesting notes in the *Journal of Tropical Medicine* on the methods of combating disease among the coolies in the tea gardens. He was held in great respect throughout his district, and was invited to sit on a Government commission to inquire into some matters connected with disease among tea garden coolies.

Therapeutical Notes.

Intestinal Intoxication.—In cases of collapse in infants after intestinal intoxication, Wurtz recommends subcutaneous injections of camphor as being superior to saline infusion. All food is stopped for from twenty-four to seventy-two hours, and if collapse appears from 0.5 to 1 c.c. of a ten per cent. solution of camphor in olive oil injected, to be repeated every three hours if necessary.

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NEW YORK, SATURDAY, MAY [illegible]

THE FALSIFICATION OF HOSPITAL RECORDS.

It is humiliating to be obliged to say that an instance of this disgraceful procedure has recently been unearthed in New York. A practitioner had declared publicly that he had performed Freund's operation of hysterectomy in a very large number of cases, many if not all of which had occurred in a certain hospital. The accuracy of the man's statement having been questioned, he proceeded to prove its truthfulness by the hospital books. With the aid of an accomplice he appeared to do so, but it was shown that the books had been tampered with. The facts in the case were sifted by the Comitia Minora of the Medical Society of the County of New York, and the man's expulsion was recommended. Notwithstanding his resort to legal tactics to prevent that action, he was expelled last Monday evening by a unanimous vote.

We do not suppose that any spectacular calamity will fall upon this man so speedily as to declare itself directly connected with his discipline at the hands of the society, but we do believe that he has got himself into a very uncomfortable position, as must always be the case when it is sought to shield one's self from the consequences of one lie by recourse to another. To stand before the world convicted of having followed such a course is to invite and be compelled to endure general contempt. One may steel himself against it for a time, but he is sure to break down in the end.

But there are others than the wretched perpetrator of acts of falsification who are involved in sophistication of the public records. In the first place, the hospital itself, no matter how innocent, incurs discredit which it takes time to live down. Then there almost inevitably follows on the part of the general public a feeling of distrust of hospitals in general—a distrust almost as important as that of the accuracy of the registration of births, marriages, and deaths. If the cases treated in a hospital are not recorded correctly, what is there, moreover, for clinical medicine and surgery to rest upon? But if they are recorded correctly and the records are subsequently falsified, there may as well have been falsehood in the first place.

SOME MODERN CONCEPTIONS REGARDING INFECTION.

A few years ago attention was called to the peculiar behavior of animals which had been injected with small amounts of an alien proteid. It was found that while the injection had no immediate and apparently also no remote effects, it had, nevertheless, caused profound changes, for when the animal was subsequently injected with the same proteid, severe symptoms, often leading to the death of the animal, occurred. This phenomenon was so striking that it at once engaged the attention of laboratory workers everywhere; within a short time a mass of interesting observations bearing on this subject had been published. It was found that the first injection might be almost infinitesimally small; one millionth of a cubic centimetre of horse serum sufficed to sensitize a guineapig to a subsequent injection. Moreover, a definite interval between the first and the second injection was necessary. When the sensitizing injection was large, the interval was long; with small sensitizing injections it was short; it was, however, never under a certain minimum. This phenomenon is spoken of as anaphylaxis. While no theory has yet been devised to fit all the observed facts, the most generally accepted view regards the mechanism of anaphylaxis to be somewhat as follows: The first injection of alien proteid causes the development of specific antibodies having the power of splitting this particular proteid molecule. When the same proteid is subsequently introduced it encounters this "proteolysin," as it may be called, and becomes split up. There is thus set free a toxic substance which produces the symptoms already mentioned. Confirmation of the essential correctness of this theory is afforded by the work of Vaughan and Wheeler. These investigators showed that it was possible, by chemical manipulations, to split up the proteid molecule and obtain cleavage products whose injection into animals gave rise to symptoms practically identical with those of anaphylaxis.

A little consideration will show the important bearing the work on anaphylaxis has on the study

of infection, for in an infection the body is injected, as it were, with minute quantities of alien proteid. It is reasonable to suppose, therefore, that at least some of the toxic symptoms seen in bacterial infections are due to the splitting up of the proteid constituents. If this view is correct it will go a long way to explain the symptoms of intoxication seen with many bacteria from which it has been impossible to isolate either extracellular toxines or "endotoxines." Friedberger, in an interesting paper on this subject, describes some experiments by which he produced all kinds and gradations of fever reactions in animals by spaced injections of one and the same alien proteid (horse serum). He is therefore of the opinion that the poisonous cleavage product of the alien proteid is always the same, no matter how diverse the origin of the proteid. He speaks of this toxic substance an anaphylatoxine. The studies on anaphylaxis have also given us a clearer understanding of the nature of the period of incubation. Originally this period was held to represent the time necessary for the infectious agent to gain a foothold and accumulate in sufficient amount in order to produce its characteristic symptoms. This may still be one factor in the period of incubation. At the same time this explanation could not be applied to the phenomena of anaphylaxis exhibited by serum injections. If we regard the toxic symptoms as due to the cleavage of proteid by specific antibodies, it becomes obvious that the formation and accumulation of these antibodies will require a definite period of time. This period, moreover, will have its minimum limits, so that no matter how virulent the invading microorganism, the symptoms of infection will appear only after a certain interval. It is impossible, at present, to say whether this explanation applies also to the period of incubation seen with extracellular toxines. It is significant, however, that, unlike ordinary chemical poisons, most of the true toxines act only after a definite period of incubation.

RECENT STEPS TOWARD THE SANITARY CONTROL OF VENEREAL DISEASES IN NEW YORK.

During the past few weeks events have occurred which point to the probability that sanitary control of venereal diseases will be soon tried out in a practical manner in this city. During the brief period in which the Page law was in operation last year, the department of health detailed two women medical inspectors to the night court for the purpose of examining street walkers after conviction by the magistrate. The violent opposition to this law, and its many serious defects as an attempt to control prostitution and to limit venereal infection, are too well known now to need further comment. A court decision declaring the law unconstitutional placed a check upon its operation. There has been a growing conviction in the medical profession and among sociologists and sanitarians that the health department is the logical authority in which the sanitary control of venereal diseases should be vested. The Health Department of the City of New York possesses ample legal powers for this purpose, and no new legislation is needed to enable it to deal with venereal diseases in a manner similar to that pursued with other communicable maladies. Commissioner Lederle has given this matter considerable attention during the first year of his administration, and has repeatedly conferred with some of the superior medical officers of the department upon this problem. On April 4, 1911, the commissioner introduced a resolution at a meeting of the board of health which formally declared control of venereal diseases to be necessary for the protection of the public health and directed the medical advisory board to formulate a definite and comprehensive plan for their sanitary control.

While this resolution does not commit the board of health to any definite action it is the first step toward a solution of one of the most important sanitary problems of its history. New York stands first in the list of municipalities which put tuberculosis upon a basis of sanitary control. New York was also the first city to establish a municipal bacteriological laboratory. It is exceedingly fit, therefore, that New York should be first in the field with "a definite and comprehensive plan for the sanitary control of venereal diseases." The medical profession not only of New York, but of the entire country, will await with interest the result of the deliberations of the medical advisory board of the department. The high character of the personnel of this board raises the hope that its recommendations will bear rich fruit, while the reputations of Commissioner Lederle as a sanitarian, and of such an authority as Dr. Hermann M. Biggs, the general medical officer of the board, are guarantees that whatever is done will be with due consideration of the interests of the public, the patients, and the medical profession.

One of the first steps contemplated by the board of health in connection with its proposed campaign is the establishment of a suitable hospital for the treatment of these maladies. At present the city is woefully lacking in such facilities. Dr. Biggs put the matter very clearly in a recent discussion before the Society of Sanitary and Moral Prophylaxis (Social Diseases, ii, No. 2, p. 24). Funds for the erection of a pavilion for venereal diseases in connection with the city's group of hospitals for con-

tagious diseases in East Sixteenth Street have been asked of the board of estimate. This pavilion will be, like the rest of these hospitals, under the care of the health department. The department will also provide for the diagnosis of cases of gonorrhœa and of syphilis for the benefit of practitioners, including the Wassermann test. Facilities are already at hand for the performance of this test in the research laboratory of the department in East Sixteenth Street, according to a recent announcement by Dr. W. H. Park, the director of the laboratory. An educational campaign is also planned by the department in connection with the new movement.

A WARNING CONCERNING SALVARSAN.

In the *British Medical Journal* for April 29, 1911, Sir Jonathan Hutchinson utters a word of warning concerning the possibility of cancer following the use of salvarsan. Sir Jonathan was once a frequent prescriber of various forms of arsenic and noted in a number of cases the subsequent development in his patients of various forms of malignant disease; he has also received letters from professional friends who had observed the same unpleasant phenomenon. For some time, therefore, Sir Jonathan has prescribed arsenic very seldom and only in cases "which very specially demanded it." Not only does the distinguished surgeon warn his colleagues against the careless use of the "newly vaunted remedy for syphilis," but he avers "that but little has been alleged respecting the new remedy which is not equally true of mercury and the iodides when properly and boldly used." Pending a further study of the subject promised by Sir Jonathan, two questions naturally present themselves to the reader; what class of cases were they in which the distinguished surgeon so frequently prescribed arsenic, and is it fair to base deductions upon his probably prolonged exhibition of minute doses to the injury of salvarsan, which is exhibited in one dose and is especially urged upon the profession as absolutely nonorganotropic?

SUGAR AS A HEART TONIC.

In the *British Medical Journal*, for March 18th Dr. Goulston, and in the same publication, for April 1st, Sir James Sawyer give very favorable reports regarding the effects of cane sugar in cases of dilatation of the heart in the aged. Sir James Sawyer has also prescribed sugar in wasting disorders, some forms of anæmia, adynamic rheumatism, and the neurasthenia of neurotic subjects with such excellent results as increase of weight, power, strength, and vigor, without the production of sudden excitement. The patient is advised to carry with him about half a pound of lump sugar daily and eat it from time to time except just before a meal. Sir James concludes his paper by saying that henceforward we must think of members of the sugar group as sustainers and developers of the heart musculature in failure of compensation and in a large variety of cardiovascular troubles. He advises obstetricians to prescribe it in cases of uterine atony and as a general tonic and food throughout pregnancy. Pure cane sugar should be used, a simple test for which is its luminosity when two lumps are rubbed together in the dark.

THE DOCTOR AS A PLAYGOER.

The so called speculator in theatre tickets having been finally put out of business by a long suffering but now fully aroused public opinion, physicians among others are receiving from managers blanks begging them to secure seats in advance at a reduced figure if they desire to attend a series of performances. It is hard to know whether we should be indignant or amused at this specimen of impudence. Those who have tried in vain time after time to get to the box office of an uptown theatre through a ruffianly crowd of so called speculators in possession, with the full knowledge and, it is believed, connivance of the manager, of all the most desirable seats, and have, therefore, finally ceased their uptown theatre going altogether, will be difficult subjects to woo back to an amusement with which they have learned to dispense. The amusement to which we refer is that of seeing a smart, well dressed audience. The cured maniac for current sensations now placidly awaits the reproduction of a play on Eighth Avenue, Brooklyn, Harlem, or the Bronx, knowing that only the good plays will last till then, irrespective of all the critics of the daily papers and of the most picturesque and noisy *réclame;* he sees the same players at half the uptown price and a better, because more matured performance. We are not ashamed to express the wicked hope that the goose that laid the golden eggs for managers so long and so patiently has gone to the anserine shades.

TRANSMUTATION OF TUBERCLE BACILLUS OF THE HUMAN TYPE INTO THE BOVINE TYPE.

Among the many investigators who have, for a number of years, made experiments with the two types of tubercle bacillus, Professor A. Eber, of Leipsic, has been indefatigable. He reported, in the issue of the *Münchener medizinische Wochenschrift* for January 15, 1910, that he had been able, under certain conditions, to produce upon revaccination in

cows with human tuberculous material in which tubercle bacillus possessing the characteristic of the human type could be demonstrated a tubercle bacillus which was very dangerous to the animals. In the same journal for April 18, 1911, the learned German scholar makes a a preliminary statement strongly supporting the theory that the human and the bovine tubercle bacilli are one and the same, showing only different typical characteristics. He bases this conclusion upon investigations and experiments in fifteen cases of human tuberculosis and two cases of pure bovine tuberculosis from which he was able to produce sixty-seven pure cultures which he injected into fifty-four cows, 236 rabbits, and 360 guineapigs. The full report of this interesting investigation is promised in the very near future.

A PRIZE ESSAY ON TUBERCULOSIS.

One of the most indefatigable fighters against the white plague is Dr. S. Adolphus Knopf, of New York. For over fifteen years he has, by word and deed, used his experience and his knowledge for the benefit of mankind. In 1900, he received the international prize from the International Congress on Tuberculosis which convened at Berlin in 1899, for an essay which now appears in the seventh American edition. Many thousands of copies have been distributed gratuitously or at cost price through the initiative of governments, medical associations, and individuals, and the essay has been translated into twenty-four different languages. The new edition has been greatly enlarged, as during the past ten years a great deal has been added to our knowledge of tuberculosis. The essay should be recommended for distribution on account of the value of its hygienic and therapeutic counsels.

THE PRESIDENT AND THE MEDICAL PROFESSION.

President Taft deserves the gratitude and warm thanks of the medical profession for the recognition, in his address before the triennial meeting of the Philadelphia Medical Club, on May 6th, of what they are striving to accomplish as regards the health of the citizens of the United States and its dependencies, especially through prophylaxis. The power and prestige of the Presidential office invoked in this cause will do much to overcome the effect of ignorant or prejudiced and interested opposition to desirable medical legislation. President Taft is the first incumbent of his high office to recognize officially the immense value to the public of organized prophylactic medicine and his grateful appreciation of the work of the Army medical corps and of private physician workers in the same field will cause a thrill of encouragement to men who justly feel that their altruistic efforts are only too often misunderstood and attributed to motives to which every worthy physician is a stranger.

News Items.

Changes of Address.—Dr. E. C. Wilson, to 1024 Massachusetts Avenue, N. E., Washington, D. C.

The Physician and Society.—Dr. Charles A. L. Reed, clinical professor of gynecology in the medical department of the University of Cincinnati, delivered a series of three lectures on the Physician and Society at the University on Monday, Wednesday, and Friday, May 8th, 10th, and 12th.

A Movement to Bar Hospital Physicians from Private Practice.—It is reported that a movement is being agitated at Johns Hopkins Hospital, which, if carried out, will prevent instructors in the medical school from engaging in private practice. They will be obliged to devote all their time to teaching and research work.

The Connecticut Homœopathic Medical Society.—At the sixty-first annual meeting of this society, held in New Haven on April 25th, the following officers were elected: Dr. Samuel Worcester, of South Norwalk, president; Dr. H. M. Pollock, of Norwich, vice-president; Dr. Henry P. Sage, of New Haven, treasurer, reelected; Dr. Royal E. S. Hayes, of Farmington, secretary, reelected.

The American Association of Medical Examiners.—The twelfth annual meeting of the American Association of Medical Examiners will be held in Los Angeles, Cal., on June 26th and 27th, under the presidency of Dr. Lison H. Montgomery, of Chicago. The title of the president's address is Life Insurance Companies as a Factor in the Progress and Problems of a Great Nation. Dr. Allen E. Cox, of Helena, Ark., is secretary.

Personal.—Dr. Charles K. Clarke, of Toronto, superintendent of the Hospital for the Insane, and dean of the faculty of medicine in the University of Toronto, has been appointed superintendent of the Toronto General Hospital, to succeed Mr. J. N. E. Brown, who resigned recently.

Dr. George A. Huntoon, of Des Moines, Iowa, has been appointed a member of the State Board of Health, to succeed Dr. A. P. Hanchette, of Council Bluffs, who resigned recently.

A New Hospital in Oak Park, Ill.—It is reported that the physicians who resigned in a body from the staff of the Oak Park Hospital have completed their plans for the establishment of a rival institution. The West Suburban Hospital Association has been incorporated, with a capital stock of $25,000, and final details were arranged at a meeting held on May 1st. As soon as a site for the new institution has been decided upon, the work of construction will be begun at once.

The Society of Medical Jurisprudence held its 238th regular meeting on Monday evening, May 8th. The committee on Proposed Changes in Law With Reference to Alleged Insane Persons submitted a report. Dr. Prince A. Morrow, president of the American Society of Sanitary and Moral Prophylaxis, read a paper on the Medical Aspect of Section 79 of the Page bill. Dr. Eberhard W. Dittrich read a paper entitled Is the Use of Dioxydiamidoarsenobenzol Dichlorhydride justified under Section 79 of the Page Bill? An interesting discussion followed.

Social Service Work at New York Hospitals.—An order has been issued by the Commissioner of Public Charities, of New York, creating an advisory social service committee in connection with each of the hospitals under the jurisdiction of his department. The purpose of these committees is to aid the department in investigating the circumstances and needs of patients about to be discharged from the hospital, in securing necessary nursing service for patients after discharge, and in improving home conditions whenever practicable. The committees will also help to obtain needed assistance during convalescence by securing the admission of discharged patients to convalescent homes and by referring them to proper relief agencies.

The Northern New Jersey Academy of Medicine Organized.—Papers [illegible] Academy of Medicine of Northern New Jersey were read on Saturday, May 6th. About three hundred physicians have joined the organization, which will have its headquarters in the Wiss Building, 665 Broad Street, Newark. The officers for the first year are: President, Dr. Edward J. Ill, of Newark; vice-presidents, Dr. Thomas N. Gray, of East Orange, and Dr. Wells P. Eagleton, of Newark; secretary, Dr. Julius Levy, of Newark; treasurer, Dr. Henry J. F. Wallhauser, of Newark.

Visit of the President to the Philadelphia Medical Club.—President Taft visited the Philadelphia Medical Club on the occasion of its triennial banquet on May 6th. In his address to the guests he paid a high tribute to medicine and medical men, citing the accomplishments of preventive medicine in Cuba, the Philippines, and Panama, as well as in the protection of our troops at present massed along the Mexican frontier. He congratulated not only the Army Medical Corps, but the profession generally in making progress and becoming the benefactors of mankind, speaking of their efficiency as marvelous and almost incredible. The President was hailed by the chairman of the banquet, Dr. W. L. Rodman, as the one who had done most for the advancement of medical science and his recommendations for the establishment of a National Department of Health by act of Congress were enthusiastically received.

The Medical Association of the Greater City of New York will hold a stated meeting on Monday evening, May 15th, in De Witt Hall, New York Academy of Medicine. The programme will include the following papers: Suction Drainage, with a New Form of Air Pump which will Siphon, by Dr. Nathan G. Bozeman; Intubation for the Relief of Acute Diphtheritic Stenosis of Larynx, by Dr. Henry L. Lynah; The Vaccine Treatment of Typhoid Fever, by Dr. James G. Callison. Dr. Lynah's paper will be accompanied by a practical demonstration of intubation and extubation, and will be discussed by Dr. William P. Northrup, Dr. Benjamin van D. Hedges, of Plainfield, N. J., Dr. John Rogers, Dr. Matthias Nicoll, Jr., and Dr. Eli Long. Dr. Callison's paper will be discussed by Dr. Austin W. Hollis and Dr. George E. McLaughlin, laboratory director of Christ Hospital, Jersey City. The special meeting in the Borough of Richmond will be held on Monday evening, June 5th.

The New Tuberculosis Directory of the National Association for the Study and Prevention of Tuberculosis, which has just been issued, shows that over six hundred cities and towns in the United States and about one hundred in Canada are engaged in the war against tuberculosis. On April 1, 1911, 1,500 different agencies were at work in the crusade, an increase of 700 per cent. in the last seven years. The new Directory lists 421 tuberculosis sanatoria, hospitals, and day camps; 511 associations and committees for the prevention of tuberculosis; 342 special dispensaries; 68 open air schools; 98 hospitals for the insane and penal institutions making special provision for their tuberculous inmates; besides giving an account of the antituberculosis legislation in every State and in about 250 cities. The directory, which is the third of its kind that has ever been published in this country, gives the most complete survey of the antituberculosis movement that can be secured, and shows the remarkable growth of this campaign in the last seven years.

The American Society of Tropical Medicine.—Arrangements have been completed for the eighth annual meeting of this society, which will be held in New Orleans on May 18th and 19th. The morning session, on May 18th, will be held at the rooms of the New Orleans Parish Medical Society, 141 Elk Place. Luncheon will be served at the Refectory on the Campus of Tulane University, and the afternoon session will be held at Richardson Memorial Building on the Campus of Tulane. During this session Dr. C. W. Duval will demonstrate cultures of bacillus lepræ and other pathological features of leprosy in his laboratory, which is situated in this building. There will be a dinner or a smoker on the night of May 18th. The morning session of May 19th will be ushered in by a clinic on pellagra at the Charity Hospital. After this the regular scientific session of the society will be held in Hutchinson Memorial of Tulane University. Luncheon will be served at noon, for which a subscription will be requested. On Saturday, May 20th, an excursion is being planned to the Leper Colony.

The West Roxbury District Medical Club held its annual dinner and election of officers in Boston recently. Dr. B. N. Bridgman, of Jamaica Plain, the retiring president, presided and acted as toastmaster. The following officers were elected to serve for the ensuing year: President, Dr. J. S. H. Leard, of Forest Hills; vice-president, Dr. W. H. Robinson, of Jamaica Plain; secretary and treasurer, Dr. E. T. Rollins, of Jamaica Plain; executive committee, Dr. E. B. Lane, of the Adams Nervine, Dr. E. C. Stowell and Dr. A. N. Broughton, of Jamaica Plain; membership committee, Dr. B. H. Calkins, Dr. F. S. Schmidt, Dr. C. B. Faunce, Dr. F. R. Sedgley, Dr. A. E. Steele.

The American Orthopædic Association will hold its twenty-fifth annual meeting in Cincinnati on May 15th, 16th, and 17th, with headquarters at the Hotel Sinton. The meeting will open on Monday with a clinical session in the amphitheatre of the Cincinnati Hospital, which will be followed by a demonstration of apparatus, technical methods, etc. A feature of special interest will be an address on Currents and Counter Currents in Medicine and Surgery by Dr. E. H. Bradford, professor of orthopædic surgery at Harvard Medical School, which will be given on Monday evening, and will precede a reception and smoker to the visiting delegates by Dr. Albert H. Freiberg, president of the association. On Tuesday evening the annual dinner of the association will be held at the Queen City Club.

The Eastern Medical Society of the City of New York.—At a regular meeting of the society, held on Friday evening May 12th, the programme consisted of a "symposium" on the heart. Dr. Bernard Sutro Oppenheimer read a paper entitled Factors in the Production of Auricular Fibrillation (Nodal Rhythm). A paper which dealt with some of the newer methods of investigation in the study of the heart was read by Dr. T. Stuart Hart. Work of the heart in valvular disease was the subject of an address by Dr. W. G. MacCallum, professor of pathology in the College of Physicians and Surgeons. Among those who participated in the discussion which followed were Dr. A. Jacobi, Dr. Walter B. James, Dr. Morris Manges, Dr. Francis P. Kinnicut, Dr. Frank S. Meara, and Dr. Louis Peiser.

The Toronto Academy of Medicine.—The fourth annual meeting of the Academy of Medicine of Toronto, Canada, which was held on Wednesday, May 3d, was largely attended. This was the first time the academy met in its new building at 13 Queen's Park, and arrangements are being made for a formal opening to be held in the latter part of May. The following Fellows were elected as officers and council for the ensuing year: President, Dr. N. A. Powell; vice-president, Dr. R. A. Reeve; past president, Dr. Albert A. Macdonald; honorary secretary, Dr. Harley Smith; honorary treasurer, Dr. W. A. Young. Chairmen of Sections—Medicine, Dr. Graham Chambers; Surgery, Dr. H. A. Bruce; Pædiatrics, Dr. J. T. Fotheringham; Pathology, Dr. J. J. McKenzie; Ophthalmology, Dr. C. Trow; State Medicine, Dr. J. W. S. McCullough. Elective members—Dr. John Ferguson, Dr. John Malloch, Dr. H. J. Hamilton, Dr. J. F. W. Ross, Dr. W. P. McKeown, Dr. A. McPhedran, Dr. F. N. G. Starr, and Dr. F. F. King.

An Ophthalmic Library for Harvard.—Dr. Charles A. Oliver, who died in Philadelphia on April 8th, bequeathed his library on ophthalmology to Harvard Medical School "to be forever kept apart for the daily use of students and practitioners of medicine, to be kept and known as the Charles A. Oliver Memorial Ophthalmic Library." The will also directs that an estate, valued at $15,000, shall be converted into cash, and divided into three parts. One third is to be given to the city of Philadelphia in trust for the use of Wills' Hospital "for the relief of the indigent blind and lame—for the particular purpose of establishing a special operating room in the hospital to be so designated and forever known as the Charles A. Oliver Memorial Operating Room." The second portion is given to the Department of Medicine, University of Pennsylvania, for a special prize fund upon ophthalmology. The interest received annually is to be used for the purchase of a gold medal to be given to students of the graduating class of the Department of Medicine, who receive the highest average and pass the best examinations in that branch. The interest on the third part is given to the College of Physicians of Philadelphia, which shall be used for the purchase of ophthalmological journals

The Syracuse Academy of Medicine.—At a regular meeting of the Syracuse Academy of Medicine, held on Tuesday evening, May 2d, Dr. Henry J. Nichols, Captain in the Medical Corps of the United States Army, read a paper entitled Facts and Fancies about Hookworm Disease, which was accompanied by a lantern slide demonstration. Doctor Nichols treated the subject on the basis of his experience with the disease, which, he says, is more widely distributed in this country than was at first supposed.

Maryland Physicians Plan to Establish a Hospital for Inebriates.—At the one hundred and thirteenth annual meeting of the Medical and Chirurgical Faculty of Maryland, held recently in Baltimore, a committee was appointed to formulate definite plans for the establishment of a hospital for inebriates, where scientific methods will be used in the treatment of alcoholism. These plans are to be submitted to the society at its semiannual meeting in October. The committee was appointed at the suggestion of Dr. G. Milton Linthicum, who believes that an institution such as they propose to ask the Legislature to legalize will be no expense to the State after it has been inaugurated.

Vital Statistics of New York.—During the week ending April 29, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,581, corresponding to an annual death rate of 16.55 in a thousand of population, as compared with a rate of 16.58 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 17.95; the Bronx, 16.84; Brooklyn, 15.31; Queens, 12.43; Richmond, 15.73. There were 138 stillbirths. The deaths of children under five years of age numbered 455, of whom 269 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 48. There were 17 deaths from suicide, 8 from homicide, and 69 due to accidents. Eight hundred and sixty-three marriages and 2,496 births were reported during the week.

Gifts and Bequests to Charitable Institutions.—Bequests to charitable institutions aggregating $164,000 are made under the will of Joseph W. Leighton, of Brookline, Mass., who died on April 26th. These bequests are as follows: To the New England Home for Little Wanderers, $75,000; to the Children's Health Fund, $25,000; to the Boston Children's Friend Society, $25,000; to the Children's Hospital, $12,000; to the Home for Aged Women, $5,000; to the Home for Aged Men, $5,000; to the Home for Aged Couples, $5,000. In each instance the testator has provided that the amount given shall be a permanent fund, only the income to be used for the purposes of the beneficiary institution.

By the will of Oscar Egerton Schmidt, the New York Orthopædic Dispensary and Hospital will receive $5,000 and will also become the residuary legatee of a large estate.

By the will of Martin Herman, who died recently in New York, the Mount Sinai Hospital and the Montefiore Home will each receive $5,000 and the Beth Israel Hospital, $1,000.

By the will of Thomas Achelis, who died on April 6th, the German Hospital will receive $5,000.

The Health of Chicago.—During the week ending April 29, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 8 cases, 3 deaths; measles, 372 cases, 6 deaths; whooping cough, 24 cases, 1 death; scarlet fever, 241 cases, 12 deaths; diphtheria, 154 cases, 18 deaths; chickenpox, 81 cases, 0 deaths; tuberculosis, 216 cases, 80 deaths; pneumonia, 71 cases, 130 deaths. There were also reported 4 cases of German measles, 15 of smallpox, 2 of influenza, 7 of cerebrospinal meningitis, and 79 of contagious diseases of minor importance, making a total of 1,274 cases, as compared with 1,168 for the preceding week and 1,122 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 44, and there were 32 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 187, of whom 119 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 680, corresponding to an annual death rate of 15.79 in a thousand of population, as compared with a rate of 15.3 for the preceding week and 15.1 for the corresponding week last year.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending April 29, 1911.

	Apr. 15th.		April 29th.	
	Cases.	Deaths.	Cases.	Deaths.
Tuberculosis (pulmonary)	312	180	323	108
Diphtheria	354	31	327	31
Measles	1,258	11	1,085	11
Scarlet fever	579	29	652	33
Smallpox	11		11	
Varicella	11		253	
Typhoid fever	28	4	30	
Whooping cough	74	2	84	3
Cerebrospinal meningitis	13	3	9	3
Total	2,555	28	2,969	189

Society Meetings for the Coming Week:

MONDAY, *May 15th.*—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Elmira Clinical Society; Hartford, Conn., Medical Society.

TUESDAY, *May 16th.*—New York Academy of Medicine (Section in Medicine); Psychiatric Society of Ward's Island; Medical Society of the County of Westchester; Buffalo Academy of Medicine (Section in Pathology); Triprofessional Medical Society of New York; Medical Society of the County of Kings; Binghamton Academy of Medicine; Clinical Society of the Elizabeth, N. J., General Hospital; Syracuse Academy of Medicine; Ogdensburgh Medical Association; Oswego Academy of Medicine.

WEDNESDAY, *May 16th.*—New York Academy of Medicine (Section in Genitourinary Diseases); Women's Medical Association of New York City (New York Academy of Medicine) (annual); Medicolegal Society, New York; New Jersey Academy of Medicine (Jersey City); Buffalo Medical Club (annual); New York Society of Internal Medicine; Northwestern Medical and Surgical Society of New York; New Haven, Conn., Medical Association.

THURSDAY, *May 17th.*—New York Academy of Medicine; German Medical Society, Brooklyn; Æsculapian Club of Buffalo; Newark, N. J., Medical and Surgical Society.

FRIDAY, *May 18th.* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of New York Postgraduate Medical School and Hospital; New York Microscopical Society; Brooklyn Medical Society; Saratoga Springs Medical Society (annual).

The Fifteenth International Congress on Hygiene and Demography will be held in Washington, D. C., on September 23 to 28, 1912. The object of the congress is to extend the knowledge and improve the practice of hygiene, public health, and vital statistics. The work of the congress has been divided into two branches, one consisting of an exhibition showing the recent progress and present condition of the public health movement, and the other consisting of a series of scientific meetings, for which purpose the congress has been divided into the following nine sections: Hygiene; Dietetic Hygiene, Hygiene Physiology; Hygiene of Infancy and Childhood, and School Hygiene; Industrial and Occupational Hygiene; Control of Infectious Diseases; State and Municipal Hygiene; Hygiene of Traffic and Transportation; Tropical, Military, and Naval Hygiene; Demography. The congress will be in session six days. There will be two general meetings, the official opening on Monday, September 23d, and the closing session on Saturday, September 28th, the rest of the time being taken up with section meetings. Twenty-two foreign governments have accepted the invitation to attend this congress. The official languages for papers and discussions are English, French, and German. The Department of State has assumed responsibility for the organization and conduct of the congress. The President of the United States will be the honorary president, and Dr. Henry P. Wolcott, president of the State Board of Health of Massachusetts, will be the active president of the congress. Active membership is open to persons interested in public health and vital statistics, and active members are entitled to take part in the discussions and to receive the published transactions. The membership fee is $5. Inquiries and applications for membership should be sent to the Secretary General of the Fifteenth International Congress on Hygiene and Demography, Army Medical Museum, Washington, D. C.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

1. School Inspection in Small Towns.
   By [illegible]
2. The Difficulties and Dangers of Operation in Advanced Cases of Renal Tuberculosis.
   By [illegible]
3. An Analysis of Forty-six Cases of Prostatectomy.
   By [illegible]

2. Diagnosis of Advanced Cases of Renal Tuberculosis.—Cabot observes that in planning an exploration, certain facts must be recognized at the outset. To cut down upon one side and trust to the examination of the other side with the hand passed across the peritoneal cavity is to run a grave risk of error. It is not safe to trust to the examination of the surface of the kidney even if well exposed to reveal the extent and character of the process, and it is nothing short of flying in the face of providence to trust to an exploration at arm's length and in a cramped position. Any exploration to be efficient must be bilateral and must involve a knowledge not only of the kidney and upper portion of the ureter as felt by palpation, but some knowledge of the urine excreted by that kidney. Our author hints that the anterior muscle splitting incision is more satisfactory. It gives ready access to the kidney and the upper half of the ureter. It is quickly made and quickly closed, giving a strong and remarkably painless wound. Particular stress must be laid on always exploring both kidneys. Israel has pointed out the importance of opening the ureter on both sides and collecting the urine directly from both kidneys. To this Caspar has added the value of injecting indigo carmine and observing the secretion. The apparent condition of the kidney and the ureter is an unsafe guide. In a considerable number of the cases the ureter on the sound side is dilated, though it is rarely thickened in a way to deceive those familiar with tuberculous ureteritis and periureteritis. A kidney completely converted into a caseous mass may feel surprisingly normal. With the catheters in both ureters, from which urine should be allowed to drain for ten or fifteen minutes, much knowledge may be gained. This coupled with information gained by examination and palpation should enable the expert to arrive at an opinion. Nephrotomy done for exploratory purposes seems to Cabot objectionable. It will fail to show the exact condition of the kidney unless a very free incision is made. Large incisions carry notable risk of secondary hæmorrhage and result in wound contamination which may be serious, although nephrotomy as a palliative operation for drainage may occasionally be justifiable. The examination of the kidneys being completed, the wounds may be closed if both kidneys are diseased or normal, or one wound may be closed and nephrectomy done upon the diseased side. In the light of recent experience with spinal anæsthesia in cases of damaged kidneys, Cabot regards this as the anæsthesia of election, at least for the exploratory part of the operation. Anæsthesia extending well up to the costal margin is readily obtained and is entirely satisfactory for the exposure and opening of the ureters. The urine can then be collected and conclusions drawn without subjecting the patient to the strain of general anæsthesia. Should nephrectomy be decided upon, it may either be done at once under a general anæsthetic, or postponed to a future occasion. He has not found spinal anæsthesia satisfactory for nephrectomy and does not advise its use, but for the preliminary determination of the kidney function, he believes it will lower the mortality in properly selected cases. Obviously these methods are not to be recommended to the inexpert or to the occasional operator, and he will probably do well to avoid what must always be an unprofitable field from a point of view of permanent cure.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

1. [illegible] Science.
2. A Clinical Study of Sporotrichosis.
   By J. M. Sutton.
3. New Method for Eliciting the Extensor Toe Reflex.
   By Tom Bentley Throckmorton.
4. A Case of Sporotrichosis in Man.
   By [illegible]
5. Administration of General Anæsthetics with Special Reference to Ether and Chloroform.
   By Isabella C. Herb.
6. Family Pernicious Anæmia. By Arthur J. Patek.
7. What Should Be the Attitude of the State toward the Practice of Medicine. By M. L. Harris.
8. The Subsequent Health of Children Who Drank Milk Containing Tubercle Bacilli. By Alfred F. Hess.
9. Surgical Relationship between Uterine Fibroids and Loss of Cardiac Compensation. By R. L. Payne.
10. An Improved Elastic Tissue Differential Stain.
    By F. H. Verhoeff.
11. The Parthenogenetic Development of Ova in the Mammalian Ovary and the Origin of Ovarian Teratoma and Chotioepitheliomata. By Leo Loeb.
12. A Rare Manifestation of Empyema Necessitatis.
    By Julius H. Comroe.

2 and 4. Sporotrichosis in Man.—Sutton and Harker report cases of sporotrichosis in cancer. Sutton remarks that it is well to remember a concurrent infection of the ordinary pus germs may develop as a result of repeated surgical procedure and thus mask the typical symptoms of the primary trouble. The organism consists of a branching, septate, coarse mycelium, from which ovoid bodies develop by budding, either from lateral or terminal filaments or from the sides of the threads. These ovoid bodies are spores. In all of his cases diagnosis was verified by microscopical examination. Harker states that unfortunately the nature of the infecting agent is not always readily recognized, and the patient is subjected to much pain, and even danger, from needless surgical procedures. When the peculiar symptomatology of the disorder is borne in mind, a mistake in diagnosis is not liable to occur. As has been pointed out, "a traumatic lesion of the arm, forearm, or leg which proves resistant to ordinary surgical treatment, and is accompanied by the development of one or more sharply circumscribed, painless, cutaneous or subcutaneous abscesses along the course of a limb, should always arouse suspicion, especially if the inflammatory manifestations characteristic of a streptococcic cellulitis are absent."

5. Anæsthesia.—Herb protests against the routine giving of drugs before ether and chloroform anæsthesia. In selected cases it may be of

advantage, but the system can eliminate one poison much more easily than it can three or four at the same time. The use of morphine with atropine or with hyoscine (scopolamine) in combination with ether or chloroform is absolutely detrimental in many instances. It is a well known therapeutic fact that one drug may augment the action of another, and this is especially so in an ether or chloroform-morphine combination. Consequently, an overdose is more easily administered. The excessive action may be undesirable or dangerous. A number of instances have been reported, in which alarming respiratory depressions, or even deaths have been attributed to this method. In cases of any untoward accident, there is not only the volatile and quickly removable drug, but also the nonvolatile and comparatively permanent one to be eliminated. Many former advocates have abandoned the method because of deaths reported by competent anæsthetizers, which were due to the more permanent drug, although small doses were given. Not the least of the objectionable features of drugging before general anæsthesia is the masking of the most valuable of all guides in anæsthesia, namely, the pupillary reaction. With a single drug, as ether or chloroform, one can interpret every change in respiration and circulation, meet and combat it; not so when several drugs are acting and one has no way of knowing which is the guilty one. Because less chloroform or ether is required when combined with morphine and atropine or scopolamine, the combination has been recommended in mouth operations, but that advantage is more than offset by the disadvantages of the patient's remaining asleep after the operation is completed. Morphine allays the reflex excitability of the air passages, thus retarding coughing and favoring the retention of aspirated blood or vomitus in the trachea or bronchi, which predisposes to pneumonia. Many people are unable to take morphine without distress or vomiting, and in such individuals the disagreeable after effects of ether or chloroform would be aggravated. If the lovers of atropine will keep the patient's head turned to the side, troublesome mucus will escape at the angle of the mouth or remain in the cheek where it can be wiped out. This position also prevents the tongue from falling back and obstructing respiration. Occasionally, mucus collects in the bronchi, in which case the patient should be allowed to awaken sufficiently to cough. Mucus acts as a foreign substance and causes reflex coughing, although the patient may still be fairly well anæsthetized. They very quickly become narcotized again. The much lauded quieting effect of combination anæsthesia, making the patient come to the operating room in a tranquil frame of mind, is of little moment compared with the disadvantages of the method.

8. Milk and Tuberculosis.—Hess reports the history of eighteen children who drank milk in which tubercle bacilli were demonstrated, all but one remained free from active tuberculosis during a period of supervision of three years; in this one tuberculosis of the cervical glands developed, from which a bacillus of the bovine type was cultivated. From animal experiments we can conclude that the chance of infection through milk depends not only on the number of bacilli ingested, but also on the frequency of exposure to small infections. For a quantity of bacilli which was insufficient to produce tuberculosis in guineapigs when given in one dose, suspended in milk, was able to incite tuberculosis when fed in twenty-five to thirty doses on as many days. He concludes that tubercle bacilli in milk are a menace to the health of young children. Tubercle bacilli in butter are likewise a menace; therefore, a safe butter, whether pasteurized or certified, should be provided for their use.

9. Uterine Fibroids and Loss of Cardiac Compensation.—Payne observes that in a large percentage of cases of uterine fibroids there are present symptoms of cardiovascular disturbance. The size of the growth has no relation to the severity of the cardiac disturbance; symptoms have been apparent while the growth was still small. In some cases of lost cardiac compensation associated with fibromyomata, the symptoms are materially benefited by removal of the growths. In some cases the cardiac disturbances are of so severe a type as to result in sudden death following operation. The first signs of cardiovascular disturbance associated with uterine fibroids should be an indication for immediate operation, and the watchwords in these cases should be: 1, Rapid surgical technique; 2, careful hæmostasis; 3, as little handling of the viscera as possible; and, 4, the greatest caution against overtaxing the heart during postoperative treatment.

MEDICAL RECORD

May 6, 1911

1. The Vaccine Treatment of Typhoid Fever.
By W. H. WATTERS and C. A. EATON.
2. Fibrillation of the Auricle.
By LOUIS FAUGÈRES BISHOP.
3. Intravesical Irrigation in Acute Gonorrhœa.
By MAX HÜHNER.
4. Perforating Wounds of Uterus, with a Report of Twenty Cases.
By EMORY LANPHEAR.
5. The Value of Ether Administration.
By PAUL J. FLYNN.
6. Impressions as to the Value of Salvarsan (Ehrlich Hata 606).
By WILLIAM B. TRIMBLE.
7. An Unusual Case of Placenta Prævia.
By JACOB OPPENHEIM.

1. Vaccine Treatment of Typhoid Fever.—Watters and Eaton give a table showing the reports of results thus far obtained from vaccine treatment of typhoid fever:

Author	Cases	Died	Relapse
Watters and Eaton	80	2	4
Smallman	30	3	2
Ilman and Duncan	10	1	4
Semple	9	0	0
Watters and Eaton	4	0	0
Nichols	11	0	2
Raw	6	2	2
Sappington	11	2	1
Anders	8	0	
Watters and Eaton	35	3	2
Duncan	6	0	0
Richardson	68	5	8
Hollis	11	0	3

2. Fibrillation of the Auricle.—Bishop states that fibrillation of the auricle practically amounts to a trembling palsy of the heart—but a palsy that casts an influence over the healthy part of the heart. The healthy part of the heart is perfectly able and willing to contract regularly, but at a very slow rate. The paralyzed part of the heart is constantly

lashing the healthy part of the heart into contractions, but when the heart has contracted once it will refuse to contract again until after it has had a rest, and then as soon as it is able to, it contracts to the next impulse. If we could cut the bundle of His in a case of fibrillation of the auricle, the heart would act regularly, but very slowly.

3. **Gonorrhœa.**—Hühner refers to an article published in the *New York Medical Journal*, of January 28, 30 February 6, 1909. He strongly favors intravesical irrigation in acute gonorrhœa, that is the forcing of fluid from the meatus into the bladder without the intervention of a catheter. He says that this distention method of treating gonorrhœa is the most natural physiological method. It is simply reversing the thing in the same way it has been acquired. When a man acquires gonorrhœa his penis is in the erect position, his urethra is lengthened, its folds are obliterated. Now the gonococcus enters the urethra while in this condition. Immediately after coitus the penis becomes flaccid, the urethra shortens in folds, and the gonococci are therefore entrapped between the folds of mucous membrane. What is more natural, therefore, in order to get rid of them again, than to reverse the order, to obliterate the folds and distend the urethra so as to bring it in the same condition as it was when the gonorrhœa was acquired?

6. **Salvarsan.**—Trimble, from his experience with salvarsan, concludes that salvarsan causes an unusual and very rapid disappearance of the mucous membrane lesions. Its action is no faster than mercury, if as fast, in the papular form of the disease. It does not act more quickly than mercury on the cutaneous tertiary manifestations of syphilis. Relapses occur in many of the cases. These relapses come very quickly after apparent cure. The tonic effect is excellent, many of the patients improving wonderfully in general condition. It is a very potent remedy, which will probably find a fixed place in the therapeutics of syphilis for use in special cases, but will not supersede mercury.

BRITISH MEDICAL JOURNAL

April 29, 1911.

1. Persistence of Disease Germs in the Human Body. By Sir HECTOR C. CAMERON.
2. Salvarsan ("606") and Arsenic Cancer. By Sir JONATHAN HUTCHINSON.
3. Place of the Hospital in a Civilized Community. By [illegible] STEVENS.
4. The Syphilitic Factor in the Hemiplegias and Diplegias of Infancy and Childhood. By CHARLES R. BOX.
5. The X Rays in Treatment. By JAMES R. RIDDELL.
6. Extensive Venous Infection Complicating Middle Ear Disease: Thoracic Empyema: Recovery. By NORMAN PATTERSON.
7. Three Cases of Malignant Disease of the Spine. By THOMAS D. LUKE.
8. Some Cases under the Workmen's Compensation Act, and Others of Medicolegal Interest.
9. [illegible]

1. **Persistence of Germs in Body.**—Cameron cites cases of recurrence of erysipelas after eighteen months, of staphylococcic osteomyelitis at intervals during eleven years, of staphylococcic abscess in the tibia after nine years, of osteitis of the femur five months after the occurrence of a carbuncle on the neck, of suppuration after three years, of repeated attacks of severe pain in the tibia for twenty-seven years after the occurrence of typhoid osteitis with abscess, and of amœbic abscess of the liver six years after recovery from an attack of dysentery.

2. **Salvarsan and Arsenic Cancer.**—Hutchinson says mercury and arsenic have always been the sheet anchors of his practice; long ago he noted that herpes zoster was likely to follow the exhibition of arsenic. He now believes cancer may also follow it, and cites cases of Darier and Dubreuilh. A surgeon has written him concerning a young married woman treated with arsenic for psoriasis who subsequently had a number of epithelial cancers. He warns against the indiscriminate use, therefore, of the "newly vaunted remedy for syphilis" without due recognition of its possible danger; he suggests that arsenic gives proclivity to cancer by being a depressant rather than a stimulant to growth, therefore diminishing the vigor of the forces which favor normal animal organization and permitting, remotely and after an interval, degraded types of growth more nearly allied to those of vegetation.

4. **Syphilis as a Factor in Infantile Paralyses.**—Box thinks the consensus that syphilis is *not* a common factor in upper neurone paralysis in childhood will bear examination. Autopsies on paralyzed children show lesions in the brain very like those of syphilis in the adult; the spinal cord is also affected. Specific endarteritis of the spinal arterioles may lead to localized sclerosis or the cord may be compressed by gummata of the meninges or of the periosteum of the spinal canal. Arrest of the development of the brain and ganglion cells has been ascribed to the action of the virus of syphilis. Antenatal paralysis is bilateral and spastic, frequently accompanied by athetosis, presents mental weakness and a tendency to convulsions, difficulty in swallowing, squint or nystagmus; birth is liable to be premature. Syphilis is the most likely cause of this form. Postnatal infantile hemiplegia or diplegia is, as a rule, acquired early in life. The onset is sudden and definite, not gradual. The paralysis is hemiplegic, or, much less commonly, diplegic in distribution. Ankle clonus is rare; an extensor plantar reflex is the rule. The power of speech may be lost. Articulation usually reappears in a few weeks or months. It is remarkable that these patients never show true aphasia in afterlife. There is but little permanent paralysis of the face. The tongue will rarely be found to deviate toward the hemiplegic side. Convergent squint may occur. Subsequent spasticity is not invariable. In old cases the arm is affected oftener than the leg, and the shoulder makes a better recovery than the hand. Contractures of the arm and spasm of the legs are common. Always investigate the family history in these cases, and make the Wassermann tests of blood and cerebrospinal fluid, also look in the latter for globulin and excess of lymphocytes.

5. **X Rays in Treatment.**—Riddell has had good results in the treatment of rodent ulcer, psoriasis, lupus, tuberculous glands at any stage, exophthalmic goitre, alopecia areata, leuchæmia, hyperidrosis, hairy and pigmented moles, nævi, deeply seated malignant disease, ringworm, and favus. Large and frequent doses are necessary, precau-

tions being taken against the possible terrible damage.

9. **Radium Water Therapeutics.**—Armstrong states that radioactivity is now measured in *machés*, which are the one thousandth part of an ordinary electrostatic unit. The new unit is named for Professor Maché, of Vienna. Radioactive strength of a water may be increased by adding pitchblende. In June, 1910, he began to use a strong radioactive water in the class of cases successfully dealt with in Germany. The maximum strength provided was 8,000 maché units per litre, and he is now able to offer an analysis of the results in 400 cases. For drinking purposes, the water was prescribed in daily quantities of from one half litre to one litre, divided into two or three doses. The strength given was from 1,000 to 8,000 units, according to the class of case treated. For bathing, the strength of the water was from five to fifteen units per litre, and for inhalation 1,000 to 8,000 units. Packs of radioactive earth to inflamed and thickened joints were also used. The general physical results observed were as follows: 1. Greatly increased diuresis. 2. Increase of exhalation of carbonic acid gas, from 20 to 60 per cent. 3. Marked lowering of blood pressure, especially in arteriosclerosis. 4. Improvement of digestion, both gastric and duodenal. 5. Disappearance of gouty deposits. 6. Considerable increase in vitality, both general and sexual. 7. Regulation of action of bowels, probably due to increased peristaltic action, but no actual purgative effect. 8. Great improvement in appearance, clearness of skin, brightness of eyes, etc. The cases treated comprised the following diseases: Diabetes, glycosuria, albuminuria, arteriosclerosis, gout, rheumatism, arthritis, neuritis, neurasthenia and general loss of vitality, autointoxication; sympathetic nerve and vasomotor troubles, such as angeioneurosis. In nearly all cases the results were most encouraging.

LANCET

April 29, 1911

1. Plague, By Wu Lien-Teh (G. L. Tuck).
2. Sensibility of the Alimentary Canal in Health and Disease (Lecture II), By Arthur F. Hertz.
3. The Microbic Factor in Gastrointestinal Disease and Its Treatment, By Bertrand Dawson.
4. A Consideration of Some Cases of Advanced Tuberculous Joints Treated by Ileocolostomy, By Harold Chapple and Distaso.
5. A Case of Lymphadenoma in a Woman Aged Sixty-three Years. By Ernest P. Stratford.
6. Two Interesting Cases of Acute Intussusception and Appendicitis, By L. C. Martin.
7. A Report on the Septichæmic and Pneumonic Plague Outbreak in Manchuria and North China (Autumn, 1910—Spring, 1911). By G. [illegible] Gray.

1. **Plague.**—Wu Lien-Teh delivered his lecture in Mukden as chairman of the International Plague Conference. He laid the blame for distribution of the plague chiefly upon an animal known in English as the marmot (Arctomys bobac), which ranges over Mongolia and Central Asia; hunters gather the pelts and sleep on huge piles of them. Beginning apparently in Manchuria, October 12, 1910, the plague tended to follow the quickest line of travel; the lines of infection corresponded exactly with the routes taken by the coolies on their return home for the Chinese New Year; although Shuangcheng Fu is only about thirty miles south of Harbin, on the Russian railway, the first case reported there was nearly two months after the outbreak in Harbin. When it did appear it was extraordinarily virulent, killing over 4,000 people in the whole district in the course of two months; it spared certain towns—e. g., Newchwang and Chinwang-tao, the latter being the principal winter port of North China. The reason of immunity in the former case appeared to be due to the fact that the town is frost bound in winter; in the latter case the cause might be traced to the coolies not traversing the town on their southward march on foot. That Tangshan actually, and Peking and Tientsin practically, escaped might be due to their employing only local coolies in winter, and therefore those homeward bound from Manchuria would not remain in these cities. In three months the plague killed over 5,000 in a population of 30,000. Wu Lien-Teh spoke highly of the honor alike to China and to science of the meeting in Mukden.

2. **Sensibility of Alimentary Canal.**—Hertz, in his second lecture, discusses the sensation of fulness in the intestines and in the rectum, producing the call to defæcation; constipation is sometimes due to laziness, ignorance, or fear of pain, the rectum being full. To this condition Hertz gives the name *dyschezia*. Taking up the sensation of hunger, the writer says it is felt in man only when the stomach is empty. Anorexia may be due to the absence of normal movement of the stomach as in chronic gastritis, or to depression of the central nervous system as in neurasthenia. Although the intestines, other abdominal viscera, the mesentery and omentum are insensitive to pain, the parietal peritonæum and subserous connective tissue are extremely sensitive. Tension on the fibres of the muscular coat of the intestines is what gives rise to pain, also excessive stimulation of the afferent nerves.

3. **Microbic Factor in Gastrointestinal Disease.**—Dawson says the hydrochloric acid of the stomach is the best protection against microbic attack. The frequent attacks of gastritis in some subjects is due to infection from the mouth, pharynx, tonsils, teeth, and adenoids, and to overeating by people who are habitually constipated. He cites his teacher, Sutton, as an authority for the statement that the same individuals suffer from amygdalitis and appendicitis. Microbic infection of the biliary tract frequently simulates gallstones. Colitis is probably preceded by infections further up in most cases. The biliary canaliculi may be infected from the blood stream and then follow descending cholangeitis, duodenitis, and gastritis. The effect of vaccine treatment is in many cases most convincing.

4. **Tuberculous Joints and Ileocolostomy.**—Chapple speaks very highly of this operation in persons with tuberculous joints, as advised by Arbuthnot Lane, and states that the improvement in the affected joints is very remarkable. The operation should be done early, as soon as there are signs that an autointoxication exists. Distaso, who is Metchnikoff's assistant, expresses his astonishment when this operation was first brought to his attention as a remedial measure in articular tuberculosis, but proceeds to reason out the matter.

He was astonished to see Mr. Arbuthnot Lane perform the operation of exclusion of the large intestine in children suffering from advanced tuberculous lesions. He was anxious to wait before considering the results of the clinical cases which Mr. Chapple had collected for this short communication, and he wished to see with his own eyes the results of the operation after 12 months. He had done so, and the results were that the children submitted to this operation were in excellent health in spite of the fact that all previous surgical and medical treatments had failed, and exclusion of the large bowel had brought them back to health. How to explain these facts that at first sight seemed paradoxical? It was almost certain that it was only by the alimentary tract that one could become infected, because it had been clearly demonstrated that the pulmonary route played a part that was almost negligible in tuberculous infection. So that primary pulmonary tubercle ought to be considered a rarity, and was almost always secondary because the bacilli could pass through the mucous lining of the intestinal wall and were carried by the blood stream to the lungs. On the other hand, localized tubercle was curable, whilst generalized tuberculosis was not. What was the cause of this fact? The most reasonable hypothesis was that the individual was rendered sensitive by the first infection to a second infection. The possibility of a reinfection was the salient point in tuberculous patients. It was in the large intestine in which the tuberculous process localized itself that we found the most suitable circumstances for this reinfection. If we excluded it, reinfection was no longer possible, and the individual should be thus cured even in advanced cases. This is exactly what had happened in these children whose clinical reports were presented. They were considered incurable, but these cases had demonstrated to the contrary. From what he had said it followed: (1) that these cases apparently proved the hypothesis that the route of infection of the tuberculous virus was *via* the intestine; (2) that a tuberculous infection was only curable when reinoculation was prevented; and (3) that advanced tuberculous lesions could be cured if we removed the disposing cause.

PRESSE MEDICALE

March 26, 1911

1. Functional Studies of the Kidneys.
By [illegible]

April 12, 1911

2. Diseases of the Nervous System; Lecture I.
By [illegible]
3. The Abdominal Cavity from a Surgical Viewpoint.
By HARTMANN.
4. Pathogenesis of Round Ulcer. By GOUGET.

April 29, 1911

5. "Accident" in the Law Concerning Employers' Liabilities. By [illegible]
6. Pathogenesis of Hæmatogenous Appendicitis.
By RICHET, JR., and SAINT-GIRONS.

April 8, 1911

7. Hypertrophy of the Tonsil. By MAHU.
8. Theory of Acidosis and Diabetic Coma.
By [illegible]

3. **Surgical View of the Abdomen.**—Hartmann warns his students of the invariably septic condition of the products of digestion, which increases as the food approaches the ileocæcal valve, and is much aggravated by an existing stenosis or the presence of a malignant ulceration; the surgeon, therefore, will operate as far as possible extraperitonæally, and delay opening the digestive canal till the last possible moment; when this is done, no time should be lost, and some method of coprostasis should be employed. Care must be taken in handling the peritonæum not to injure it or to destroy its defensive qualities; no stumps should be left, or raw surfaces, but all should be scrupulously covered with peritonæum. The operative field should be carefully delimited and scrupulously surrounded by aseptic compresses; the normal anatomical folds of the peritonæum should be utilized as far as possible. Care must be taken to drain all infected or oozing surfaces.

7. **Hypertrophy of the Tonsils.**—Mahu advises amygdalectomy in children or adults; his two rules are never to operate during an acute exacerbation of amygdalitis, and to wait at least two weeks before operating on a child who has been sick. He advises anæsthesia with ethyl chloride or bromide for children and the local use of cocaine for adults.

8. **Acidosis and Diabetic Coma.**—Labbé and Violle, in their experiments on animals, found that mineral acids would not produce coma, but that organic acids, butyric, propionic, lactic, and betaoxybutyric would do so. They conclude that acidosis is the real cause of diabetic coma and that alkalinization of the system is the key to rational treatment.

SEMAINE MÉDICALE

April 12, 1911

1. Rupture and Perforations in Pyosalpinx.
By [illegible]

April 19, 1911

2. Estimation of Renal Activity by the Comparative Study of Urea in the Blood and in the Urine.
By [illegible]

1. **Perforations in Pyosalpinx.**—Lejars states that statistics in his possession show that in twenty laparotomies performed within twelve hours after perforation had taken place, there were fourteen recoveries and six deaths (thirty per cent.), while the mortality amounted to eighty per cent. when operation was delayed longer than forty-eight hours. Early laparotomy finds the patient in good physical condition and permits a radical operation, viz., removal of the annexa, best including hysterectomy.

BERLINER KLINISCHE WOCHENSCHRIFT

April 10, 1911.

1. Experimental Syphilis of Rabbits.
By UHLENHUTH and MULZER.
2. A Transportable Inhalation Apparatus for Radium Emanations with Continuous, Regulable Distribution of the Emanations. By A. BICKEL.
Constructing and Method of Action of a Transportable Inhalation Apparatus for Radium Emanations with Capacity to Regulate the Dosage of the Emanations.
By W. [illegible]
4. A Case of Extirpation of a Cavernoma of the Liver.
By J. ISRAEL.
5. The Origin of a Sarcoma from a Lupus Carcinoma.
By [illegible]
6. The Diagnostic Importance of Paralysis of the Larynx.
By [illegible]
7. Treatment of Experimental Strychnine Poisoning with Intratracheal Insufflation and Ether Narcosis.
By T. S. GITHENS and S. J. MELTZER.

2. [illegible] of Manual Artificial Respiration. By GEORGE MEYER.
6. The Pains of Flatfoot and Arthritis Deformans, By PAUL EWALD.
[illegible] of Supersensibility in Pregnancy. By A. HIRSCHBERG.

1. **Experimental Syphilis in Rabbits.**—Uhlenhuth and Mulzer adduce as evidence that the rabbits inoculated by them became truly syphilitic the following facts: 1. The characteristic period of incubation, more or less long, which precedes the disease; 2. the characteristic picture, very similar clinically and pathologically to that of manifest human syphilis, particularly of the hereditary form; 3. the presence of the *Spirochaeta pallida* in the morbid products and in the blood; 4. the possibility of transferring these morbid products not only to other rabbits, but also to monkeys, guineapigs, and goats, and their almost regular production of the same morbid products after a characteristic period of incubation. Human syphilitic serum may be successfully inoculated into rabbits and from them intravenously into monkeys with the production of grave general symptoms and skin lesions containing spirochætæ; 5. the gravest forms of testicular and general disease are caused to disappear by means of specific treatment. For this purpose Uhlenhuth employed atoxyl, mercury atoxylate, and Ehrlich's 606.

10. **Supersensibility in Pregnancy.**—Hirschberg's explanation of the fact discovered by Fromme that pregnant women react more strongly to injections of foreign albumins than others is that they are supersensitive, anaphylactic.

MEDIZINISCHE KLINIK.

April 9, 1911.

1. [illegible] Uterus and Its Treatment. By H. L'EHAM.
2. The Formation of Calculi in the Urine and the Way in Which It Can Be Influenced. By H. SCHADE.
3. Neurotropia and Depot Action of Salvarsan, By K. HEUSER.
4. Bromide of Soda or of Potash? By P. JOEDICKE.
5. Injection or Infusion in the Intravenous Treatment with Salvarsan. By HANS ASSMY.
6. Transfusion of Salt, By HUGO HELLENDALL.
7. The Modern Technique of the Operation for Cataract, By W. EHRENFELD.
8. Chronic Bronchial Diseases with Tuberculosis Excluded (*Continued*). By POSSELT.
9. Cystopurin, By P. HEUBACH.
10. What Do We Know Concerning the Ætiology of Trachoma. By C. H. SATTLER.
11. The Treatment of Basedow's Disease. By KURT SINGER.

3. **Salvarsan.**—Heuser finds that arsenic can be found in some cases six and nine months after an intramusulcar injection and as much as three months after its intravenous injection. In one of his cases the arsenic was demonstrable not only in the urine, but also in the blood.

4. **Bromide of Soda or of Potash?**—Joedicke says that he prefers the potassic bromide in the treatment of epilepsy and related diseases because it has not been proved that this salt causes any injury to the circulatory apparatus when administered through the stomach, because larger doses than fifteen grammes, which may disturb the heart's action, are not necessary, and because the removal of chlorine from the organism and therefore the therapeutic action, can be secured best with potassic bromide, both components of which hasten the excretion of the chlorine through the kidneys.

5. **Injection or Infusion.**—Assmy gives in detail the technique of both injection and infusion, but the reviewer feels uncertain that he would still mistake one for the other, they seem to differ in such unimportant details. The author prefers the method of infusion.

10. **Trachoma.**—Sattler acknowledges that in spite of all endeavors the agent of trachoma has not yet been positively identified and no results in the treatment of the disease have been secured through the methods of the investigations of immunity.

April 16, 1911.

1. Prophylaxis and Treatment of Septic Abortion, By G. WINTER.
2. Diagnosis and Treatment of Diseases of the Lower Portion of the Intestine, By GUSTAV SINGER.
3. Derivative Procedures in the Light of Modern Times, By B. BLOCH.
4. Surgical Treatment of Ulcer of the Stomach.
5. Injuries of the Kidneys by Salvarsan, By R. MOHR.
6. The Curative Value of the Antiferment Treatment of Suppuration, By BOIT.
7. Bases and Methods of Climatic Cures. By K. DOVE.

1. **Septic Abortion.**—Winter says that when a septic abortion is diagnosticated it must first be determined that the infection has not extended beyond the uterus before active treatment is instituted. When the diagnosis of septic abortion has been confirmed and the disease is confined to the uterus the next procedure of the physician should be determined by the bacteriological examination, except when there is considerable hæmorrhage; in these cases immediate curettage is indicated. If the bacteriological examination reveals the presence of streptococci, staphylococci, bacteria coli, or the ordinary saprophytes curettage should be practised and no serious results are to be expected. But if the examination reveals the presence of hæmolytic streptococci, especially if in pure cultures and with distinct hæmolysis, he advises against any local intervention, as the danger involved is very great. The treatment should be general, to increase the power of resistance of the organism in the expectation that the infection will be overcome by local reaction. Ergotin treatment is indicated to limit absorption through a firm contraction of the uterine wall and at the same time favor expulsion of the remains of the fœtus. This expective treatment is tedious, but affords better chances for the patient.

4. **Surgical Treatment of Ulcer of the Stomach.** The *Medizinische Klinik* has sent a circular letter to a number of surgeons asking for a, the special indications for surgical intervention in round ulcer of the stomach; b, the kind of operation preferred; c, the results thus far obtained. Replies by Koerte, Bier, Mueller, Koenig, Perthes, Neumann, and Payr are published in the present issue.

5. **Injuries of the Kidneys by Salvarsan.**—Mohr reports three cases of kidney trouble ascribed to salvarsan. In his third case an acute nephritis, apparently parenchymatous from the microscopical examination of the urine, immediately followed an intravenous infusion of salvarsan. It was associated with other symptoms of arsenic poisoning, such as collapse and diarrhœa, but quickly improved so that it had disappeared on the fifth day. In the other cases the nephritis followed intramuscular in-

jections. In the first case an extremely severe hæmorrhagic nephritis developed within a few months after the injection and proved fatal. In the second case the nephritis was associated with symptoms of paresis of the left foot and of the right peroneus and partial degenerative reaction of both peronei. At the date of writing the urinary condition still remained the same.

6. Antiferment Treatment of Suppuration.—Boit says that the antiferment serum exerts a slight degree of curative action upon suppuration. It is necessary that it be brought into intimate contact with the whole of the suppurating surface. For the treatment of closed abscesses it is suited only for superficial, well defined abscesses, and usually a free incision is surer and results more quickly in a cure. It must not be used in the closed treatment of malignant abscesses, and it is ineffective in infiltrations.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.
April 18, 1911.

1. Basedow's Disease. By [illegible]
2. Surgical Treatment of Basedow's Disease, By Sudeck.
3. The Rôle of Supersensibility in Infection and Immunity, By Schnittenhelm and Weichardt.
4. Fifty Years of Research in Aphasia, By Heilbronner.
5. Experiences Concerning the Use and Effect of Salvarsan, By Schmidt.
6. Clinical and Experimental Observations Concerning the Demeanor of Salvarsan toward the Cornea, By Loehlein.
7. A Reaction in the Urine Alleged to Be Characteristic of Progressive Paralysis, By Stucken.
8. Hot Air Treatment of Dermatoses, By Esau.
9. Description of a Fermentation Saccharometer without Mercury for Undiluted Urine, By Wiedmann.
10. Parallel Closing Forceps for the Stomach and Intestines, By [illegible]
11. Nail Extension with Codavilla's Nail, By Neumayer.
12. The Clinical Picture of the Pest of Lucretius, By Kanngiesser.

1 and 2. Basedow's Disease.—Saenger gives a historical account of this disease, and Sudeck follows with an account of its operative treatment. The latter says that the operative treatment fulfills a causal indication. During the last decade the surgical technique has been improved so much that improvement is to be expected in all cases and a practical cure in at least seventy-five per cent. of the cases. The mortality ranges from 1.5 to five per cent; this can be improved by early radical operation.

5. Salvarsan.—Schmidt reports his experiences with 250 cases of syphilis treated with salvarsan. In general they corroborate previous reports, but an interesting detail is the brilliant results he obtained in three cases of cerebral syphilis, and two of syphilitic meningitis.

6. Salvarsan and the Cornea.—Loehlein reports nine cases of syphilitic interstitial keratitis in which no therapeutic result was obtained by salvarsan. The extension of the disease to the second eye was not prevented by the remedy. Even the local use of the remedy in the form of subconjunctival injections was of no benefit. He denies that the salvarsan does not enter the cornea, because its presence there has been demonstrated experimentally twenty hours after intravenous and subcutaneous injections.

WIENER KLINISCHE WOCHENSCHRIFT

1. The Protective Power of the Cells, By [illegible]
2. The Certainty of the Pepton Demonstration as a Katabolic Reaction in Anaphylaxia, By Ferdinand Schenk.
3. Relations of Tuberculosis of the Lymphatic Glands to Hodgkin's Disease, By O. M. Chiari.
4. The Diagnostic Value of the Demonstration of Tubercle Bacilli in the Fæces, By [illegible]
5. Therapy of Occupation Neuroses and Autogymnastics in Chronic Cases, By M. Benedikt.
6. Isolated Fractures of the Carpal Bones, By [illegible]

1. Protective Power of the Cells.—Pribram says that the protective power of the cells originates from every disturbance of the equilibrium of the chemical and physical power of the cells which releases powers and renders them disposable by the organism. The potential energy of these powers are chemical, electric, kinetic, and thermic, and may serve as such either to preserve or to restore the disturbed equilibrium.

4. Tubercle Bacilli in the Fæces.—Rittel-Wilenko considers the presence of tubercle bacilli in the fæces an important indication of the involvement of the intestine in tuberculosis.

DUBLIN JOURNAL OF MEDICAL SCIENCES.

1. Medical Inspection of Schools and School Children, By J. B. Story.
2. Note on the Diagnostic Value of Luys's Segregator, By R. A. Stoney.
3. The Diagnosis of Renal Tuberculosis, By [illegible]

2. Diagnostic Value of Luys's Segregator.—Stoney favors Luys's segregator in the diagnosis of kidney lesion and also in determining the relative functional value of the kidneys as a preliminary to operation on them. He quotes Luys: "There exists a mistaken tendency to establish a complete antagonism between the method of endovesical segregation and catheterization of the ureters. The fault lies in thinking that the two methods are hostile, when, on the contrary, it is from their alliance that absolute exactitude of diagnosis of the functional condition of the kidneys by separation of the urine arises: each of them has very precise indications. In the great majority of cases it is the endovesical segregation which should always be applied first as a method of examination, and great is the mistake of those who protest that the segregator should be used only as a last resort when ureteral catheterization has proved impracticable. It is no less true that, as a complement to the information thus gained, and in certain special cases, it is an advantage to have recourse to catheterization of the ureter. If the examination of the renal function ought to be made with the segregator, examination of the ureter and pelvis of the kidney can be made only with the ureteral sound. Briefly, the conclusion which I have advanced for the last eight years, and which seems to me to be more than ever the expression of the truth, is that the segregator is more simple to use, is free from dangers in its employment, and can be utilized for the diagnosis of the renal function in a larger num-

ber of cases than catheterization of the ureter. Well applied it gives results exactly definite and certain, and it affords a complete security."

EDINBURGH MEDICAL JOURNAL.

April, 1911

Contribution to the Treatment of Lupus Carcinomatosa,
By Norman Walker.
The Physical Examination of Employees,
By H. G. Langwill.
Naturalist's Medical Service, By James Dundas.

1. **Lupus Carcinoma.**—Walker, in operating on lupus carcinoma, scrapes vigorously and removes everything which the spoon will bring away. He takes special pains to arrest the hæmorrhage, even to the length of applying adrenalin, as it is important that the caustic should reach as deeply as possible and not be obstructed by blood. In extensive cases an anæsthetic is necessary, but now that we are familiar with this complication one should be on the outlook for it at a stage when it can be treated without this necessity. In more than one subsequent case he has recognized the earliest signs of the growth at a stage when it could be easily destroyed under local anæsthesia; his usual plan in these cases now is to freeze the part with ethyl chloride and finish the whole operation before the effects have passed off. Quite recently, he has treated early lesions by applications of carbon dioxide snow, and has every reason to be satisfied with the result.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES

May, 1911

1. The Anatomical Explanation of the Paralysis of the Left Recurrent Laryngeal Nerve Found in Certain Cases of Mitral Stenosis,
By George Fetterolf and George William Norris.
2. Arneth's Method of Blood Counting—Its Prognostic Value in Pulmonary Tuberculosis,
By C. L. Minor and P. H. Ringer.
3. Some Experiences with the Einhorn Duodenal Bucket and a Modified Thread Test,
By William Gerry Morgan.
4. Researches in Prophylactic and Anaphylactic Medicine,
By Leonard K. Hirshberg.
5. The Vaccine Treatment of Pyorrhœa Alveolaris,
By William R. Williams.
6. The Results of Medicinal Treatment in Eleven Hundred and Six Cases of Delirium Tremens,
By S. Walter Ranson and G. D. Scott.
7. The Cause and Relief of Pain in Duodenal Ulcer,
By James Taft Pilcher.
8. The Complement Fixation Test in the Diagnosis of Gonococcic Infections,
By Hans J. Schwartz and Archibald McNeil.
9. Pulsations in the Peripheral Veins,
By Harold C. Bailey.
10. The Diagnosis of Pellagra, By H. F. Harris.
11. Vaccine Therapy and a Simplified Opsonic Index,
By A. W. Crane.

1. **Mitral Stenosis.**—Fetterolf and Norris have made a careful study of mitral stenosis. There are now on record eleven autopsied and twenty-six clinically reported cases in which recurrent laryngeal paralysis was associated with and apparently the result of mitral stenosis. Among the autopsied cases the vocal paralysis was attributed to direct compression on the part of the auricle or its appendix in seven; to cardiac displacement, traction, etc., in one; to the effects of a persistently patulous ductus arteriosus in two; and to indirect compression acting on the pulmonary artery in two. It is the authors' conviction, based on careful study of the anatomical relations in hardened preparations, that the indirect mechanism may be a variable one, but that when compression is accountable for the recurrent paralysis, it must always be caused by the nerve being squeezed between the left pulmonary artery and the aorta or the aortic ligament. Anything which will dilate or force upward the left auricle, the left upper pulmonary vein, or the left pulmonary artery would tend to cause the condition. The anatomical relations are such that direct pressure of any portion of a dilated left auricle upon the aortic arch is impossible. When the softness of all the structures involved is considered, and the fact that the nerve is normally flattened against the aorta, not rounded, it would seem probable that its function is abolished, not from actual destruction from pressure, but from a neuritis consequent upon a degree of compression which could hardly be sufficient to actually destroy the vitality of the nerve. This, of course, can be determined only by microscopical examination of the nerve.

3. **Einhorn Duodenal Bucket.**—Morgan observes that the thread test, whether performed with the Einhorn bucket or the duodenal shot, is of undoubted assistance in the diagnosis of peptic ulcer. The number of latent ulcers, or ulcers having few prominent symptoms, is larger than is generally thought, and by the systematic use of the thread test many cases will be found that would otherwise escape recognition. The test, though sometimes disagreeable, is not seriously objected to, and should be instituted on the faintest suspicion of ulcer. Finally, besides being able to localize the lesion, we are enabled to say with more certainty how the patient is progressing and when the ulcer is probably cured.

4. **Prophylactic and Anaphylactic Medicine.**—Hirshberg gives a good review of the history and the development of anaphylaxis. We thus read that the first work produced in our country upon the important subject of anaphylaxis was by M. J. Rosenau and John F. Anderson in the Government Hygienic Laboratories in Washington, upon which essay all investigators, ever since 1906, are very much dependent for most of the suggestive work on this subject. Charles Richet, who, in 1902, while investigating actinia poisoning, first observed a condition in dogs, which he considered a reduction of resistance, as contrasted with prophylaxis, invented the name anaphylaxis. Although this name has been adopted and passed into medical usage, the kind of protoplasmic reaction it includes, is one of the various progressive steps the organism makes in many infections in obtaining for itself protection or immunity. This view of anaphylaxis may now be taken without fear of a dissenting voice. Prophylaxis is the follower and slave of anaphylaxis. Clemens von Pirquet first suggested that prophylaxis, anaphylaxis, immunity, and other tissue reactions yet to be discovered, should all be covered by his coined name, viz., allergie or allergism. Allergie is comprehensive enough to include all conditions of artificial immunity, with or without anaphylaxis. When there is an increased allergie, it means that the power of the tissues to react is increased, and this plainly indicates supersusceptibility or a condition of anaphylaxis.

6. Delirium Tremens.—Ranson and Scott give the results of medicinal treatment in 1,106 cases of delirium tremens. They state that the patients at the Massachusetts General Hospital quite generally received large doses of hypnotics, hyoscine and morphine being given much more frequently than at the Cook County Hospital. No ergot was used and practically no veronal. In fifty-five cases in which notes were made of the treatment, thirty-five received morphine, thirty-two hyoscine, and five veronal. It is suggestive that the mortality was higher at a hospital where the two drugs that gave the worst results at the Cook County Hospital were extensively used and where the two drugs that gave the best results were not employed. In this connection it should be pointed out that in the first series of Cook County Hospital cases (1905 to 1908), where little ergot and practically no veronal were used, the mortality was 26.4 per cent.; while in the second series (1908 to 1910), where both ergot and veronal were extensively employed, the mortality was 17.5 per cent. In conclusion they state that medicinal treatment of delirium tremens is much more effective in the first than in the second stage of the disease. Their results would indicate that incipient cases should receive large doses of the hypnotics of which veronal is by far the best, whiskey should be given regularly, and ergot administered at frequent intervals either by intramuscular injection or by mouth. Such medication should be discontinued gradually and only after all signs of restlessness and tremor have disappeared. The delirious patient should receive veronal in moderate doses—all other hypnotics and especially morphine and hyoscine should be withheld. Ergot should be given as in the incipient cases. So far as the delirious patients are concerned, their data do not give conclusive evidence whether or not whiskey should be regularly employed.

7. Pain in Duodenal Ulcer.—Pilcher concludes that the cause of pain in duodenal ulcer is the hydrochloric acid contained in the gastric juice coming in contact with the ulcerated surface after it has passed into the duodenum. This conclusion is based on the following observations: 1. Ulcer of the duodenum reflexly excites a superacidity of the gastric juice; 2. the maximum amount of secretion of hydrochloric acid in the stomach is due to a direct chemical action (hormones) and is at its height from one to four hours after meals; 3. it passes into the duodenum as hydrochloric acid, there being no food for four hours after meals for it to work upon; and, 4. it does not excite a flow of the duodenal juice directly, and is not neutralized by the small amount present. The relief of pain in duodenal ulcer follows the ingestion of any substance into the stomach, and is due to a reflex stimulation of the duodenal secretion which neutralizes the acid gastric juice. This conclusion is based on the following facts: 1. Food taken into the stomach excites at once a reflex secretion in the duodenum; 2. the duodenal secretion is alkaline in approximately the same degree as the gastric juice is acid; and, 3. this secretion is of sufficient quantity and concentration to neutralize the hydrochloric acid of the gastric juice.

[illegible] SURGEON

An Outline [illegible]
partment of the Japanese Navy. By E. S. Bogert.

2. Experience of the Army with Vaccination as a Prophylactic against Smallpox.
[illegible]

3. Some Observations in Natural Immunizations *versus* Artificial Vaccine Therapy.
[illegible]

4. The Disappearance of Beriberi from the Philippine (Native) Scouts. By [illegible]

5. Service at Minnesota Forest Fires of 1910.
[illegible]

6. A Statement of a Recent Instance of Protection from Typhoid by Inoculation.
[illegible]

7. Hospital Corps Instruction on Board Ship.
By W. S. Pugh, Jr.

2. Army Experience with Vaccination.—Hoff observes that smallpox or variola, is an intensely infectious and fatal eruptive disease, presumably of parasitic origin, which in times past devastated even the most enlightened nations and threatened the existence of the human race. To-day this disease has practically ceased to manifest itself harmfully among well governed people, and is far more easily controlled than typhoid fever and other common affections. How? By vaccination. Vaccination is defined as inoculation with vaccine or the virus of cowpox; it consists in the introduction upon an abraded surface of the skin usually of the upper arm, of a minute quantity of vaccine, which, if successfully done, causes vaccinia, a harmless affection which immunizes against smallpox. The author then shows by statistics the ravages of smallpox before Jenner, in 1766, discovered vaccination which was promulgated here by Dr. Waterhouse, of Boston, in 1800. He mentions President Jefferson's letter to Jenner. The statistics given by Hoff prove the beneficial importance of vaccination.

4. Beriberi.—Chamberlain states that beriberi has disappeared from the Philippine (native) scout organizations during the last half of the year 1910. There have been no sanitary improvements to account for this except the changes in diet and there has been no corresponding decrease in the admission rate for diseases other than beriberi. There was no corresponding decrease in the incidence of beriberi in the general Filipino population or in the Philippine (Native) Constabulary. The decrease in admissions for beriberi among the scouts was clearly marked for four months before the use of undermilled rice began. The decrease in admissions was well under way before the mongos, camotes and ginger root of the new ration began to be issued. The decrease in the admissions for beriberi was due either to unknown causes acting coincidently with a reduction in the amount of rice used and the addition of a legumen, or was due directly to these dietetic changes. As no other reduction in admissions even approaching that of 1910 has occurred since the organization of the Scouts in 1901 he does not believe that the present decrease is due to coincidence. The facts do not oppose the polished rice theory of beriberi production. On the contrary they support it.

Proceedings of Societies.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of Wednesday, December 7, 1910.

The President, Dr. George E. de Schweinitz, in the Chair.

Memoir of the Late Dr. J. Dutton Steele.—This paper, by Dr. John H. Musser, was read by Dr. A. O. J. Kelly.

Thoughts upon the Teaching of Therapeutics Based on Forty Years' Experience.—Dr. Horatio C. Wood's paper was read by Dr. H. A. Hare.

Quantitative Determination of Functional Renal Sufficiency by the Duboscq Colorimeter, Indigocarmin *versus* Phenolsulphonephthalein.—Dr. E. A. Thomas gave a preliminary report. He stated that although it was conceded that the most reliable individual kidney test was one dependent upon a quantitative metabolic study, it was admittedly inexpedient in most instances to carry out such a procedure, and for the past fifteen years attempts had been numerous to utilize aniline dyes as a test for the determination of functional renal sufficiency. All the dye tests had been found unsatisfactory with the notable exception of indigocarmin. Recently, however, phenolsulphonephthalein had been utilized advantageously for the determination of the kidney function. The speaker reported on the comparative value of the two substances, indigocarmin and phthalein in renal diagnosis, not only as to onset of elimination following injunction intramuscularly and subcutaneously, but particularly from the standpoint of the quantitative determination by the use of the Duboscq colorimeter. For the determination of the total efficiency of the kidneys, as for instance, in the study of nephritis and kidney damage incident to prostatic hypertrophy, relative to operative interference it would seem that phthalein was equal in value, if not more valuable than, indigocarmin owing to the fact that its administration was not painful. However, in unilateral renal diagnosis and prognosis, particularly in cases where it was impossible to catheterize the ureters, indigocarmin possessed superiority, inasmuch as the elimination of indigo from the ureteral orifices could be directly observed judging merely from the time of onset by the use of a simple cystoscope; whereas, in the employment of the former substance, ureteral catheterization, an act occasionally impossible, was necessary in order to conduct the phthaleinized urine to an alkaline medium outside the body in order to observe the color reaction.

A description of the Duboscq colorimeter and the technique of the quantitative determination of the two substances was given. From a comparative study of the two substances on dog and man it was found that the onset of elimination occurred in from five to ten minutes in normal cases. In the case of phenolsulphonephthalein over sixty per cent. of the amount injected was eliminated in the first three hours in normal cases; whereas, with indigocarmin, only about one third of this percentage was eliminated during the same time. This fact, however, seemed not to detract from the value of the indigo as a diagnostic or prognostic agent. It would be observed from a review of the cases studied that the onset of elimination of both indigo and phthalein run a close parallelism with the quantitative output; that as substances for quantitative determination in the estimation of renal sufficiency they were essentially equal in value; that both substances were largely eliminated during the first two hours after injection; that the percentage output of indigo was approximately about one third that of phthalein, which fact, however, was of no moment in drawing conclusions.

Dr. James Tyson remarked that the term "sufficiency of the kidney" had been used for a great many years without any very definite knowledge as to what constituted it. The practical application of the test presented by Dr. Thomas was for the most part entirely satisfactory in determining the propriety of operation. In medical diagnosis there would be also an application of it, although of less practical value. The methylene blue, sometime ago suggested, was a rough method of diagnosis based on the same principle and one which was well sustained by the morbid anatomy. The method presented by Dr. Thomas has the advantage over this in the painlessness of the injections. It was to be regretted that physicians had not availed themselves, as had the surgeons, of the advantages of these tests.

Dr. George E. Shoemaker observed that one point which had contributed to the practical value in these color tests was the development of the cystoscope. Ingenious mechanical improvements had added much to what could be seen and done through these instruments, but the elaborate ones while having a wider range were too big, or had a special tip which for mechanical reasons would often bring just a little blood. The development of the very small, perfectly smooth magnifying cystoscope added to this color test made it possible without anæsthesia and without traumatism to watch very readily the activity of the kidneys as contrasted one with the other or with a normal standard.

Dr. Thomas in closing remarked that he had alluded in his paper to the fact that he was continuing the study with reference to renal deficiency in conditions of prostatic hypertrophy and nephritis. There were many other surgical conditions in which there was disease *en masse* of the organs where indigocarmin was of value. He presented a table from which could be observed that there were a number of cases in which the test had been employed associated with the uranalyses and blood pressures in these patients. There was a close relationship and it was remarkable that the color tests promised much of value in the field of urological diagnosis. Indigocarmin was always eliminated as a constant color and also more profusely than methylene blue. It possessed a monocyclic curve of elimination and promised to be much more enduring in its value. Phenolsulphonephthalein, first recommended within the last ten months, was a substance having nothing to do with the aniline dye class, being a drug or phthalein.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of Monday, February 27, 1911.

The President, Dr. H. R. M. Landis, in the Chair.

Exhibition of Specimen.—Dr. H. R. M. Landis exhibited a specimen of a malignant growth involving the entire right lung. A point of

much interest was that a mistake had been made in the positive report of tubercle bacilli which had obscured the findings. Examination and history suggested the presence of the malignant growth, and six weeks later this growth ulcerated through the chest wall. A feature of clinical interest was the displacement of the heart to the right toward the affected side.

Pneumothorax with Acute Abdominal Symptoms.—Dr. E. J. G. Beardsley reported a case from the wards of Dr. Samuel Rhoads at the Philadelphia General Hospital. The patient was a young man of twenty-six years who was suffering from advanced pulmonary tuberculosis complicated by intestinal ulceration. Two days before death he was seized with a severe "stabbing" pain in the left side of the abdomen opposite the umbilicus. There was no dyspnœa and only slight increase of the respirations. All the attention of the patient and the physician was centered upon the abdominal symptoms and a tentative and, later, a positive diagnosis of ruptured tuberculous ulcer was made. At autopsy no acute abdominal complication was found, although there was a large number of tuberculous ulcers in the intestine. An explanation of the abdominal symptoms was found in the existence of a large and previously unsuspected left sided pneumothorax. The very slight amount of fluid within the pleural cavity appeared to bear out the theory that the pneumothorax had been in existence but a short time. The case illustrated very well the necessity of a careful chest examination in all patients suffering from acute abdominal symptoms.

Dr. Alfred Stengel remarked that in connection with the case reported by Dr. Landis of tumor of the lung, and bearing upon pneumothorax, it was of interest to note that in Dr. Landis's case there was considerable displacement of the heart and mediastinal structures toward the tumor side. We all knew the great displacement of mediastinal structures toward the well side, a displacement which far exceeded that in cases of pleural effusion. The examination, so far as pneumothorax was concerned, was a simple one. The collapse of the affected lung readily enabled the expanding air to displace the mediastinal structures to the opposite side: whereas, in pleural effusion, there was pressure not only of the lung on the opposite side, but also on the same side which prevented displacement. In the case of tumor, the solidification and the less amount of air causing contraction of the lung, allowed the vicarious and emphysematous lung of the opposite side to push the structures over. In pneumothorax it was the diminution of pressure occasioned by the collapse of one lung, and the infiltration of the other lung, that allowed the mediastinal structures to be so readily displaced. The displacement exceeded that in maximal pleural effusion.

Three Unusual Cases of Pulmonary Disease with Autopsies.—Dr. H. T. Devereux reported these three cases from the service of Dr. Francine, Philadelphia General Hospital: Case I. Localized pneumothorax over the lower lobe; empyema over the upper lobe; rain barrel breathing. Case II. Tuberculous cavity simulating pyopneumothorax. Case III. Bronchiectasis and bronchopneumothorax.

Indications for Surgical Intervention in Pulmonary Disease.—Dr. Samuel Robinson, of Boston, said that abscess of the lung, gangrene, bronchiectasis, localized empyema, actinomycosis, and neoplasm of the lung were not infrequently to be found in the medical wards, although the internist might admit that the medical treatment of these diseases was generally limited to the field of symptomatic relief. If this fact was due to the internist's lack of faith in operative treatment, the surgical profession was largely responsible. The employment of differential pressure had contributed to the surgery of the thorax as follows: 1. In the approach to deeply seated lesions in the absence of pleural adhesions. 2. In reinflating the lung at the end of operations in which the pleura had been accidentally or intentionally opened. 3. In operations for suture of the lung and heart. 4. In the removal of tumors of the chest wall. 5. In resection of lobes of the lung for bronchiectasis or neoplasm.

In the surgical treatment of suppurative conditions adhesions were generally present, and differential pressure was rarely of value.

Operative treatment of bronchiectasis was indicated in the nondiffuse cases. Immobilization of the lung by artificial pneumothorax was a promising treatment. It was unsafe by pleuropneumolysis because of the dangers of sputum retention. Excision of a bronchiectatic lobe would be the indicated treatment. In malignant disease early recognition of a beginning process might justify a radical incision. Tuberculosis was not amenable to operative treatment except by the artificial pneumothorax method. Drainage or excision should be avoided.

Abscesses of the lung were often treated expectantly beyond the stage at which operative drainage was safely attempted. The surgical mortality should be five per cent. or less in cases operated early.

Dr. John H. Musser agreed with the author in the insistence upon an exploratory operation, or the use of the x ray, in acute infection of the lungs and pleura. In his early days of practice he relied too much upon the results of physical signs. While we were quite willing to ask the surgeon for exploration, as internists it was our duty to localize the pus. If we had the general symptoms of infection, the proper ætiological factors, we could be pretty sure that there was some localization of infection leading to abscess. Guided by pain and tenderness we could give the surgeon a pretty fair idea as to the localization of the abscess. While that was the case we must not wait until we are positive, but ask the surgeon before it was too late. On the other hand, he had had in some instances almost to importune surgeons to open the chest of a patient.

Dr. J. H. Jopson said that Dr. Robinson had modestly omitted any mention of his own work in the development of the forms of positive pressure as compared with the negative pressure. It was true that the lesion of generalized empyema was often overlooked or kept under the internist's care until the lung was crippled. He remembered Dr. Musser's paper read in Boston in which he favored opening the chest in doubtful cases. His own attitude had been rather to hesitate to open the chest unless he found pus by aspiration with the needle.

Dr. James E. Talley thought that the paper was

of the utmost importance, for as general practitioners and internists we had the idea of delayed resolution accompanied by fever too much in mind.

Dr. Charles M. Montgomery remarked that if the physician failed to find pus by the first insertion of the needle and then turned over the case to the surgeon he did not see how he could know where to make the incision. It had always seemed to him best to insert the needle in a number of places.

Dr. James M. Anders wished to emphasize the fact that in cases of abscess following pneumonia in which there was free natural drainage we did not have the indication for immediate operation, and unless such cases became progressive, it seemed to him unwise to refer them to the surgeon.

Dr. Joseph Sailer agreed with Dr. Montgomery that excessive exploration was not usually advisable. He did not think that by a careful, thorough examination of the lungs it was nearly always possible to localize with a certain degree of accuracy the lesion. He had come to rely less upon a negative exploratory puncture and more upon definite physical signs as an indication for pulmonary surgery.

Dr. Alfred Stengel was in sympathy with those who had spoken regarding the difficulty of localizing pus by means of the needle or large trocar, and he did not think the introduction of these instruments was the harmless operation it was said to be. Within two months he had seen two patients killed in that way. If the surgeons could offer a means of localization for incision it would be a great aid to the clinicians. In pulmonary tuberculosis he had seen a rapid spread of the tuberculous process follow the removal of fluid from the chest. He should hesitate to remove fluid from the chest in pulmonary tuberculosis, even to establish free drainage, without some assurance concerning the nature of the lesion in the lung.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting Held February 20, 1911.

The President, Dr. Reynold Webb Wilcox, in the Chair.

(Concluded from page 927.)

Posture in Surgery.—Dr. Alexander B. Johnson spoke first of posture as an aid in diagnosis. When examining a patient, he said, for deformity from whatever cause, notably of the extremities, the extremities should be placed symmetrically with respect to the trunk and to each other, and the trunk itself, except under particular conditions, should be in the anatomical position. The posture selected in examining different regions and organs was so chosen as, by relaxation of muscles, ligaments, etc., to render the structures most readily accessible to sight, touch, and percussion. Examples given were palpation of the abdominal and pelvic organs, catheterization of the female ureters and the use of the sigmoidoscope, examination of a mammary tumor, and palpation of the kidney. When an x ray examination was to be made, the patient was so postured that the structures desired to be shown most clearly should lie as near as possible to the photographic plate. In regard to posture as an aid in operative procedures, it might be said that every typical operation has some posture, or series of postures, in which it can be most easily performed. One of the most valuable of all surgical postures was the Trendelenburg, which greatly simplified operations upon the pelvic viscera. The speaker devoted most attention to operations upon the kidney. Here, he said, the posture chosen would depend upon the site and direction of the cut, and this upon the choice of the individual surgeon. When he (Dr. Johnson) desired to fully expose the kidney and open or remove it, his incision was parallel to the ribs and just below them. The patient lay nearly upon his back, with cushions under the loin, shoulder, and buttock of the affected side, and the dissection was made from in front rather than from behind. When he desired merely to fix a movable kidney, the cut was made much further back, parallel with the external oblique aponeurosis, and here marked flexion of the trunk and a lateral position were desirable. Many surgeons preferred this posture for all kidney operations. In after treatment the general principles upon which a posture was selected were relaxation of the sutured structures and a dependent position of the wounded part for the sake of drainage. In some instances the latter was quite difficult to secure. A question much in debate was: In what position should a patient be placed who had been operated upon for a diffuse peritonitis and whose recovery was hoped for? Of the four positions advocated by surgeons, Dr. Johnson had been convinced by experience that the most satisfactory was a modified Fowler, in which the patient's head was moderately raised by blocks placed under the head of the bed.

At the conclusion of the paper, Dr. Johnson said that in the treatment of cases of diffuse peritonitis now in vogue at the New York Hospital, the aspirating after the opening of the abdomen was done quite independent of any posture. With the apparatus there in use steam power was employed, and from thirty to ninety pounds of suction were used. By this means the pus and other exudates were completely removed through a small steel tube inserted into the abdominal cavity. The results had been most gratifying, for patients who formerly died now recovered.

Posture in Obstetrics.—This paper was by Dr. George L. Brodhead, who said that while we recognized the fact that in many cases position alone did not give the desired results, still, we had in appropriate posture a most valuable aid in obstetrical treatment. He then proceeded to speak of posture in pregnancy, posture during labor, and posture during the puerperium. During pregnancy the patient was advised to rest for an hour or two each day, preferably after the midday meal, with the clothes loosened and the corset removed. In the early months it was well to warn the patient to take no unusual exercise during the days when she would ordinarily have menstruated, and when the patient had previously had a miscarriage, the recumbent posture was advised for a week at such times. For retrodisplacements, in addition to the pessary, the knee chest, or at least the lateral pos-

ture should be insisted upon for a certain period of each day.

The most interesting part of the paper was that dealing with the rectification by posture of faulty presentations and positions. In occipitoposterior positions he said it had been suggested that the patient lie in the lateral posture, on the side toward which the child's back was turned, while in mentoposterior positions she should lie on the side toward which the abdomen faced. By this means it was believed that in the former case flexion, and in the latter extension, was favored, while the tendency to anterior rotation was also increased. King (*Bulletin of the Lying in Hospital*) advised kneeling for this condition; asserting that the heels of the patient pressing upward through the greater sacrosciatic notch, favored rotation. In the same article King had referred to the rectification of transverse presentations by posture. He first described the so called squatting posture, and spoke of the value and importance of what he designated as thigh pressure. If, for example, the head of the child was lying in the right iliac fossa and the breach rested in the left upper quadrant of the uterus, the patient was instructed to squat with the left foot forward. She should maintain the posture long enough to have a few labor pains, which favored the mechanism of rotation. If properly carried out, King stated that there were few, if any, cases of transverse presentation which could not be rectified by this "spontaneous version process."

Posture in Gynæcology.—In this paper Dr. Henry C. Coe first gave some reminiscences, extending over more than twenty-five years, in the course of which he stated that Krug's application of Trendelenburg's posture to intrapelvic surgery had marked a new era. When, he said, we contrasted the long, blind Freund's operation of twenty years ago (some of which he had known to last three or four hours), attended with a mortality of seventy-five or eighty-five per cent., with the rapid, exact work now made possible, he felt that we owed to the pioneer in this line a debt which we could never sufficiently repay. Dr. Coe's present practice was to examine a patient first in the ordinary dorsal posture; employing the lithotomy position for all surgical work on the vagina. The Sims position here, he said, he had entirely abandoned. In order to confirm a diagnosis of prolapsed ovary or adherent uterus the patient was placed in the genupectoral, which was almost his favorite position also for replacing a movable uterus and introducing a pessary. In the case of virgins, in every instance of malignant disease of the uterus, a careful recto-abdominal examination was made with the patient on her back. For palpating a movable kidney the patient was sometimes requested to sit, or stand, erect, but the recommendation in the books to examine women in the erect posture, in order to note varying degrees of prolapse of the uterus, was seldom carried out in private practice. Herniæ, of course, were often examined with the patient in this position. Of Trendelenburg's position it was unnecessary to speak, as every one was familiar with it and every surgeon was provided with a table which enabled him to elevate his patient readily. It should be noted that the extreme degree of elevation originally advocated by Trendelenburg was not favored by modern operators, who were usually able to work at an angle of from forty-five to sixty degrees. Much might be said in regard to the patient after operations. It was sufficient to state that great latitude was now allowed as to turning on the side, sitting up in bed, etc., after abdominal section. In a word, simplicity was now the rule in gynæcological practice, and nature was imitated rather than forced into rigid theoretical lines.

Dr. F. J. A. Torek said that Fowler's position had now been in use for quite a number of years, and was still regarded by many as the best possible in operative cases of diffuse peritonitis. He believed, however, that it was a delusion, and it was fully six years ago that he had first publicly expressed his conviction of this. He was glad to learn from Dr. Johnson that it was disregarded in the treatment of such cases at the New York Hospital. The condition was not at all analogous to that where there was ascitic fluid, as had been stated. In many instances the pus did not run down. The employment of the Fowler position here, therefore, was clearly illogical. The thing to do was to get at the pus and remove it directly.

Dr. Johnson, in closing, explained that after the opening of the abdomen in these cases of diffuse, purulent peritonitis the nozzle of the aspirating apparatus was put first into the evident loculi of pus, and then into other places where it might be expected that pus would be found. It was but seldom that the apparatus was employed after the operation, and when this was the case the very powerful suction was not used, but a feeble suction. After suprapubic cystotomy and in some other special conditions, however, mild aspiration was sometimes kept up for a week at a time.

Dr. Berg, in closing, said that the application of the vacuum principle to the treatment of diffuse peritonitis, as described by Dr. Johnson, was certainly a most brilliant achievement. As to the use of the Southey tubes, he never employed them unless he could feel positive œdema of the legs—œdema of the waxy kind. It was necessary to go in far enough to get completely under the skin, and generally two tubes were inserted into each leg. This procedure had the effect of draining off the fluid not only from the subcutaneous tissues, but also from the pleuræ and abdominal cavity.

New Inventions.

[illegible] FOR CONTROLLING [illegible] CLAVE STERILIZATION.

By Archibald W. Dack, D. D. S.,
Detroit.

In spite of the fact that the most common method of sterilizing surgical dressings is that of steam under pressure, there has never been any means of knowing definitely whether the heat has been sufficient in the different parts of the chamber or in the centres of the packages. The only check on the efficiency of the process has been to submit specimens of the dressings to the bacteriological laboratory. This is far from satisfactory because

of the time required and frequently brings only the satisfaction (?) of knowing that the dressings were not sterile.

This condition has now been overcome by the ingenious device, the Diack Pyrometer. It consists of a small glass tube in which is sealed a loose, fusible tablet. This tablet has an invariable melting point which corresponds to that at which sterilization is complete. The tube is placed in the centre of a package going into the autoclave, and when



[illegible]—The fusible tablet before use.

[illegible] tablet [illegible] after use.

the package is opened the tube is pulled out by means of an attached thread. A glance is enough to show whether the dressings have had sufficient treatment. The tablet, when fused, changes in shape and color and assumes the form of a smear on the side of the tube so that the evidences of melting cannot be mistaken.

Great satisfaction has attended the use of the Diack pyrometer in several hospitals where it has been employed, and it would seem that the device ought to have a definite place in the routine of sterilization.

10 West Larned Street.

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Nouvelles études sur la physio-pathologie du corps thyroïde et des autres glandes endocrines. (Deuxième série). Par les Drs. Léopold Lévi et Henri de Rothschild. Avec 26 figures et 18 planches. Paris: O. Doin et fils, 1911. Pp. lxiv-558.

In this volume the authors continue the publication of the investigations they have undertaken during the past six years in the physiopathology of the thyreoid and other ductless glands. The first section considers chronic rheumatism of thyreoid origin, and then the influence of that gland in diseases of the hair, teeth, nails, and nervous system, and on nutrition, and in the causation of asthma and senility. They have collected a great deal of material, which is given in ample form, in regard to the influence of the thyreoid in the foregoing conditions; but, unfortunately, the diagnosis must be based on a symptom complex, and not on any means of determining the presence or absence in the bodily fluids of the thyreoid elements. True, the authors believe that there is a touchstone in the betterment of the patients under thyreoid therapy, but that evidence is not always satisfactory.

It is to be hoped that they will continue their specialized studies and contribute important data to this interesting field in medicine.

Lehrbuch der Urologie und der Krankheiten der männlichen Sexualorgane. Von Dr. Alfred Rothschild, Spezialarzt für Urologie in Berlin. Mit 162 teils farbigen, Tafel. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. xii-522.

The premature death of Max Nitze prevented the embodiment of that master urologist's experience in a systematic textbook. The present volume is an attempt to portray urology from the viewpoint of Nitze's teachings, as they descended to one of his pupils and admirers. Rothschild has also added much from his own clinical experience, and has aimed to give a rather condensed account of urology which in no way is to be looked upon as a substitute for the larger textbooks.

An introductory section is devoted to the methods of examination. Some of the methods are given in a rather sketchy manner, but a fairly complete account of urethroscopy and of the aspect of cystoscopy which is typical of the Nitze school is offered. A few of the other cystoscopes besides Nitze's, however, are mentioned, e. g., Albarran's, Casper's, etc.

In the section on special diseases the introductory chapter belongs to affections of the urethra. From this point the arrangement of the book covers each of the urinary organs in an ascending direction, ending with the kidney. After the chapters on the prostate, by a clever and anatomically correct side excursion the author presents the diseases of the vesicles, testes, cord, and the functional sexual diseases of men.

On the whole the volume presents a very concise and practical summary of urology. In some parts of it, however, the methods of treatment might have received fuller consideration, particularly the details of the most important operations and their after treatment. In this respect the book shows a lack of uniformity. Thus, lithotrity and indeed other intravesical operations are fully described, while external urethrotomy, etc., receive but scant attention.

The book is handsomely printed and the illustrations are excellent.

[illegible] Development. By Many Writers. Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia. Volume I. Pp. 900 (Price, $6); Volume II. Pp. 865. (Price, $6.) Philadelphia and London: W. B. Saunders Company, 1911.

This work is planned on a great scale. It is to comprise three volumes, of which the first two are now before us. The number of contributors is given as seventy-nine and contains many leading men. The first volume is devoted to a discussion from a general point of view of various therapeutic measures, such as the fundamental principles of

therapeutics, preventive treatment, the general principles of dietetics, of drug treatment, of serum therapy, of organotherapy, rest and work cure and psychotherapy, exercise, massage and mechanotherapy, hydrotherapy and balneotherapy, climatotherapy, artificial aerotherapy, electrotherapy, radiotherapy, and miscellaneous therapeutic measures. The last chapter of this part takes up the general care and management of the sick and the treatment of slight ailments. This brings us to the special treatment of many general and local diseases, which is continued in the second volume. Plenty of space is given to each chapter, and we are glad to say that the chapters are not burdened with histories of cases. There is no bibliography at the end of the volumes, which would be impossible on account of its length; but a few of the chapters have their own bibliography. Among these we find the chapter on drug treatment, by Sir Lauder Brunton; the chapter on climatotherapy, by Henry Sewall; on food intoxication, by George Blumer; on pertussis and mumps, by Samuel McC. Hamill; in other chapters we find the references as footnotes, but most of the chapters are without biblographical references. The treatment has received proper consideration and contains many valuable prescriptions and hints. The index seems to be very complete: it runs through over forty pages in volume one and nearly fifty in volume two. Some of the chapters are profusely illustrated, especially the chapters on exercise, massage, and mechanotherapy, on radiotherapy, on typhoid fever and tuberculosis. As the title indicates, there were two editors, one of whom, Dr. Kelly, died recently.

[illegible]
H. J. Nichols, New York. J. Iversen, St. Petersburg. Bitter, Cairo, and Dreyer, Cairo. Translated by A. Newbold and Revised by Robert W. Felkin, M.D., F.R.S.E., Etc., Late Lecturer on Tropical Diseases, Edinburgh Medical School. With Thirty-four Tables in the [illegible]

We are glad to see this English translation of Ehrlich and Hata's *Experimentelle Chemotherapie der Spirillosen*, which we reviewed in our issue of December 3, 1910. The American edition has one advantage over the German original in that it gives the illustrations, not at the end of the book, but in the proper places. The English translator has added a very complete index. The translation seems to be very well done and will make it possible for every American physician to read and study this important work of Ehrlich, which represents the views held by him and his coworkers on the new treatment of syphilis.

Nova therapeutica. Führer durch das Gebiet der neuren Arznei- u. Nährmittel zum Gebrauch für den praktischen Arzt. Bearbeitet von Dr. med. Max Wolf und Dr. med. Fritz Fleischer. Berlin: Gustav Braunbeck & Gutenberg-Druckerei Aktiengesellschaft, 1910. Pp. [illegible]

The authors have divided the drugs into twenty-four groups, which are arranged alphabetically. The name of the drug is followed by the name of the manufacturer; then a description of the drug is [illegible] In many cases, we find also a number of prescriptions in which the drug is used. The book deals largely with German preparations. As far as we can see, the only foreign manufacturers mentioned are Burroughs, Wellcome, and Company; a list of their preparations is given, sometimes at the end of the chapter, without going into detail. The book contains many new, and also a number of well established preparations.

[illegible]
Beiträge zur Alkoholfrage von Dr. phil Paul Bauer. Breslau. Zweite Auflage. Berlin: Paul Parey, 1911. [illegible]

The discussion between alcoholics and nonalcoholics has also become acute in a country in which twenty years ago the nonalcoholic was a *rara avis*, that is, Germany. Paul Bauer has written a pamphlet adding to the daily growing literature a book which, while not entirely defending the use of alcohol, speaks in its favor.

Notes on Dental Metallurgy. For the Use of Dental Students and Practitioners. By W. Bruce Hepburn, L.D.S. (Glasgow), Lecturer on Dental Metallurgy and Visiting Dental Surgeon in the Glasgow Dental Hospital and [illegible] Pp. viii-213. (Price, $2.)

The author, who has been a lecturer on dental metallurgy for quite some time, takes up the metals and their alloys which are used in dentistry. It seems to be a good textbook for the dental student as well as for the dental practitioner.

MEDICOLITERARY NOTES

Page, *alias* Kelly, Cashier, is the title of a story in the May *Red Book* by Alfred Henry Lewis. Mr. Lewis causes the narrator to say that he saw a physician's sign in a Kansas City window bearing the legend Dr. W. G. Thorne, M. D. We offer respectful doubts as to the visual acuity of the narrator aforesaid. The story is a good one, like most of the stories in this excellent magazine of fiction. The Third Wind, by Elwood S. Brown, is concerned with the adventures of an amateur prize fighter who trains on classical literature, philosophy, and poetry, with beer and tobacco "when so disposed." There are numerous photographs of actresses in this issue, most of which can be gazed at without fatigue.

* * *

Algernon Tassin returns to his charge that oculists' trial cases contain defectively numbered lenses, in the May *Good Housekeeping*, and tells how to discriminate between good and bad oculists and opticians; we think Mr. Tassin would have done well to retire after firing his first shot. This second effusion comes perilously near being a write up for a certain machine. The Business Woman's Lunch, by Edith Brown Kirkwood, gives an account of a wonderful place in Chicago where the finest cuts of roast beef cost only five cents and butter and homemade rolls only one cent each (*sic*). Among the editorial comments is this ironical query: How many clergymen celebrated Tuberculosis Sunday by haranguing half asphyxiated congregations?

The Reverend Lyman P. Powell advances in the May *Good Housekeeping* his opinion that Dr. Woods Hutchinson, Dr. S. Weir Mitchell, and Dr. Richard C. Cabot are inclined to overestimate the physical and underestimate the mental in the prevention of disease. There are certainly some clergymen who are inclined to overestimate their knowledge of hygiene and pathology and underestimate that of physicians. A germ is just as real a thing as an elephant and as unlikely to cease to exist by being simply ignored.

* * *

There is much in the May *Current Literature* that will interest physicians greatly; The Insane Asylum as the Source of the Coming Craze in Art, with its ghastly pictures, veritable nightmares thrown upon canvas; The Controversy over Fasting, in which is cited Upton Sinclair's difficult statement that people under normal weight will gain a pound a day while abstaining from food; Freud's alleged discoveries regarding the soul; a discussion on shoes: An Indictment of American Youth; a review of Mrs. John Martin's, Is Mankind Advancing?: and an article on The New Sanction for Chastity, which quotes Dr. Talmey to the effect that if a young man can be persuaded that his chastity is important to the race, he will be chaste. We consider this statement to be one of the most absurd that ever issued from a medical pen. Threatened hellfire and very actual venereal disease having failed to restrain young men, a little meditation upon an abstract ethical principle is to work the miracle! It is not strange, but it is often amusing to note how easy chastity seems to writers of late middle and old age.

* * *

The *Century* for May has a portrait of Professor William Osler, very handsome and beautifully executed as a work of art, but by no means a good likeness; it neither flatters nor libels; it is simply unlike.

NEW PUBLICATIONS

Diver, E. W.—The Conquest of Consumption. Containing Advice to Sufferers, before, during, and after Sanatorium Treatment. With Practical Suggestions for the Avoidance of Infection, and as to the Conduct of the Campaign against Tuberculosis. With Six Illustrations. London: John Bale, Sons, & Danielsson, Ltd., 1911. Pp. xiv-135. (Price, 2s. 6d.)

Leathes, J. B.—The Fats. London, New York, Bombay, and Calcutta: Longmans, Green, & Co., 1911. Pp. ix-138. (Price, $1.20.)

Bayliss, W. M.—The Nature of Enzyme Action. Second Edition. London, New York, Bombay, and Calcutta: Longmans, Green, & Co., 1911. Pp. xi-137. (Price, $1.20.)

May, Percy.—The Chemistry of Synthetic Drugs. London, New York, Bombay, and Calcutta: Longmans, Green, & Co., 1911. Pp. xiii-289. (Price, $2.25.)

Eberhart, Noble M.—A Working Manual of High Frequency Currents. Chicago: New Medicine Publishing Company, 1911. Pp. 303.

Smith, G. Carroll.—What to Eat and Why. Philadelphia: W. B. Saunders Company, 1911. Pp. 310. (Price, $2.50.)

Hutchison, Robert.—Food and the Principles of Dietetics. With Plates and Diagrams. Third Edition. New York: William Wood & Co., 1911. Pp. xx-615. (Price, $5.)

Wolbarst, Abr. L.—Gonorrhœa in the Male. A Practical Guide to Its Treatment. New York: International Journal of Surgery Company, 1911. Pp. 175.

[illegible]—Clinical Symptomatology. With Special Reference to Life Threatening Symptoms and Their Treatment. An Authorized Translation under the Editorial Supervision of Karl Konrad Koessler, M. D., Instructor of Clinical Medicine, Rush Medical College, in Affiliation with the University of Chicago: New York and London: D. Appleton & Co., 1911. Pp. xiii-833. (Price, $6.)

Heiser, Victor G., and Oleson, Robert.—Smallpox and Vaccination in the Philippine Islands. Reprint from Public Health Reports No. 57. Washington: Government Printing Office, 1911. Pp. 6.

Twenty-first Annual Report of St. Mary's Hospital, Rochester, Minnesota. For the Year 1910. Conducted by the Sisters of St. Francis. Incorporated 1889. Pp. 36.

Thirty-ninth Annual Report of the Roosevelt Hospital, New York. For the Year ending December 31, 1910. Exclusive of Medical and Surgical Statistics. Pp. 61.

Miscellany.

A British Address on Vivisection.—Professor Schäfer, of the chair of physiology at the University of Edinburgh, in his address at the annual meeting of the Dublin branch of the Research Defence Society, March 24, which is reproduced in the *British Medical Journal* for April 8, 1911, said in part: "One can have no manner of sympathy with the antivivisector who will not lift his little finger to prevent the vast amount of animal suffering that he well knows is perpetrated every year to afford mankind pleasure or profit, and yet agitates against the comparatively small number of experiments performed on animals, not for the purpose of inflicting pain, not for pleasure or for profit, but for the advancement of knowledge, and for the benefit both of mankind and of animals themselves. For such antivivisectors as these no word of contempt is too scathing. Hypocrisy and cant are written large over all their proceedings. Some of them pretend that they do not wish for the total abolition of vivisection, but are willing that it should be performed under what they are pleased to consider proper safeguards, and the proper safeguard which they suggest is that at every experiment an inspector should be present. This is so obviously impossible that it would amount to abolition. It is like the adoption of a regulation ordering that an inspector should travel with every motor car in order to see that the speed limit shall not be exceeded. This very illustration was brought forward by Mr. Stephen Coleridge, who contended that because motorists, like himself, are constantly breaking the law, and would not hesitate to deny such infringement if challenged by a police constable, physiologists would be equally ready to infringe the regulations of the Act, especially those regarding anæsthetics, and would also deny that they had ever done so. I confess I draw the line at Mr. Coleridge endeavoring to place us upon the ethical level which he is satisfied to occupy himself."

Professor Schäfer then explained the different kinds of animal experimentation; those which were performed from first to last under complete anæsthesia to discover the functions of various organs, and in which the stimulation of a sensory nerve, often averred by antis to be excruciatingly painful, was not felt at all; those in which the animal was

permitted to recover from the anæsthetic in order that we might study the effect of the removal of, or injury to an organ, which had resulted in our priceless knowledge of glandular function; those employed to study the action of drugs, which had reversed a multitude of our ideas regarding many drugs, cholagogues, for example; those of the painless inoculation of disease, in which the animal suffered much less than if afflicted in the course of nature; and, finally, those done in order to produce curative or preventive serums, already of immense value to the animals themselves in the prevention of epidemics on farms and ranches, for example, and so painless that a horse, the usual source of these serums, would go on contentedly munching his oats while the puncture was being made. Such a puncture, in fact, was immeasurably less painful than the application of whip or spur. Professor Schäfer concluded his address with the following words:

"As to the exploitation of animals for food or for drawing our carriages, no sane person contends that it is unjustifiable. It is true that some persons are prepared to go to amazing lengths in this matter. One witness for the abolitionists would not draw the line even at mosquitos; and I am not sure that if these people understood there was no essential difference between animal and vegetable life they would not shudder at the idea of boiling a cabbage or frying a potato alive. But for those who are prepared to admit that animals may be used for the benefit of man there can be only one answer to the question whether we are ethically justified in using them to gain such knowledge as may result in assisting us in our battle against disease and death. Physiology is the actual foundation upon which medicine is based, and no advance has ever been made in physiology, no important fact has ever been discovered in it, without animal experimentation. Clinical observation alone can only grope blindly without the guiding light of experiment. Those who profess to practise medicine without the knowledge that has been acquired by such experiments either deceive themselves in ignorance or deceive their patients by misrepresentation. Such doctors are few in number and either antediluvian or obscure. Their views are repudiated by the medical profession. Nevertheless, the opinions of these men are put forward by antivivisectionists as of equal weight with those of the great leaders of medicine and surgery. I believe there are some 36,000 doctors in practice in the United Kingdom. I doubt if 100 of them will be found willing to endorse the antivivisectionist view. It is mainly the ignorant and ill informed members of the community who support the agitation. It receives little encouragement from the educated classes. But ignorance will always be in the majority, and, unless we take means to dispel it, serious impediments may be imposed on the future progress of medicine. To prevent this is the purpose of the Research Defence Society, and that is why we ask the cooperation of all educated men and women in our efforts to advance the knowledge of the functions of the animal body both in health and in sickness—a knowledge which alone can render it possible to alleviate the sufferings, not only of man, but also of the creatures which are dependent upon him, and of which, in our judgment, he is entitled to make use for his subsistence and comfort."

American Graduates in Great Britain.—The following query and answer appeared in the *Lancet* for April 29, 1911, and may prove of interest to other American physicians who have taken a fancy to practise in Great Britain or Ireland: "A gentleman having the degree of M. D. of the College of Physicians and Surgeons, New York (which is accepted by the Conjoint of Great Britain for Final Examination), and who has obtained the L. S. A. Dublin, whereby he is placed on the British Medical Register, wishes to know if he may use his M. D. without adding U. S. A. or P. & S. (N. Y.) when writing scientific articles for publication without infringing any ethical or professional code." The editor replies as follows: We certainly consider that the medical man in question should put the exact source of his degree after the letters M. D. Suppose, for example, that he placed his M. D. in front of his L. S. A. Dub.; the natural assumption would be that his M. D. was also of Dublin origin. He is strongly advised not to call himself "M. D., U. S. A.," for this meaningless style has more than once been adopted by quacks.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, smallpox, yellow fever, and plague were reported to the surgeon-general of the United States Public Health and Marine Hospital Service during the week ending May 5, 1911.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

New York Medical Journal

INCORPORATING THE

Philadelphia Medical Journal and The Medical News

A Weekly Review of Medicine, Established 1843.

VOL. XCIII, No. 20. NEW YORK, MAY 20, 1911. WHOLE No. 1694.

Original Communications.

A CASE OF ANEURYSM OF THE ARCH OF THE AORTA;

*Treated by Wiring, the Wire Passing from the Aneurysm through the Aortic Orifice into the Left Ventricle.**

BY JAMES TYSON, M.D.,

Philadelphia,

The treatment of aneurysm by wiring is not new, the first attempt in this direction having been made as far back as 1864, by Mr. C. H. Moore, of Middlesex Hospital, London. To find the wire protruding from the aneurysm through the aortic orifice into the left ventricle is, however, at least more unusual, though it may not be so rare as my experience would indicate, the specimen presented being the first I ever saw.

The patient, J. D., aged forty-eight years, a native American, resident of Philadelphia, and laborer by occupation, was admitted to the University Hospital, September 24, 1909, complaining of pain in the right half of the chest. His family history was negative, but the patient had had a chancre when thirty-six years of age. He apparently had no secondary symptoms, but took medicine for six months. His wife had one miscarriage after his infection. Examination discovered quite wide spread glandular enlargement including the epitrochlear, inguinal, and postcervical glands, many of which were as large as a split pea. He began to have the thoracic pain referred to, about a year before admission. It increased slowly until finally he sought relief at the medical dispensary of the university, whence he was referred to the ward. He complained of little else on admission except this pain.

To inspection there appeared a rounded, pulsating swelling to the right of the sternum, extending from the lower border of the first rib to the upper border of the third. Over it could be felt and heard a diastolic shock To percussion there was a larger area of dulness extending from the right clavicle to the upper border of the fourth rib and laterally from the midsternum to the right axillary line. There was a visible and palpable powerful impulse in the normal position of the apex beat in the fifth interspace within the nipple line, where, too, the aortic second sound was accentuated as well as in its normal position in the second interspace to the right of the sternum. At this time there was no audible bruit over the pulsating tumor, but both cardiac sounds were heard there almost as loudly as over the heart. There was also noted at the first examination a blowing systolic murmur at the apex of the heart. The pulse at the right wrist was stronger than at the left.

He was discharged from the hospital on October 30, 1909, improved. He was readmitted April 4, 1910. Since his discharge he had been able to do some work, which, however, aggravated the pain, which was quite severe, especially at night, boring in character and referred to the upper right thorax, and not to the arm or head. He was now short of breath on exertion and his feet and ankles were at times slightly swollen. His appetite and digestion were good, his bowels were regular, and he had not lost weight. He complained of a throbbing in his right chest much of the time relieved by pressure. There was continued enlargement of the superficial glands, the postcervical, epitrochlear, axillary, and inguinal being all palpable. There were no laryngeal symptoms and no tracheal tug. The radial pulses were synchronous, but the left seemed to be more voluminous than the right; they were also regular and even. There was marked sclerosis of accessible vessels.

The thorax was somewhat elongated and slightly flattened. To the right of the sternum behind the second and third ribs and extending slightly beyond the midclavicular line was a rounded prominence which pulsated with each cardiac contraction. There was no thrill or shock. On the left side of the sternum in the same relative position was a smaller prominence which did not pulsate. Over the right sided swelling and beyond there was dulness to percussion from the clavicle to the fourth rib and within a half inch of the anterior axillary line. Over the swelling there was now audible a *long, low pitched systolic murmur* and slightly accentuated aortic second sound. This murmur, it will be noted, was not present during the first admission.

The boundaries of the heart were normal and the apex was in its normal situation where there was a strong cardiac impulse, but no thrill or cardiac shock. The murmur at the apex noted as present at the first admission seemed to have disappeared.

The pulmonary area was resonant except to the right of the sternum over the seat of the swelling from the clavicle to the fourth rib. On the left side, in front, the lungs were resonant until the normal cardiac border was reached. Elsewhere there was a normal note. The breathing sounds were normal to auscultation.

The urine was essentially normal. The blood contained 4,650,000 red cells, 7,800 white cells, and hæmaglobin, 73 per cent. Blood pressure in the right arm was systolic 112= diastolic 65; in the left arm systolic 120, diastolic 75. While in the hospital the pulsating tumor grew, the impulse assumed the characteristic expansible character and approached more and more nearly the surface. A slight systolic thrill developed, but no diastolic shock. The diagnosis was saccular aneurysm of the ascending limb of the arch of the aorta, and was confirmed by the x ray. There were no other of the numerous signs of aneurysm present except those named.

The case seeming suitable for wiring, on April 5th my assistant, Dr. Sailer, introduced into the sac, through a cannula, ten yards of silver wire. The most striking change which succeeded the wiring was the disappearance of the aneurysmal murmur, but the pain also abated. There was no reduction in the size of the tumor. Patient was discharged at his own request, April 17th. The tumor had grown, but he felt better and wanted to go home. The physical signs were unchanged. The systolic murmur which disappeared after the wiring remained absent.

The patient was readmitted, May 28, 1910. After his discharge he said he was comfortable until he attempted to work, one week before admission. The work he attempted was hauling wood. The tumor to the right of

*Read before the [illegible]

fore readmission the pain was so severe that it kept him awake at night. Otherwise his condition on admission was much the same as at his discharge except that the tumor was much larger. The superficial veins on the upper right side were dilated and tortuous. The radial pulses were synchronous but the right was more voluminous than the left. This difference was present at almost every examination. The bruit remained absent, as did also the cardiac murmur. Blood pressure was 118 systolic, diastolic 70, and the same on both sides. The blood constituents remained about the same, except the white cells, which had increased to 10,900.

On May 31st, the aneurysm was again wired through a large sized hypodermic needle thrust into the sac. Eighteen feet of No. 2 silver wire were introduced and ten feet more of No. 1 wire. After



the needle was withdrawn three or four ounces of bloody serum escaped through the puncture. This hæmorrhage ceased in a short time and a collodion dressing was applied. The pain was again relieved by the wiring and the patient was able to sleep. The pulsation appeared also to be somewhat less strong. Notwithstanding the treatment the aneurysm continued to grow rapidly, the skin in the neighborhood became œdematous, the patient became cyanosed, and was soon unable to lie on his side. The cyanosis continued to increase and he grew weaker. High temperature developed.

At 10 p. m. July 5th, there developed an interesting train of symptoms presented by the following note:

Ten p. m., patient was noisy, and when attended to was curled up, lying on left side and shivering; there seemed less motion of right arm. Right side of face when pricked with a pin showed no motion; a suggestion of motion on left side. Abdominal muscles were firm and contracted spasmodically. Pupils were equal; eyeballs moved synchronously, knee jerks were present, but slight on both sides. Responded to question by repeating word "nothing"; some swearing, very restless; placed hand over aneurysm. There was distinct weakness of right hand, so that he could not shake hands; could not grasp objects. Temperature, 101.1° F.; pulse, 124; respiration, 26. He died, apparently from respiratory failure, about 1.45 p. m. An autopsy was made by Dr. Klaer. The lesions in addition to those of aneurysm were insignificant. The following are transcribed from the protocol:

"Specimen consists of a portion of sternum with ribs attached on the right side. The right border of the sternum at the junction of the cartilages has been eroded by pressure from beneath, leaving a large opening. The tissue over this bulges considerably and on section shows roughened edges and necrotic bone, the whole being filled by a blood clot. Together with this portion of sternum, the heart, aneurysm, and aorta have been removed. Attached to the inner surface of the sternum and adjacent ribs by dense bands of fibrous tissue is the aneurysm. On opening the aneurysm the cavity is seen to contain a large amount of silver wire; densely intermingled with it is a rather firm partially organized blood clot. On further dissection the aneurysm is seen to arise about one and one-half inch above the innominate on the right side. The aneurysm is about the size of a baseball. The inner surface of the cavity is roughened, red, and firmly attached to the mass of clot and wire. One piece of wire extends down the aorta, through the aortic valvular orifice into the left ventricle. It is a double loop, both ends being mixed up in a mass of wire. The lower end comes to within one inch of the apex and the wire is quite firmly attached to one of the pectinate muscles."

As is well known, the immediate object in wiring is to favor coagulation of the blood and organization of the resulting clot. It will be seen from the autopsy record that this result was partially obtained in the interval between the first wiring on April 5th, and the date of his death, July 9, 1910. It did not appear, however, to arrest the growth of the aneurysm, which steadily increased in size until it proved fatal. Perhaps the disappearance of the murmur and of the pain may be interpreted as tending toward cure, nothing more.

Very interesting is the disappearance of the aneurysmal murmur succeeding the first wiring. It may be explained by the fact that the usual conditions of a murmur, the passage of a column of blood from a tube of one lumen to that of another, were removed by the wire, which more or less filled the aneurysmal cavity. Interesting, too, is the passage of the wire through the aortic orifice into the left ventricle. A double loop was thus introduced, extending to within one inch of the apex of the ventricle. This accident was in no way harmful and did not hasten the patient's death.

A word as to the usefulness of this treatment. I have already said that in this case the treatment in no way cured the disease or prolonged the life of the patient. Other cases have fared differently. I have taken no trouble to look up the cases reported, but Robert Abbe, who published in the *Medical News* for April 9, 1887, two no more successful cases, cites others more happy in results. Moore's case, the first reported, was not successful, the patient dying on the fifth day and disclosing at autopsy suppurating foci in the kidneys. These were ascribed to emboli, arising from the clots which

seem to form invariably, but Abbe says that, as the treatment in this case dated as far back as 1864, it may as well have been septic as embolic, since no case after the first has shown infection because of the antiseptic precautions pursued at the present day.

Loreto, of Bologna, and Morse, of San Francisco, are said by Abbe to have had brilliant results. Thirteen cases had been reported up to the date of Abbe's paper and he added two more. The additional passing of an electrical current through an aneurysm thus wired seems to have added nothing favorable to the results. Among others who have contributed by their experience to our knowledge of this treatment is Dr. Hobart Amory Hare, of Philadelphia.

If asked what my conclusions are as to the result of my experience and such examination of the subject as I have been able to make, I should say that as no harm can apparently result, and some advantage seems at times to accrue, I should favor wiring in cases where the aneurysm is easily accessible, as in my case, because of the relief to pain afforded, if for no other reason. As to other favorable results claimed they have not impressed me strongly. The essential accessibility in a given case is secured by the proximity of the sac to the surface, such as was evidently present in my case. Richard Barwell, who was the first to add electricity to the treatment, commends the method for large internal aneurysms. One of Abbe's cases seems to have been very similar to my own, and another was a dissecting aneurysm of the subclavian artery.

It will have been noted that my diagnosis was not entirely correct. The autopsy shows the aneurysm to be on the transverse portion of the arch of the aorta just beyond the innominate, while I located it in the ascending limb.

A SERIES OF STUDIES OF NERVOUS AFFECTIONS IN RELATION TO THE ADJUSTMENTS OF THE EYES.

By George T. Stevens, M. D., Ph. D.,
New York.

SIXTH STUDY—SECOND PART.

The Expressions of the Face as Related to Ocular Adjustments; Elements Conducive to Nervous Disturbance.

It is reasonable to inquire whether the information which may be gained by a study of expressions related to the peculiarities in the adjustments of the eyes is available as a practical aid to the student of nervous affections.

The answer must to some extent depend upon the importance which the investigator attaches to anomalous states of the adjustments of the eyes, upon the sufficiency of his acquaintance with those anomalous conditions, and upon the instrumental means at his disposal for determining with accuracy the form of the anomaly, if existing, in the individual case under consideration.

If we hold in mind the fact that the facial expressions related to heterophoria, declination, and other forms of ocular adjustment are results of efforts on the part of the facial muscles to assist in the adjustments of the visual lines, the visual planes, or the retinal meridians, it will not be difficult to understand that pains, aches, and other manifestations of irregular or excessive nervous actions, or of excessive pressure upon the course or extremities of nerves, may locate themselves in regions occupied by certain muscles or groups of muscles which may be most immediately engaged in the acts of assistance to the more direct motor apparatus of the eyes.

Let us take, for example, in the first place, the habitual expression of esophoria, and let us imagine what legitimate effects might be predicated as a result of the peculiar muscular tensions which characterize that form of expression.

In order to gain a clear impression we may well turn back to the diagram, Fig. 3, of Part One of this study, in which the typical expression is shown. We should also have in mind the positions of the muscles of the face as shown in the diagram, Fig. 6, of that part.

With these elements for study well in hand we may inquire into some one of the forms of nervous affections the manifestations of which are to a considerable extent located in and above the face. No form of such nervous disturbance could be selected more favorable for our study than the all too common form of migraine.

If we consider in detail the elements of this affection we find, first, severe pain in the orbits. We may well attribute the distress in the location to the reaction of overtaxed action of muscles within the orbit, namely, the muscle of accommodation and the muscles directly engaged in the acts of adjustments of the eyes. Except in a limited way these muscles would not modify the expression, though, during the attack of migraine they may, and usually do, induce indirectly a closing of the eyes against the effect of light. Passing beyond the orbits, one of the principal locations of pain in the attack of migraine of esophoria is just above and in the immediate region of the brows. Here are found the descending slip of the frontal muscle, the corrugator of the brow, the upper part of the circular muscle of the eyelids, as well as the main expanse of the broad frontal muscle. All these have, during the interval since the former attack of migraine, been subject to abnormal activity. Another painful locality in many of the cases of migraine associated with esophoria is along the side of the nose. Here is manifested the fatigue of the descending slip of the frontal muscle. But the pains are not confined to the front of the head; they often extend not only to the temples but to the occipital prominences at the back of the head. As a matter of fact many of the subjects of migraine who have the condition of esophoria have also a state of anophoria. That is, the eyes are adjusted for a plane rising above the horizon. These habitually throw the head forward. Between, therefore, the tension which is brought against the occipital muscle, the attachments of which are at these occipital protuberances, by the contractions of the frontal muscle acting upon the aponeurosis connecting the frontal with the occipital, and the tension brought upon the muscles attached to these pro-

tuberances and extending downward, the groups of muscles thus engaged manifest their sense of fatigue by the pain felt at the insertion of muscles contributing largely to the special adjustments of the face, thereby inducing the expression of esophoria.

There are other elements which go to aid in making up the group of distressing sensations in an attack of migraine. There are the nausea, the vertigo, and the loss, in some cases, of a part or even the whole of the field of vision. These are perhaps not directly associated with the reaction of the muscles of the face, but are more especially associated with the intraorbital muscles.

We have dwelt somewhat at length upon this form of nervous manifestation in order that the relations of a considerable group of facial muscles to the manifestations of the affection might be suggested. But there are many other forms of distress or of irregularity of action which may be and are induced by this form of muscular adjustment resulting in the expression of esophoria.

Many forms of facial neuralgia arise from the inordinate pressure of these expression muscles upon the course or the extremities of nerves distributed in the region of their action. The habitual winking of a form of chronic chorea is only an exaggeration of the habitual actions of the muscles engaged in aid of the adjustments of the eyes. One may easily see also that many of the tics and spasms of the face may be associated with such muscular actions.

It is needless to select specific illustrations of nervous states manifesting themselves in and about the face from other forms of heterophoria. The habitual headaches of the exophoric person are usually located higher than those of esophorics, and the pains at the back of the head are usually more intense; while in a locality less frequently subject to severe and habitual pain in the subject of esophoria, the vertex of the cranium, where the aponeurosis is habitually drawn tight by the action of the occipital muscle, pain is a frequent and distressing element of the chronic headache of exophorics. It is also not less frequent in the case of double positive (+) declination, where the muscular tensions are similar to those of exophoria.

The expressions and the effects of the muscular actions attending the expressions of heterophoria have been selected as typical of those arising from the function of adjustment of the eyes, yet the expressions from declinations are, as it has already been remarked, of equal importance. These expressions may exist, although no heterophoria is manifest, and they are, to a very considerable degree, similar to those which are induced by heterophoria. The conditions of declination are, in general, the elements of heterophoria, and the efforts to correct the forms of heterophoria are not unlike the efforts to prevent it. In the majority of cases with important declinations heterophoria exists. It is, after all, simply a yielding to the efforts made in adjusting for declination.

In our illustration of the localization of pains through the influence of adjusting efforts in the interest of clear vision we found the principal localities at the level of or above the orbits. It is reasonable to inquire why the muscles of the lower part of the face, which are also engaged in forming the expression of heterophoria, do not also experience the pains resulting from continued overaction?

While it is true that these muscles are comparatively free from most of the unpleasant effects described, they are nevertheless subject to a variety of reactions, yet the question of comparative immunity requires an answer. It would seem that this comparative freedom from pain might well be accounted for by the fact that these lower muscles act upon much more flexible and less firmly attached tissues and that, in proportion to the demands upon them, under the circumstances, they are thicker, more active, and more efficient muscles. These lower muscles have a much more free play in action and by reason of this and of the facts already mentioned, suffer less from the habitual efforts manifested in facial expressions.

Many of the facial neuralgias and other forms of discomfort about the face arise from pressure upon branches of the facial, the superior maxillary, or other nerves. This pressure, continued and excessive, may or may not induce an irritable state of the branch or branches thus compressed, the result depending upon various collateral or less directly acting circumstances. Among these circumstances we must remember that one otherwise in robust health, accustomed to abundance of fresh air, is better able to resist local irritations than one poorly nourished or habitually deprived of pure air.

In the first study of this series it was suggested that the purposeless, convulsive movements of chorea are, at least in large measure, exaggerations of movements or tensions demanded in adjustments of the eyes in cases where the difficulties of such adjustments are great, such as are usually found in that disorder. Since many of these aimless movements extend to various parts of the body it will only be in place here to call attention to the fact that the convulsive movements about the face may readily be traced to the muscles which, as we have seen in the first part of this study, are those engaged in aiding in the adjustments of the eyes. If it is answered that about all of the facial muscles were there shown to be called into requisition in the adjustment function, it may be said that the choreic movements are exaggerations of the identical muscular actions demanded as adventitious adjustors of the eyes.

It is not to be assumed, because many of the results of declinations and heterophoria are manifested externally, as in the expressions of the face or bodily pose, that therefore there are no internal manifestations. There are, indeed, many directions in which the perplexities of anomalous adjustments are manifested internally. Some of these directions are doubtless secondary to external muscular effort. Others seem less intimately associated with such efforts, yet are, perhaps, not independent of them. Possibly they are more immediately associated with general muscular efforts than would at first appear. To this branch of the subject we may return, when the relations of the bodily pose to the ocular adjustments are discussed.

In the meantime, the interest of this question is broader than it appears if we view it only from the side of the apparent physical effects of the efforts at adjustments of the eyes. The nervous influence,

as it is demanded in the immediate and more remote muscular efforts required by the visual function, is modified or in a measure exhausted by the requirements of that function. Heterophoria, and the declinations with which its various forms are associated, not only influence the physical state but they may and habitually do, whether directly or indirectly we need not here inquire, have important effects upon the intellectual characteristics of the individual.

It is not the purpose of this discussion to consider physiognomy in the sense that it has been so frequently considered, as an index to the mind, but it is well to call attention to the significant practical facts, that, first, the facility with which the eyes may be adjusted for certain distances must necessarily exert an important influence upon the development of the intellectual characteristics.

The ability to adjust the eyes with ease at the ordinary distance at which we hold objects in the hand for examination, for example, in reading or writing, in the examination of maps or figures, or in examination of natural objects at close range, will enable one for a longer time to concentrate the vision, and, therefore, the mind upon such a definite subject or object, than one whose eyes are with difficulty adjusted for the near point.

Second, when the nervous functions, forced or perplexed as they often are by the efforts to control the visual functions, become so far deranged as to induce disorder in the mind, the lines of the facial expressions tell the story of the conflict which preceded the surrender of mental control so plainly that, once attention is called to the subject, it would seem an impossibility for an intelligent observer to fail to read the history so clearly written on the face, and only wilful neglect could induce a failure to do so.

Examining these two propositions, we may first compare the mental states of persons with different forms of heterophoria.

Conceding that the condition of orthophoria is in most, if not all, respects the most desirable state of adjustment of the eyes, we need only compare some of the less favorable forms.

With esophoria, including its characteristic declinations, if the tendency is only quite moderate, the visual axes of the two eyes may unite with the greatest ease at the point at which books and other objects are held in the hand; while in the case of exophoria, with its accompanying positive declinations, assuming its tendency also to be moderate, although the visual lines may unite at this near point and be held in mutual relation, the function is performed at the expense of persistent and often of wearisome effort. Consequently, while concentrating and persevering labor at subjects presented at near points may be natural and agreeable to the subject of slight esophoria, such labor and concentration become irksome and distasteful to the subject of exophoria. In either case, the individual may be quite unconscious of his own preference in respect to the points at which he uses the eyes with greatest enjoyment. The choice is nearly automatic, a selection entirely natural but generally unpremeditated.

The person subject to very moderate esophoria, is thus, if the expression be permitted, predisposed to more constant and unwearied exertions in the more practical investigations and becomes realistic. The exophoric person, on the other hand, in his thought and observations, is more predisposed to abstractions, to reverie, and to idealism. It is not that the mind of such a person is, of necessity, constituted for idealism, but it has been physically easier for such a person to contemplate distant objects and to indulge in general considerations than to concentrate the lines of vision, and therefore the thoughts upon minute detail at the near point. In short, it is more agreeable to gaze at the vague distance and indulge in charming fancies than to concentrate the lines of vision, and the mind as well, upon close and therefore realistic objects.

With the expression of exophoria then we may reasonably expect to find the imagination exercising a more controlling influence than with the expression of the opposite condition, esophoria. A glance at a series of good portraits of distinguished persons, the works of the greatest masters, will strikingly illustrate this important truth. The expressions shown in such a series will confirm in a remarkable manner the statements just made.

Hence it is that we are accustomed to regard the compressed brow, the short and firm upper lip, the spreading facial lines, as indications of determined concentration of purpose, while we look upon the elevated brow, the long upper lip, and the drooping facial lines as suggestive of abstractions and of idealisms.

To the first class belong the conquerors of the world in war and thought; to the other class the poets of fervent imagination and the painters of the most ideal conceptions.

The characteristic facial expressions arising from ocular adjustments are strongly marked in the greatest representations of these two classes of leaders, but nowhere can all the characteristics of declinations and of heterophoria be more readily recognized or more easily classified than among those who, by reason of their extreme and persistent efforts at ocular adjustments under unfavorable circumstances, have so disturbed the centres of nervous energy as to result in unsettling of the reason. And this brings us to our second proposition, namely, that when the nervous functions, forced or perplexed as they often are by the efforts to control the visual adjustments, become so far deranged as to induce disorder in the mind, the lines of facial expression tell the story of the conflict which preceded the surrender of mental control so plainly that, once attention has been called to the subject, it would seem an impossibility for an intelligent observer to fail to read the history so plainly written on the face.

In the asylums for the insane, where the various expressions of declination and heterophoria are given full play and are therefore intensified, we cannot, if we observe with a knowledge of these principles in view, fail to find a subject of deep interest in the contrast between the garrulous and self conscious perversity of the exophoric and the sullen and obstinate melancholy of the esophoric. The young woman with exalted eye brows, with elongated mouth and with hands uplifted in the ecstasy of a pseudoreligious frenzy, is manifesting in the most natural way the exaggerations of the exophoric character; on the other hand, the young man with lowered brows, downcast eyes, and folded hands,

apparently in the most profound meditation of the most fundamental subjects, is only an irresponsible caricature of his more fortunate esophoric brothers who retain the control of their faculties and can guide their thoughts to practical purpose. The uncertain, untrustworthy, disappointing, and crotchety lunatic is very liable to carry the lineaments of heterophoria upon his unsymmetrical face.

The figures here introduced I have taken, not from my own collection, but preferably from the work *Lehrbuch der Psychiatrie*, by Dr. Theodore Kirchhoff. It is an interesting coincidence that the paragraph referring to the expressions seen in an asylum for the insane was written before I had seen the work of Dr. Kirchhoff. The description was drawn from my personal observations among these unfortunate people. Yet the pictures of the young man with melancholia and the maid with mania so precisely illustrate the paragraph that it seems to have been written in description of the figures.

Knowledge of the underlying causes of these facial expressions and of their influence upon the intellectual character, as well as of the physical condition of the individual, is essential to the artist who strives to represent in the face of his ideal portrait the character of his historical personage.





expression of mania.

In actual portraiture the works of Holbein and of Van Dyck illustrate how successfully the character of their subjects may be transferred to the canvas in the faithful and conscientious delineation by these great painters of the very lines which have been discussed in this connection.

If we admit all this, then the ability to determine these ocular anomalies with accuracy assumes a new importance, and we are to ask ourselves whether the means commonly employed for their determination are so trustworthy as to require no auxiliary or confirmative methods.

Among the aids in this line of inquiry, photography occupies a high place. Yet, in some respects, there are certain important limitations to the value of photographs. The greatest of these is the fact that the "expression" nearly always vanishes before the camera.

When one sits for a photograph and gazes into vacancy, the eyes having no sharply defined point for fixation, nothing which interests the sitter, the features relax and the habitual expression of the face disappears, to a certain extent. Herein lies an explanation of the well known fact that while a photograph must be mechanically correct, it generally fails to reveal the expression of the person photographed, and that in order to secure a faithful picture of an individual the eye and the hand of the living artist are essential.

We watch with interest the highly arched brow and lengthened upper lip of the subject of our observation while engaged in conversation, but no sooner is our subject seated before the camera than the brows fall and the mouth assumes a new form. Hence it is, while in examining a series of portraits made by the hands of accomplished artists, we find that in a great proportion of instances the portraits may be typical illustrations of one or other of the four principal groups of our classification, it is extremely difficult to obtain equally typical examples from a group of photographs from life.

We come, finally, to a most important question.

Is it possible and desirable to modify these expressions of the face by modifying the relative tensions of the ocular muscles. In regard to the possibility of modifying these expressions, if their causes have been correctly stated, it is but logical to expect that the modification of the cause would be attended by a change in the expression. This theoretical assumption is fully confirmed by practical observation. It is a daily experience to witness the most notable changes in the expressions of those patients for whom slight operations for the balancing of the ocular muscles have been done. These changes are always, when the modification of the muscles has been properly done, of an agreeable character.

These delicately executed and accurately graduated modifications of the eye muscles should by no means be confounded with the rude and unsatisfactory operations long described in the surgical textbooks, nor can we look for agreeable results if we adhere to the ancient methods of attempted determinations of the relative balance of the eye muscles by tests which are not of the highest accuracy.

Every procedure of examination and of operation must be conducted with the most scrupulous regard to the ultimate balancing of the various rotating forces of the eyes in such a way that no muscle shall exercise an undue influence either over its direct antagonist or over the corresponding muscle of the opposite eye. Other physical conditions being equal, the condition of orthophoria without declination is that which is conducive to the highest development of physical health and energy, and, therefore, to the broadest expansions of the intellectual faculties.

The muscles which direct the eyes give character and tone to all the muscular conditions of the face; harmony of features depends upon their equilibrium. While the anatomical basis of expression may be in perfect symmetry and proportion, the actual expression of the face may be modified by the relative tension of the motor muscles of the globes of the eyes in such a way as to obstruct or prevent the true expressions which would light up the face, were it not that the facial muscles are in a state of tension as a result of their participation in maintaining an adjustment for the eyes in the various forms of declinations and heterophoria.

Physical health, intellectual force, and beauty of expression are all favored by the perfect equilibrium of the motor muscles of the eyes and the correct positions of the ocular meridians of which orthophoria without declinations constitutes the type.

[illegible]

CERTAIN LESIONS OF THE LYMPH NODES.

[illegible]

Transformation in Hodgkin's Disease.

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[illegible]

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There probably is no lesion concerning which more confusion exists than that familiarly known as Hodgkin's disease. While the condition most often is manifested in the cervical lymph nodes, chronic enlargement of these structures represents so many different histological processes that, in a given instance, the determination of the underlying cause is often a matter of difficulty.

In the present communication I purpose to emphasize the occurrence of certain changes in the lymph nodes in tuberculosis and other conditions with reference to the likelihood of confusing them with Hodgkin's disease, to place on record a remarkable instance of generalized primary epithelioid tuberculosis of the lymph nodes in a subject of status lymphaticus, to describe certain histological changes in Hodgkin's disease that are directed, apparently, at organization and, finally, to record a case of primary thoracic Hodgkin's disease with changes indicating deviation into a malignant neoplasm. In the latter connection I shall summarize and comment upon certain closely related cases which have appeared recently in the literature and attempt to indicate the changes by which transformation into a malignant tumor is characterized.

[illegible] Lymph Nodes.

1. There are varieties of chronic tuberculosis of the cervical nodes in which the clinical features are not distinctive and the diagnosis usually is made after excision and histological examination. Among these are at least two types of so called hyperplastic tuberculosis, one attended by extraordinary increase in the endothelial cells of the sinuses, the other by diffuse hyperplasia of lymphoid cells without the formation of recognizable tubercles.

In the first type of hyperplastic tuberculosis the lymph nodes attain variable sizes, are painless, firm and movable, and do not tend to necrose. Hence the condition does not offer any essential clinical variations from Hodgkin's disease and, indeed, the two lesions are often confounded.

On removal it is seen that the individual nodes are invested by a connective tissue capsule, while the cut surface is perfectly smooth, faintly yellowish or dead white in color—naked eye features which have prompted the somewhat homely designation of "potato lymph node." Microscopical examination reveals characteristic changes, the most striking of which consists in widespread hyperplasia of the endothelial cells, and of almost complete disappearance of the lymphoid elements. Here and there, however, typical Langhans's giant cells occur and, at times, though rarely, definite tubercles may be seen. The tuberculous nature of the lesion may be further demonstrated by staining for tubercle bacilli or by injecting guineapigs with freshly emulsified tissue.

In the second type of hyperplastic tuberculosis the cellular increase is confined to the lymphoid elements and is diffuse in distribution. There is seldom any attempt to reproduce lymph follicles, the cords and sinuses are obliterated, and the normal architecture of the node is scarcely recognizable. Thus the histological changes do not differ essentially from those of lymphatic leuchæmia or of pseudoleuchæmia, in the sense that Cohnheim (1) described the latter disease (*vide infra.*) To establish, therefore, the tuberculous nature of the process resource must be had to other methods, as

already indicated. And even in these circumstances it is sometimes impracticable to arrive at a definite conclusion. For example, a boy, six years of age, developed a series of enlarged nodes on one side of the neck after a severe attack of diphtheria. He was admitted to the New York Hospital, the nodes were removed, and microscopical examination revealed epithelioid and caseous tubercles in practically all of them. Several months later, the patient was again operated upon because of the rapid development of a number of enlarged, discrete nodes on the opposite side of the neck. In these the only histological change consisted in diffuse hyperplasia of lymphoid cells; tubercles were not demonstrable and repeated efforts to detect tubercle bacilli in appropriately stained preparations were fruitless. Unfortunately the nodes had been fixed in formalin and animals could not be injected. Hence the nature of the secondary process is still in doubt.

In certain circumstances primary tuberculosis of the lymph nodes does not confine itself to a localized group, but is manifested in disseminated form. In a case recently recorded by Coley and Ewing (2) the clinical features suggested acute Hodgkin's disease. The process terminated fatally within six weeks and was characterized, anatomically, by enlargement of the cervical, thoracic, retroperitoneal, and mesenteric lymph nodes and by hyperplasia of the lymphoid structures of the spleen, stomach, and colon. Other observers have described cases of a more chronic nature, some of which were confused with Hodgkin's disease.

In a case that recently came under my observation the subject presented the classical anatomical changes of status lymphaticus and, in addition, definite epithelioid tubercles were detected in microscopical preparations of numbers of lymph nodes removed from the neck, thorax, and abdomen.

Case I. The patient was a male, aged thirty-seven years, whose clinical history contained nothing worthy of record here. At autopsy the body was described as of slender but well developed frame, the configuration of which was only slightly suggestive of the feminine type. The facial, axillary, and pubic hairs were well developed. The superficial lymph nodes were not palpable except in the inguinal region, where they were distinctly enlarged. On section the pericardium showed the lesions incident to chronic nontuberculous obliterating pericarditis. The aorta was slightly diminished in calibre. The great viscera presented signs of chronic passive congestion.

Lymphoid apparatus: The thymus was persistent and extended from a point slightly above the level of the clavicles obliquely downward to within 2 cm. of the apex of the heart, filling in the interspace between the anterior margins of the lungs and obliterating the præcordial area with the exception of a narrow interval on the right and a small area above and in front of the extreme lower end of the pericardial sac. The organ was pyramidal in outline with the base directed upward. It measured 14 cm. in its longest diameter, 5 cm. in breadth at the root of the neck, and about 3 cm. in thickness, and weighed 111 grammes. The spleen was enlarged and the follicles were markedly hyperplastic. The faucial tonsils were enormous, measuring 6 cm. in length and about 3 cm. in breadth. The base of the tongue was thickly beset with hyperplastic lymphoid follicles. Some of these were the size of a large shot and were discrete. Others were aggregated to form cauliflowerlike nodules, measuring from 1 to 3 cm. in length. The deep cervical lymph nodes were markedly enlarged as were those at the hilum of the lungs and along the course of the œsophagus. The mesenteric and retroperitoneal lymph nodes measured, on an average, 2 cm. in length. The inguinal nodes were distinctly [illegible] the individual nodes were encapsulated, discrete, and movable against one another and the neighboring structures.

In the ileum the solitary follicles were visible literally by hundreds and projected above the surface as small, shotlike nodulations. Near the cæcum was a solitary hyperplastic Peyer's patch which measured 4 cm. in length and about 1.5 cm. in breadth.

In lymphatic leuchæmia enlargement of the cervical nodes commonly occurs, in which event the blood examination usually suffices to establish the nature of the enlargement. But in pseudoleuchæmia there are no characteristic alterations in the blood and microscopical examination of the affected nodes reveals no criterion by which the changes may be distinguished from lymphatic leuchæmia or from those instances of diffuse hyperplasia of lymphoid cells in which tuberculosis as the ætiological factor is presumptive rather than demonstrable. In this connection it cannot be too strongly emphasized that pseudoleuchæmia is to be distinguished from Hodgkin's disease, since the latter is associated with histological changes which render its recognition practicable in almost any circumstance.

HEALING IN HODGKIN'S DISEASE.

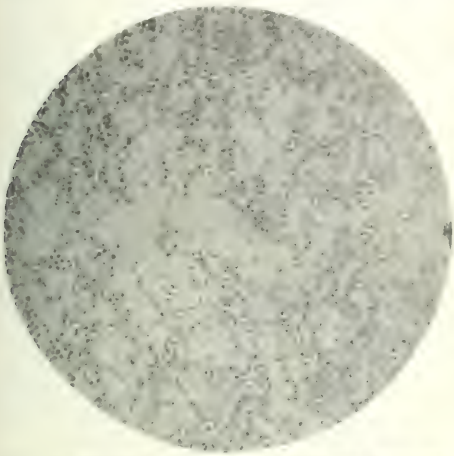
While Sternberg (3) originally advanced the view that the histological alterations in Hodgkin's disease are invariably tuberculous, he has since (4) admitted that this assertion is too far reaching, but nevertheless continues to hold that considerable numbers of such cases have something in common with tuberculosis from an ætiological standpoint, and that all of them represent the expression of a chronic infective process. Although the histological changes constantly encountered in Hodgkin's disease certainly indicate that the lesion is a granuloma, innumerable and varied attempts to demonstrate their tuberculous nature have failed to yield convincing evidence. Such efforts have included the administration of tuberculin in living subjects of the disease, the inoculation into guineapigs, rabbits, and monkeys of freshly emulsified tissue, and the staining of affected nodes for tubercle bacilli. Latterly, however, Fraenkel and Much (5) maintain that they have demonstrated in nine out of ten cases of Hodgkin's disease, a Gram positive, granular bacillus resembling the tubercle bacillus. In two instances guineapigs that had been injected with emulsified nodes died of tuberculosis, and apparently the same bacillus was detected in the organs. Acid fast organisms, however, could not be shown.

Without entering further into the ætiological possibilities of Hodgkin's disease, I purpose to describe two cases in which the clinical signs were suggestive, but in which the stroma of the involved lymph nodes had undergone such extensive hyaline transformation that, although the histological diagnosis of Hodgkin's disease appeared to be probable from the outset, it was actually established only after the examination of considerable numbers of sections removed at different levels.

One of the patients died, but an autopsy could not be obtained. The other patient was discharged from the hospital, consequently no opportunity presented to correlate the histological changes in the cervical lymph nodes with any that might have been present in other parts. Little effort will be made to interpret the clinical symptoms presented by

either patient, since it is felt that in the absence of definite information bearing on the condition of the viscera as a whole, such an attempt might easily be misleading.

Case II. A negress, thirty-six years of age, admitted to the New York Hospital, October 5, 1910, discharged November 28, 1910. The patient was married, had given



birth to two children, and had suffered one miscarriage at the third month. She denied syphilis and addiction to alcohol. Menstruation had always been regular, but ceased at the commencement of the present illness. The patient stated that, in March, 1910, she began to suffer from a sensation of discomfort in the abdomen, unattended by nausea or vomiting. At that time she was jaundiced. About a month later she commenced to perspire profusely at night and was "occasionally feverish." Gradually the abdomen began to enlarge and in September, 1910, the feet became swollen. For two months before admission to the hospital she suffered from severe cough and from dyspnœa on exertion. The cough was so violent at times that vomiting occurred. The bowels were regular until two weeks before admission, when diarrhœa set in. No blood was noticed in the stools. For six months before admission the patient maintained that she had experienced frequent attacks of epistaxis and that she had lost strength and weight.

Physical examination revealed slight emaciation. The conjunctivæ were jaundiced. The nose revealed nothing abnormal. The radial pulses were equal and regular, but of the trip hammer or Corrigan type. The arteries appeared to be moderately sclerosed. The area of cardiac dulness was enlarged and there was a soft systolic murmur at the apex, transmitted to the pulmonic area, where it became rougher. There was a faint, short diastolic murmur over the region of the aortic valves. Examination of the chest gave no signs of pulmonary tuberculosis. Liver dulness extended from the fourth interspace in the mammillary line to a point 9 cm. below the right costal margin and 10.5 cm. beneath the xiphoid cartilage. The edge was felt and appeared to be sharp and thin. No nodules were palpated in the liver. The spleen was not felt. No scars were observed in the lower extremities. The lymph nodes above the right clavicle were greatly enlarged, discrete, movable, and free from tenderness. Many smaller nodes were present above the left clavicle. The nodes in both axillæ were enlarged. The epitrochlear nodes were not palpable. The sputum was examined for tubercle bacilli on four occasions, with negative results. Examination of the urine was negative. Four blood counts revealed an average of about 10,000 leucocytes; 2,240,000 red cells and 45 per cent. of hæmoglobin. The differential count of the white cells showed 46 per cent. of multinuclear forms and 52 per cent. of lymphocytes, one per cent. of eosinophiles, and one per cent. of basophiles. The patient's weight remained practically constant during the 54 days that she was under observation. The evening temperature always exceeded 100° F., and rose on several occasions to 103-4° F.

An enlarged lymph node removed from the neck was submitted to histological examination. The node was oval in outline, flattened, and measured 3 cm. in length and 2 cm. in breadth. Its external surface was smooth and covered by a moderately thick connective tissue capsule. On cross section in the fresh condition the node cut readily and the cut surface was smooth and faintly yellowish. After fixation in formalin, however, the cut surface presented a finely nodular appearance. Microscopically, the normal tissues of the node were replaced at scattered intervals by large islands of hyaline connective tissue made up of coarse, anastomosing cords in the enclosures between which were minute clumps, or streaklike collections of lymphocytes. Between the hyaline islands were relatively large lymphocytic foci which were irregularly subdivided by hyaline trabeculæ. Lying close to the connective tissue framework, here and there, was an occasional large, rounded cell with pale cytoplasm and vesicular nucleus. Finally, after examination of a number of sections removed at different levels a few typical multinucleated giant cells were found.

Case III. Male, Greek, thirty-six years of age, admitted to the New York Hospital September 5, 1910; death five days later. The patient stated that five months previous to admission he began to suffer from malaise, sweating, and feverish sensations, and to lose weight. Five weeks before admission he took to his bed because of progressive weakness. Physical examination revealed some emaciation. The skin and visible mucous membranes were pale. The eyes were negative, except for foci of albuminuric retinitis. The radial pulses were equal and regular, but of the trip hammer type, and the arteries appeared to be sclerosed. The heart was negative except for a soft blowing systolic murmur at the apex. The lungs revealed numerous moist, diffusely distributed râles. The lower edge of the liver was palpated



Case III.

3½ cm. below the right costal margin. The spleen was felt 5½ cm. below the left costal margin, and the edge seemed to be sharp. No scars were visible in the genitals or legs. Lymph nodes: In the posterior and lateral cervical regions, large, discrete, freely movable, painless nodes were present in considerable numbers. The epitrochlear nodes were not palpable. The urine showed

albumin and hyaline and granular casts. There is no record of the detection of tubercle bacilli in the sputum. The red cells numbered 2,240,000, the white cells 2,000. Multinuclear leucocytes were estimated in the differential count at 69 per cent., lymphocytes at 31 per cent. The percentage of hæmoglobin was 35. No nucleated red cells were found. There were marked poikilocytosis and polychromatophilia and moderate anisocytosis. Malarial organisms were not detected. The Widal reaction was negative. The patient's temperature varied between 103-4° F. It was not normal at any time that he was under observation.

A mass of lymph nodes was removed from one axilla *post mortem*. The specimen received in the laboratory consisted of about a dozen large and small lymph nodes. The largest measured 4 cm in length and 1½ cm. in breadth and was oval in shape. The nodes were discrete, firm in consistence, and smooth. Each was surrounded by a thin connective tissue capsule. On cross section the cut surface was perfectly smooth and faintly brownish, while at intervals small yellowish foci were apparent to the unaided eye. Microscopical examination of the nodes revealed obliteration of lymph sinuses and follicles. The ground substance was made up of homogeneous hyaline tissue through which were sprinkled lymphoid cells arranged in small groups or delicate streaks. Occasionally relatively large clusters of lymphocytes occurred and between the individual cells the same hyaline matrix could be identified readily. Finally, near the periphery of one of the nodes, a small oblong streak of tissue was found in which there were moderate numbers of large uninuclear cells and a few multinuclear giant cells of typical morphology.

It is manifest, I think, that the cases just described presented no clinical standard by which they might have been differentiated from several other affections characterized by enlargement of the cervical lymph nodes. At the same time the histological diagnosis was scarcely less difficult on account of extensive hyaline changes in the stroma, resulting in almost total obliteration of the cellular details by which Hodgkin's disease is distinguished. Morphologically, the alterations in the stroma were strikingly like those encountered in the so called amyloid degeneration, but, among other things, failure to obtain the reactions characteristic of amyloid material served to modify or even to dispel this suspicion.

Finally, it is perfectly natural to assume that, in certain circumstances, the sclerotic changes in Hodgkin's disease may progress to such an extent as to dominate the histological picture, just as at other times the cellular features are so pronounced that the microscopical diagnosis is apparent at a glance. In the former event the changes are best interpreted, I believe, as an attempt at organization.

SECONDARY CHANGES IN OTHER VISCERA.

In certain instances, Hodgkin's disease does not confine itself to the lymphatic apparatus proper, but gives rise to the formation of secondary nodules in other viscera, notably the liver, in which event the histological changes are characteristic and differ only slightly, if at all, from those to be observed in the primary focus.

The suspicion early arose that the secondary visceral nodules are of the nature of metastases and that the disease, if not primarily neoplastic, is at least capable of undergoing transformation with the assumption of malignant qualities. Against this view it is urged that the occurrence of such nodules is to be explained on the ground that the causative agent finds a favorable medium for activity in lymphomatous foci in the organs secondarily concerned. This explanation appears to be quite sufficient for the spleen and bone marrow, but in certain other locations, notably the liver, kidney, lungs, and suprarenal capsules it does not, at first, seem to be so readily applicable. But that the exception is more apparent than real would seem to be indicated by several facts. Thus in a case of primary abdominal Hodgkin's disease (6) it has been shown that the eruption of secondary nodules in the liver was preceded by the appearance of small but definite lymphomatous foci in the region of the portal vessels, just as it has been demonstrated that the histological changes in the lymph nodes are conceived in hyperplasia of lymphoid cells (Longcope, Symmers). That lymphomatous foci may arise in the liver is furthermore revealed by their almost constant occurrence in that situation in enteric fever and occasionally in glanders, while in primary gastrointestinal pseudoleuchæmia they have been demonstrated not only in the adventitia of the portal vessels, but in the lungs, œsophagus, kidneys, pancreas, prostate, and adrenals (Herrick, Wells and Maver, Hadden, Symmers). In my experience similar formations are of common occurrence in the connective tissue of the lungs, kidney, liver, prostate, pancreas, and thyreoid in various other pathological conditions, while in the routine histological examination of the adrenals lymphoid collections are very frequently encountered. Hence it is justifiable to assume that in certain of these situations lymphomatous foci may play a part in the histogenesis of Hodgkin's disease, which seems to demand lymphoid hyperplasia as a prerequisite to development. At all events no one, as far as I know, has advanced adequate reasons for believing that the secondary nodules in genuine Hodgkin's disease arise from cellular transplantation, and, in fact, the suggestion does not seem to merit more than passing notice.

On the other hand, the occurrence of secondary nodules in Hodgkin's disease is aptly comparable to deposits that occur in the same and other situations in the infective granulomata, especially tuberculosis and syphilis. Nevertheless there are those who regard certain of the secondary visceral manifestations of Hodgkin's disease as evidence of malignant transformation of a process that is primarily inflammatory. Thus in a case reported by Karsner (7) it is pointed out that the "invading masses lose much of their inflammatory character (connective tissue overgrowth), take on a very rich cell character, and also show little or no tendency to central necrosis."

Within very recent times other facts have been advanced in support of the contention that the inflammatory changes in Hodgkin's disease are susceptible of malignant transformation in that the new tissue is capable of invading surrounding organs and of establishing secondary nodules in distant tissues.

Yamasaki (8) has recorded the case of a woman, thirty-two years of age, who stated that six weeks before she was admitted to the hospital a growth appeared on the right side of the neck and increased rapidly in size.

At autopsy the right lung was found to be generally adherent, posteriorly by connective tissue, but in its anterior half to a whitish mass which lay in the anterior mediastinum, covering the præcordium and penetrating the

parietal pericardium at several points. The growth in the mediastinum, which is described as imitating the form of the thymus, was about the size of an adult male fist. It was hard and intimately connected with the growth described in the pleura of the right lung and with masses that eroded the sternum and penetrated the left innominate vein and the superior vena cava. The lymph nodes in the immediate vicinity of the growth and in the region of the stomach were enlarged to the size of walnuts.

In analyzing this case one is confronted by the occurrence of a primary growth in the thorax, originating, possibly, in the thymus, but at all events so situated that if its expansion is to continue it must do so at the expense of compressing or invading surrounding organs of more or less compact structure, or by penetrating hollow viscera to be discharged, or by entering bloodvesse's or lymph channels and depositing cellular emboli in distant parts where, if the emboli are of neoplastic origin, and capable of independent growth, secondary nodules should occur. From the description given by Yamasaki it is evident that metastasis by cellular transplantation did not occur, despite invasion of large veins at the root of the neck. Consequently, one is left to consider a growth that progressed at the expense of tissues in the immediate vicinity—the lungs, pericardium, sternum, and innominate vein. So far as the lesions in the cervical and other lymph nodes are concerned an apparently adequate explanation is afforded by the circumstance that Hodgkin's disease is conspicuous in selecting lymphoid tissues in which to establish its histological peculiarities. They are scarcely to be regarded as the result of metastasis by cellular transplantation.

This case, then, while presenting features that suggest malignancy, may also be interpreted as an example of primary thoracic Hodgkin's disease attended by compression and invasion of certain neighboring viscera that are no less capable of resisting the expansion of a cellular body than the ribs, vertebræ, and other bony structures can resist the gradual advance of an aneurysm.

A second case described by Yamasaki was that of a woman, forty-eight years of age, who stated that about a year before coming under observation, a growth appeared on the right side of the neck. The mass increased progressively and others soon appeared in the vicinity.

At autopsy, in addition to the masses in the neck, it was found that the right innominate vein was surrounded and compressed by large nodes. The liver was enlarged and presented a sharply defined nodule in the left lobe. The spleen was increased in size, and studded by nodules, there were numerous pea sized bodies scattered through the peritonæum, each suprarenal capsule showed a solitary nodule the size of a hazel nut, and the mesenteric lymph nodes were markedly enlarged.

A debatable point bearing upon the neoplastic nature of the process in Yamasaki's second case is to be found in the peritoneal involvement. The primary growth was in the cervical lymph nodes, and the secondary changes in the mesenteric nodes and spleen are explicable on the basis that Hodgkin's disease expresses a predilection for lymphoid tissues. The occurrence of secondary nodules in the liver and adrenals does not necessarily constitute an exception to this selective action for reasons that have previously been outlined. But one is somewhat at a loss to explain the peritoneal nodules from the standpoint of preliminary lymphoid hyperplasia, since the existence of lymphomata in that situation has not been adequately demonstrated, as far as I have been able to learn, except in certain small animals, where groups of lymphoid cells are known to occur (Stöhr). While their presence in the peritonæum of man in normal conditions, or their production in disease is presumptive, the implication would appear to be justified by our knowledge of their occurrence in other situations.

Yamasaki closes his paper with the statement that both of his cases are undoubtedly of neoplastic nature. He emphasizes the striking histological resemblance to Hodgkin's disease, but maintains that the invasive characteristics of the first case, and the numerous and richly cellular secondary nodules in the second, indicate sarcomatous transformation.

Under the title, Hodgkin's Disease with the Picture of Lymphosarcoma, O. M. Chiari (9) has recorded a case closely related to Yamasaki's:

The disease occurred in a twenty-three year old woman. At autopsy, the cervical glands on both sides were enlarged to form nodules the size of the clenched fist. Enormously enlarged nodes were also present in the right axilla. The cervical enlargements commenced at the level of the thyreoid cartilage, surrounded the great vessels of the neck and the trachea, and were continuous with a mediastinal tumor the size of a child's head. The œsophagus was laterally displaced by an egg sized growth lying back of the trachea, and the bifurcation of the trachea was enveloped by nodules. Tumor masses ran along the sides of the right bronchus to the root of the lung and in one of the bronchi, which was surrounded by nodules to such an extent that its lumen was compressed, the mucous membrane was elevated by irregularly outlined, whitish projections. In the visceral pleura, between the middle and upper lobes of the right lung, and in the parietal pleura on the same side, were whitish nodules. The parietal pericardium on the right presented knoblike masses which were continuous with the mediastinal tumor. The spleen was enlarged and exhibited numbers of small, whitish, circumscribed tumors. The lymph nodes at the upper border of the pancreas were enlarged to the size of pigeons' eggs.

I have recently had occasion to study a case very similar to those just summarized, and the clinical and anatomical details are as follow:

Case IV. The patient was a highly neurotic woman, fifty-six years of age, a widow, admitted to the New York Hospital, February 12, 1909. In the preceding November she had suffered constant and severe pain in the right shoulder joint. The left shoulder was soon similarly affected. In both situations the pain was aggravated by exertion and continued several weeks. A week after the onset of pain in the shoulders she began to suffer from nausea and vomiting and became jaundiced and "feverish." This latter condition persisted for two weeks and then disappeared. At the time of admission she complained of œdema of the lower extremities. The patient improved and was discharged from the hospital in March, 1909, and was readmitted September 8, 1910. She then stated that in November, 1909, a swelling appeared just above the right clavicle. This swelling was painless and varied in size from time to time. In May, 1910, she began to suffer from palpitation, dyspnœa, and an annoying dry cough. About July 1st, she noticed a firm, tender mass about the size of a thumb on the left side of the neck. In August, there was a pronounced enlargement of the right side of the neck and of the corresponding breast, and dilatation of the veins of the upper portion of the thorax on the same side. Dyspnœa was marked, and cough was exceedingly troublesome, especially upon awakening, when she expectorated large quantities of whitish, frothy material. Finally dyspnœa was replaced

Physical examination at the time of the patient's second admission to the hospital revealed signs of fluid in the left chest, from which 1,250 c.c. were withdrawn September 22d and 800 c.c. October 9, 1910. The legs, right hand and arm, and the right side of the neck and chest

were œdematous. Numerous enlarged, firm, discrete nodules were palpated in the suprasternal notch and in both supraclavicular regions. The axillary nodes were not felt. The chest fluid was clear, amber colored, s. g. 1,008, and contained many lymphocytes. The urine contained albumin and hyaline casts. The blood count revealed 4,128,000 red cells, 5,800 white cells, and 80 per cent. of hæmoglobin. The differential leucocyte count showed multinuclear leucocytes 81 per cent., lymphocytes 18 per cent., and eosinophiles one per cent. No tubercle bacilli were detected in the sputum.

Autopsy eight hours *post mortem*. The subject was a moderately emaciated woman. The visible mucous membranes were pale. The superficial lymph nodes were not enlarged, except in the left supraclavicular fossa, where the largest was about the size of a hickory nut. The right hand and arm and the corresponding side of the neck and thorax were œdematous. The left side of the chest was larger than the right. The lower extremities were slightly œdematous to the level of the knees. Abdomen: No noteworthy changes were observed other than general visceroptosis. Chest: The right pleural cavity was completely obliterated by adhesions, except at the base of the lung, where there was a collection of fluid amounting to about 100 c. c. The left pleural membranes were separated by 1,350 c. c. of clear, straw colored fluid. The anterior mediastinum was occupied by a mass corresponding in its general outline to the thymus. This mass pushed the heart downward and to the left, and overlapped the upper third of the præcordium. It measured 18 cm. from above downward and 11 cm. transversely, and extended upward into the suprasternal region, where it invaded and replaced the lower pole of the right lobe of the thyreoid for a distance of about 3 cm. On the right side the mass extended backward to the spinal column, compressing, but not invading the lung. Toward the left the growth extended slightly beyond the edge of the sternum. The mass compressed the trachea, pushing it slightly to the right, and invaded the walls of this tube, commencing at a point 8 cm. below the tip of the epiglottis and ending 16 cm. below. The area of tracheal involvement measured 8 cm. in length and 2 cm. in breadth. The mucous membrane of the trachea was not ulcerated but was pushed forward by numbers of small, nodular projections. On removal of the growth section showed a faintly cream colored, nodular surface and the consistence of the mass was firm. The individual lobules were roughly spherical in outline, and projected above the cut surface. They were pale, medullary in appearance, measured from 2 mm. to 2 cm. in length, and were separated one from the other by dense bands of pale, smooth tissue. Pericardium, heart, and aorta: The pericardium and heart were unchanged. The commencement of the aorta presented numbers of hyaline plaques without calcification. There were several scars in the vessel wall just above the semilunar valves. In the transverse portion of the arch was an irregularly rounded, puckered scar about 1 cm. in diameter. Thyreoid gland: The left lobe was atrophic. The lower pole of the right lobe was replaced for a distance of about 3 cm. by a new growth similar to that described in the anterior mediastinum. Lymphoid system: The lingual and faucial tonsils were atrophic. The follicles in the spleen and gastrointestinal tract were small and indistinct. Bone marrow: The marrow of the right femur was for the greater part faintly reddish color. Here and there were deep red foci of indefinite outline together with pale, gelatinous areas. The adrenals, kidneys, pancreas, genitalia, gastrointestinal tract, mesenteric and retroperitoneal lymph nodes, brain, etc., presented no noteworthy changes. In the liver, however, was a small nodule that was regarded as a secondary growth, since it presented the same naked eye appearances as the growths elsewhere, but unfortunately the nodule was misplaced and its histological nature could not be determined.

Anatomical diagnosis: Primary mediastinal Hodgkin's granuloma; invasion of the right lobe of the thyreoid and of the trachea, solitary secondary nodule in the liver; bilateral hydrothorax; atrophy of the faucial and lingual tonsils and of the lymphoid structures of the spleen and gastrointestinal tract; cyanotic induration of spleen; congestion and myxomatous degeneration of the bone marrow; syphilitic aortitis.

Microscopical examination of sections of the tumor in the mediastinum revealed bands of dense connective tissue surrounding enormous cellular islands. The latter were composed chiefly of typical lymphoid cells, among which were distributed numbers of rather coarse anastomosing strands of nonreticulated connective tissue, dividing the islands into innumerable small compartments. In the subsidiary alveoli thus formed lymphoid cells predominated, but in addition there were numbers of large uninuclear cells, small numbers of multinuclear giant cells, a few plasma cells, and eosinophiles. Trachea: Microscopical examination of this organ also revealed large islands of cells separated from one another by dense connective tissue septa. Lying in the connective tissue between the large cellular islands at intervals were small numbers of mucous glands. Otherwise, none of the histological elements of the trachea was visible. The cellular groups were made up mostly of lymphoid elements, among which were large uninuclear forms of the type just described, multinuclear giant cells, a few plasma cells, and eosinophiles. Thyreoid: Microscopical examination of this structure showed the presence of scattered colloid containing alveoli between which were cell collections in all respects similar to those encountered elsewhere. In no instance, however, was it possible to detect in the connective tissue network supporting the remnants of the thyreoid any sign of infiltration by foreign cells.

The case just considered bears a strong resemblance to the one first recorded by Yamasaki. In my case we have to deal with a large mediastinal growth, possibly of thymic origin, which had compressed and displaced the heart and right lung and had invaded the thyreoid gland and trachea. A solitary secondary nodule occurred in the liver. The histological features both of the original growth and of the invading masses are indistinguishable from those of Hodgkin's granuloma. The question of malignancy, therefore, hinges upon the invasive qualities of the growth, and here, again, we are confronted by the question of compulsory expansion —local malignancy as opposed to malignancy in the sense of an autonomous process.

Apparently, however, several interpretations are allowable, not the least plausible of which, perhaps, would relegate the case to the category of Hodgkin's disease, that is to say, that it is a granuloma with invasive properties due to compulsory mechanical factors. On the other hand, it may be classified as an independent growth of sarcomatous nature. Or, it may be regarded as the transformations of Hodgkin's granuloma into sarcoma, in which case the acknowledgment of malignancy must rest very largely upon the invasive features, since there are no other morphological changes to indicate neoplastic transformation. On the contrary, microscopical examination of the thyreoid and trachea leaves one with the impression that the invading cell masses, meeting with passive resistance only, have pushed aside and replaced the tissues of the respective parts.

While the malignant nature of Yamasaki's two cases, Chiari's, and my own is not to be gainsaid, it is apparent in the light of our present knowledge of Hodgkin's disease, that one must be guarded in measuring the quality of invasion and of secondary visceral involvement, since mechanical factors may be invoked to explain the former, and the latter may be referred to the action of the provocative agent on lymphomatous foci.

CASES CLOSELY SIMULATING HODGKIN'S DISEASE.

Still another condition that belongs in the same category as that just described has recently attracted attention, largely from its striking similar-

ity to Hodgkin's disease, on the one hand, and to a malignant neoplasm on the other. Histologically, the changes admit of comparison with those by which Hodgkin's disease is characterized, but differ in the constant occurrence of enormous numbers of giant cells closely counterfeiting the myeloplaques of the bone marrow.

The first recorded description of a case of this kind is accredited to Hirschfeld and Isaac (10), whose interpretation of the nature of the process is sufficiently indicated by the fact that their paper was published under the title of Acute Hodgkin's Disease.

Autopsy revealed nothing of note other than enlargement of the lymph nodes of the neck and axillæ and an esophageal ulcer. Microscopical examination of the enlarged nodes from the neck revealed complete obliteration of the normal architecture. The nodes were permeated by delicate connective tissue fibrils, lying between which were epithelioid cells, plasma cells, and eosinophiles, mast cells, and an extraordinarily large number of giant cells of the type of myeloplaques. Langhans's giant cells were not present. Microscopical examination of the ulcer in the œsophagus showed infiltration of its walls by cells of the same type as those met with in the lymph nodes.

An almost exactly similar case was presented to the German Pathological Society by Beitzke (11) in 1909. The patient was a woman, sixty-five years of age, in whom autopsy revealed general enlargement of the lymph nodes of the upper part of the body. In the thyreoid gland and liver were whitish, firm, sharply circumscribed nodules "closely resembling tumor metastases." Nodules of like nature were apparent at the site of a fracture in the right femur. On microscopical examination the same extraordinary numbers of myeloid giant cells were noted.

At a combined meeting of the Philadelphia and New York pathological societies held recently in New York, Dr. J. Edgar Welch (12) presented a case which is closely akin to those just referred to. At the time that the autopsy was performed Dr. Welch was absent from New York, and I was asked to act for him, so that I feel that I have had an exceptional opportunity to observe the naked eye and histological changes in a condition about which there seems to be considerable difference of opinion.

The patient was a pregnant woman, thirty-two years of age, who was admitted to the New York Lying in Hospital May 20, 1910. The patient stated that, two years before, she had noticed a small, painless swelling on the right side of the neck. About February, 1910, she became paraplegic. On admission to the hospital there was a swelling on the right side of the neck about the size of a hen's egg. Microscopical examination by Dr. Welch of a small portion of tissue removed from this mass revealed the presence of central diffuse lymphoid hyperplasia, moderate peripheral sclerosis, and multinucleated giant cells among the lymphoid cells. In view of these findings Dr. Welch arrived at the diagnosis of Hodgkin's disease—a view which subsequently was shared by several other pathologists to whom the sections were shown, among them Professor Ewing and Professor Elser.

The autopsy revealed the body of a poorly nourished woman. On the right side of the neck was a lobulated mass which extended from the level of the base of the skull almost to the upper border of the clavicle. It was firmly attached to the overlying skin and only slightly movable against the deeper structures. On section it was made up of large numbers of rounded, smooth, pale, translucent nodules separated one from the other by fibrous septa. An isolated nodule of similar appearance was found in the dura mater on the right side. In the meninges of the lower dorsal cord was a thick collar of tissue of like description that had brought about marked pressure atrophy of the underlying cord. Immediately beneath the pleura near the hilum of the left lung was a pale, flattened, translucent nodule which penetrated downward into the parenchyma for a short distance. Just beneath the capsule of the right lobe of the liver was a solitary nodule of similar appearance and about the size of a small marble. The lymph nodes on the left side of the brim of the pelvis near the sacroiliac synchondrosis were markedly enlarged and presented to the naked eye essentially the same features as those found in the neck.

Microscopical examination by Dr. Welch of sections from the primary tumor in the neck, the nodule in the left lung, and the growth in the spinal meninges, showed extensive production of dense hyaline connective tissue in the meshes of which were large multinucleated and mononucleated giant cells. Numerous large, rounded, acidophilic cells with chromatic nuclei, in some of which mitoses were present, a few plasma cells and an occasional eosinophile, completed the picture. Lymphoid cells were very scanty. In some of the microscopic sections prepared by myself from the primary tumor in the neck, from the lymph nodes in various localities, and from the nodule in the liver, I was able to confirm, in a general way, the histological features noted by Dr. Welch. In addition, I was impressed by the extraordinarily large numbers of giant cells, the enormous size of the individuals, and their close morphological agreement with the myeloplaques of the bone marrow. At the same time I was struck by the vast numbers of large, round cells with faintly acidophilic cytoplasm and large nuclei, in which mitoses were present in considerable numbers—cells which, in some sections, completely dominated the picture, and in others divided attention only with the giant cells.

Such hordes of large round cells of the type mentioned are quite foreign to the histology of Hodgkin's disease, where, indeed, they do not occur except in inconsiderable or totally negligible numbers.

Moreover, in the muscle tissue of the neck in the immediate vicinity of the primary growth, I was able to demonstrate widespread, destructive infiltration by cells of the same type as those encountered in the growth itself, that is to say, of definite lymphoid cells, large, round cells, and multinucleated giant cells of the myeloid type—a circumstance of which Dr. Welch made no mention at the time of his presentation to the pathological societies and signs of which evidently were not met with in his microscopical preparations.

RESUMÉ AND CONCLUSIONS.

1. Primary disseminated epithelioid tuberculosis of the lymph nodes, while rare, is by no means unknown. Its occurrence as an epiphenomenon in status lymphaticus, however, appears not to have been recorded, so that the case described in this communication would seem to occupy an unique position.

2. The histological changes in Hodgkin's disease resolve themselves into three stages, the first of which is characterized by focal hyperplasia of lymphoid cells and is succeeded, among other features, by the formation of multinucleated giant cells and interstitial connective tissue overgrowth. Although the lesion may not progress beyond this granulomatous stage, cases occur, as I have shown, in which the connective tissue stroma undergoes such extensive hyaline metamorphosis that the cellular details are obscured and the histological individuality of the process is established only with difficulty. This transformation would appear to represent an attempt at healing.

3. A type of Hodgkin's disease exists, either primarily in the cervical region, or in the thorax, in which the growth may invade surrounding structures and initiate secondary nodules in distant parts. In either issue the process admits of at least two legitimate interpretations: First, that invasion of surrounding viscera may be referred to sarcomatous

transformation of an originally granulomatous lesion, or that it is an expression of compulsory growth and thus locally malignant rather than malignant in the sense that the infiltrating cells possess autonomous properties. Second, that the occurrence of secondary nodules may signify neoplastic conversion of the original growth and the transmission of autonomous qualities to cellular emboli deposited in distant parts, or that the transplanted provocative agent finds a suitable field of activity in the form of lymphomatous foci preexisting in the organ secondarily involved, or that it actually brings such foci into being, the process throughout remaining within the bounds of an inflammatory lesion.

But when such highly presumptive evidence of malignancy as destructive infiltration of neighboring tissues and the formation of secondary nodules in distant parts is combined with changes in the morphology of the growth indicated by the development of vast numbers of large round cells and of



Fig. 1.—Stationary vibration around the ulcers.

myeloid giant cells, neoplastic conversion would appear to be established beyond doubt.

Bearing in mind the information gained from personal anatomical observations and histological studies of the case reported by Dr. Welch, I feel convinced that Hodgkin's disease is capable of transformation into a malignant neoplasm, and that the cases reported by Yamasaki, Chiari, and myself represent illustrative examples in which the evidence, while highly presumptive, is not conclusive. In Dr. Welch's case I venture the opinion that the evidence of malignancy is conclusive.

2. Coley and Ewing. *Proceedings of the New York Pathological Society*, New Series, x, Nos. 5 and 6, p. 145.

4. Sternberg. *Verhandlungen der deutschen pathologischen Gesellschaft*, 1909, p. 226.

5. Fraenkel u. Much. *Münch. med. Woch.*, 1910, lvii, p. 685.

6. Symmers. *Archives of Int. Med.*, September, 1909, vol. iv, p. 218.

7. Karsner. *Ibid*, August, 1910, vol. vi, p. 175.

8. Yamasaki. *Zeit. f. Heilkunde*, New Series, vol. v, 1904, p. 269.

9. O. M. Chiari. *Cent. f. Path.*, xxii, No. 1, p. 8.

10. Hirschfeld u. Isaac. *Med. Klin.*, No. 52, 1907, p. 1588.

11. Beitzke. *Verhandlungen der deutschen pathologischen Gesellschaft*, 1909, p. 224.

12. J. E. Welch. *Proceedings of the New York Pathological Society*, New Series, vol x, Nos. 5 and 6, p. 161.

TECHNIQUE OF THE MANUAL TREATMENT OF CERTAIN FORMS OF ULCERATION OF THE SKIN.

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For the purposes of description and the consideration of their pathology and therapeutics, the many varieties of ulcers may be grouped under the following three types: 1. Simple inflammatory, e. g., the healing, the chronic, etc. 2. Infective or specific, e. g., syphilitic, lupoid, tuberculous, etc. 3. Malignant e. g., epitheliomatous, rodent, etc.

In this paper which only aims at clearly and simply expounding certain main principles and does not assume to be minutely exhaustive, I shall confine myself to considering the manual treatment of the first type of ulcers only, although I have excellent reason to believe that at any rate the tuberculous forms mentioned as belonging to the second main type are similarly amenable to such treatment.

The cure or amelioration of disease by scientifically applied movement owes its origin to the Swede, P. H. Ling (1776-1839), who was the founder and first principal of the Royal Central Gymnastic Institute of Stockholm, built specially for him in 1813. His methods have since then undergone a great amount of modification and development chiefly at the hands of his son, Hj. Ling. L. G. Branting, and H. Kellgren. The question of the gymnastic treatment as applied to ulcers seems, however, to have received very little attention.

On searching medical literature for any mention of such treatment scarcely anything is to be found dating from before the year 1885, and not much after that. Hünerfauth (1), in his handbook (1887), referred to the use of massage for varicose ulcers in words implying that it was at the time a recently introduced method. A. Kellgren (2) referred, in 1888, to vibrations executed with the palm of the hand being applied over ulcers. Kleen (3), in 1894, stated that he treated ulcers of the leg with centripetal effleurage and small frictions on and around the ulcer. Erdinger's thesis (4), of 1893, was the first larger work on massage for ulcers; the author's treatment consisted of an introductory effleurage followed by pétrissage of the parts in the neighborhood of the ulcers: in some cases the margins of the ulcers were subjected to massage, a piece of lint being first interposed between the ulcer and the hand of the operator.

During the last ten years a few articles bearing on the subject have appeared here and there, scat-

tered through various journals, but effleurage and pétrissage are generally the only manipulations that appear to have been employed by the authors. In Sweden, even at the present day, the application



FIG. 2.—Stationary vibration around the ulcers.

of mechanotherapy to ulcers seems to have attracted practically no notice; for example, Wide's handbook (5), one of the accepted textbooks, is silent upon the subject.

In 1903 (6) I described certain forms of vibrations, and also referred to their use in the treatment of ulcers. The present article is intended to amplify these earlier remarks, and to supply a description of the technique of the manual treatment of ulcers as employed by H. Kellgren.

The manual treatment of ulcers consists of: I. Local manipulations on and around the ulcer; II. local manipulations on the affected limb or part of the body; III, general (constitutional) manipulations.

I. LOCAL MANIPULATIONS ON AND AROUND THE ULCER.

1. Stationary vibrations around the ulcers. Either the tips or a portion of the palmar aspect



FIG. 3.—Concentrating vibration.

of the fingers of one or both hands (see Figs. 1, 2, and 3) are placed above or below, over either side of, or around the ulcer. The fingers are then set into rhythmical vibration; but the amount of pressure applied meanwhile must be small, so that there is no chance of any impediment arising in the lymphatic or venous circulation.

The practised hand can execute these stationary vibrations of such small amplitude that they are scarcely perceptible to the naked eye, although at the same time they can be plainly felt, even at some distance from the part vibrated. (I frequently demonstrate this by means of very fine vibration on the eye; such as are practically invisible to the observer can be clearly felt by his placing the hand over the occiput.) It is unusual to have to employ such fine vibrations for more than the first sitting or two, as it will be found that the patient can soon bear stronger vibrations with perfect ease.

The rapidity of these vibrations should be approximately from ten to twelve in a second.

2. Concentrating vibrations. Either one or else both hands can be employed.

(a) In the first of these two cases, the tips of the fingers are spread out so as to lie around the ulcer at a little distance from it (see Fig. 3). The vibrations are then set up and during their progress the fingers by means of flexion at the metacarpophalangeal joints, and to a lesser extent at the interphalangeal joints (if the latter are flexed too much, scratching of the skin will result), are gradually approximated around and toward the ulcer, the amount of pressure applied being concurrently increased (see Fig. 4). The fingers having arrived at the edge of the ulcer, or as near to it as possible without causing pain, the pressure is relaxed; the fingers are brought back to their original position, and the manipulation repeated.

(b) In the second case, the finger tips of the two hands are placed respectively on either side of, or above and below, the ulcer, as in Figs. 1 and 2, and during the progress of the manipulation the fingers of the respective hands gradually approach each other. The nature of the manipulation is as described under (a).

During the actual performance of the concentrating vibrations, the fingers either travel forward over the skin, or else travel together with the skin (as one) over the underlying structures; which of these two methods should be employed depends upon the extensibility of the skin, the site of the ulcer, etc.

In the majority of cases the immediate visible result of these concentrating vibrations will be the bathing of the margins of the ulcer in a clear fluid (lymph), which latter may even, if the ulcer is not very large, have spread over its entire surface. This is a most favorable result, which should always be striven for, but which up to the present

seems practically to have escaped observation and record.

The rapidity of the vibrations should be as before specified (from ten to twelve in a second), and the duration of each "concentration" should be from one to four seconds.

3. Stationary vibrations on the ulcer itself. A



Fig. 4.—Concentrating vibration.

piece of lint is placed between the fingers of the operator and the ulcer; then vibrations, fine at first but gradually increasing in strength, are set up. The finger tips or palmar aspect of the fingers in whole or in part of one or both hands may be employed; the exact method is chiefly conditioned by the size of the ulcer.

4. Vibration with simultaneous to and fro movement of the skin. For these it is best to use both hands. The palmar aspect of the fingers and part of the hand are employed; they are placed either above and below or on either side of the ulcer, or, better still, the one and the other alternately. As soon as the vibrations have been set up, the hands

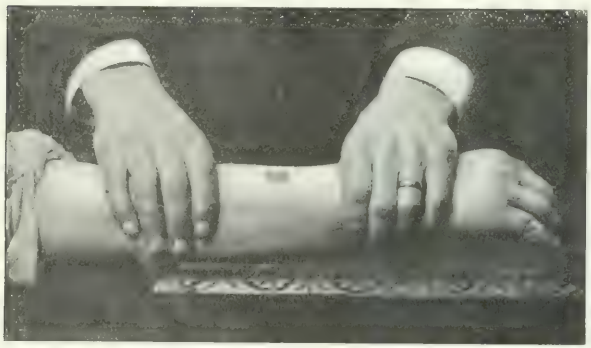


Fig. 5.—Vibration with simultaneous to and fro movement of the skin.

of the operator are alternately regularly approximated and separated. Figs. 5 and 6 show the movement in a somewhat exaggerated form for the sake of illustration. The effect of the to and fro movement is to subject the skin around the ulcer to alternate elongation and shortening.

This type of vibration cannot be made use of if the patient is in much pain, and in any case must be executed lightly and with as little jerking as possible.

The immediate visible effect is as described under heading No. 2.

Simultaneous to and fro movement without vibration can of course be applied should the manipulator deem it advisable.

The speed of this movement should be so regulated that each half takes from one half to one second; after each completion there should be a pause of from one to two seconds.

5. Running centripetal vibrations. The hand is placed so that the metacarpophalangeal joints are in semiflexion. The interphalangeal joints are either extended (Fig. 7) so that the finger tips lie on the skin, or semiflexed (Fig. 8) so that the dorsal aspect of the nails lies on it; in the former case the resulting manipulation is carried out at a slow rate, in the latter at a more rapid one. The fingers are placed either below, above, or at the side of the ulcer, and when in vibration are run up in a centripetal direction, their course being either a straight line or a zigzag one.

The speed of the running manipulation should be such as to cover from two to three inches in a second when the finger tips are used, and from four to five inches in a second when the nails are employed.

6. Nerve frictions. These may be executed either on the cutaneous nerves or on the deeper lying trunks that lead to and from the ulcer. In the case of the latter, the part of the patient's body to be treated is first placed in a position of relaxation.

(a) Stationary frictions are given by placing the finger tips on one side of the nerve trunk and then drawing them sharply over it, pressure being simultaneously applied. This is repeated several times.

(b) Running frictions are given in very much the same way, but after each friction the fingers are moved up or down the nerve trunk before executing the next. Fig. 9 shows stationary frictions on the posterior interosseous nerve.

Frictions on the cutaneous nerves are applied much in the same way as running centripetal vibrations with the finger nails, as described under (5).

7. Circular kneadings and frictions. If the margins of the ulcer are much indurated, it may be necessary to resort to these manipulations, a piece of lint being interposed between the fingers of the operator and the ulcer.

At first sight the treatment as described in this short synopsis may appear somewhat formidable. I do not, however, mean to convey the impression

that every ulcer should be subjected to each of the manipulations in rotation; every case must be taken on its own merits and a suitable choice of treatment made, regarding which the following hints may be useful:

Concerning the first four forms: Stationary vibrations around the ulcer should be employed only when there is such pain that other forms cannot be tolerated; stationary vibrations on the ulcer are chiefly used to remove pus and débris, which the lint absorbs. Concentrating vibrations and vibrations with alternating to and fro movement should be employed wherever possible; these two manipulations are so closely allied that no hard and fast rules can be laid down for their respective indication. Nos. 5 and 6 I invariably employ, No. 7 only when there is much thickening of the margins (as already mentioned).

The duration of a local treatment as described should usually be from ten to fifteen minutes. The greater part of the time should be devoted to one or more of the first four kinds, Nos. 5, 6, or 7 being generally administered for not more than one or two minutes. Excepting in severe cases the treatment need not, as a general rule, take place more than once daily.

The period necessary to effect a cure varies according to the severity and duration of the case. Recent ulcers require treatment for only a few days; very chronic cases that have obstinately resisted all other methods hardly ever require more than two months.

II.—Local manipulations on the affected limb or part of the body.

In conjunction with local manipulations on and around the ulcer, various passive and active movements of joints will be found of service. Thus, if the ulcer is on the lower leg, passive circumductions of the feet, followed by flexion and extension of the ankle joint (the latter given either purely actively or with resistance) should be prescribed. In addition to these, passive and active flexions and extensions of the knee joint and hip joint, together with circumductory movements of the latter, will be found of benefit. For details of these the reader is referred to the literature on medical gymnastics.

III.—General (constitutional) [illegible]

It is needless to insist here upon the importance of endeavoring to improve the patient's general health while at the same time attacking the local trouble.

A few special symptoms, with regard to their local treatment, may conveniently be considered at this point.

1. Varicose veins. If there exist, say, varicose ulcers and varicose veins in the lower leg, it may be advisable first to empty the veins of their contents by means of elevation of the limb and centripetal passive manipulation before proceeding to the local treatment of the ulcer.

2. Local œdema. The same remarks apply to this as to varicose veins.



Fig. 6.—Vibration with simultaneous [illegible] movement of the skin.

3. Sinuses with pus. Not infrequently there occur ulcers covered with unhealthy granulations undermined by sinuses containing pus. In such a case concentrating vibrations should be set up and maintained until the pus is extruded and lymphlike fluid takes its place. It will not be long before the granulations atrophy and fall off, leaving a healthy granulating surface in the floor of the ulcer as well as in the sinuses.

The effects of the foregoing manipulations can be considered both from a purely physiological and also from a clinical point of view.

V.—Physiological effects.

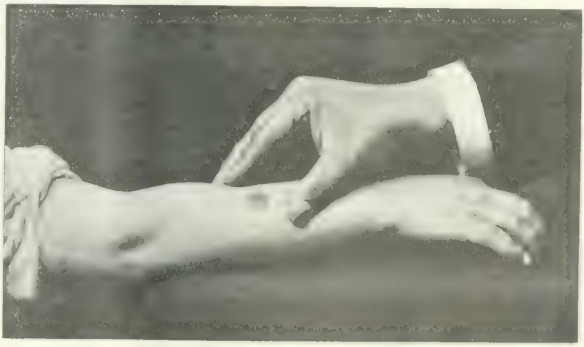


Fig. 7.—Running [illegible] stroked.

1. Stationary vibrations. The effect of these, stated briefly, is to promote the lymphatic and the venous circulation. To a certain extent there results an exudation of lymph through the margins and floor of the ulcer, and this will help to remove [illegible] Whether or not

vibrations have a specific effect in increasing the vital activity of the cells and their metabolic processes is somewhat difficult to determine; it is, however, of interest to note that a certain amount of experimental evidence seems to point to the affirmative. V. Marxow (7) held that the slight vibration imparted to the lungs by the cardiac beat was a *sine qua non* for the gaseous interchange. Buttersack (8) concluded that the vibration of the blood in the arteries had the same effect, and Buchheim (9) thought that the vibration of the blood in the aorta had an effect on the cardiac nerves. Shaklee and Meltzer (10) found that shaking caused changes in pepsin, rennin, and trypsin, and they concluded that the shaking caused by respiration was to a certain extent sufficient to cause such changes to take place. I would also refer the reader to Palmen and Rancken's (11) researches quoted later.



Fig. 8.—Running centripetal vibration with [illegible] points of operator are semiflexed.

2. Concentrating vibrations. The effect of these is similar to that of the stationary ones with the following exceptions: (a) There arises a temporary slight venous stasis around the ulcer, this however being insufficient to cause any harm. (b) The exudation of lymph through the margins and floor of the cavity is much more considerable. (c) The latter causes a much greater tendency toward the separation of slough and débris.

3. Stationary vibration on the ulcer. The effect is as stated in connection with No. 1, with this exception, that the slough and débris will adhere to the lint and thereby be removed with greater facility and cleanliness.

4. Vibration with to and fro movement of the skin.

The effect is the same as that of concentrating vibrations, with the following exceptions: (a) There will be no venous stasis around the ulcer; on the contrary, the venous circulation will be promoted; (b) the amount of lymphatic exudation will be less; (c) there will in consequence be a lesser tendency toward the removal of sloughs and débris.

The effect of the exudation of lymph resulting from the manipulations I have specified is of very great importance. The recent researches upon the opsonic index and the bactericidal power of the blood serum (and lymph) need only be quoted in order to make manifest the importance of this artificially induced exudation. The beneficial effect exerted upon the building up of new tissue is also obvious. In short, as the healing of an ulcer is essentially a question of lymph repair, what better method could be employed than to determine the flow of lymph to the ulcer?

5. Running centripetal vibrations. These promote the lymph and venous flow and diminish the œdema. The cutaneous nerves are stimulated, especially when the nails are employed instead of the fingertips. In all probability they reflexly stimulate repair in the same way that nerve frictions do.

6. Nerve frictions. These increase the nerve functionability and reflexly stimulate the tendency to repair. The vasomotor effect of nerve frictions is still somewhat obscure.

7. Circular kneadings and frictions. Apart from the promotion of the venous and lymphatic flow, and overgrowth in the margins, supergranulations, etc., are demolished and rendered easy of removal. In all probability there is an increase in the vital activity of the cells. The latest researches (Palmen and Rancken) (11) on the physiological effect of effleurage and pétrissage seem to prove that these manipulations produce their effect through increase in the vital activity of the cells, not through any circulatory changes.

It is unnecessary for me to enter into the effect of the various active and passive movements described under II. The reader is once again referred to the extant literature.



Fig. 9.—Stationary friction.

B.—Clinical Effects.

These effects may be divided into immediate and remote.

1. Immediate. (a) Subjectively: if pain is

present it is removed or diminished. Generally during the course of the manipulations or sometimes only at their conclusion, there arises in the ulcer a feeling of irritation and itching, which is sometimes very intense. This, however, soon passes off (from fifteen minutes to three hours), being replaced by a pleasant sensation; to quote the patient's own words, "it feels as if the place were healing."

(b) Objectively. Diminution in the degree of redness results; an exudation of lymph takes place, as already mentioned; slough and débris are removed. I have more than once seen granulations appear in an ulcer during the actual application of treatment.

2. Remote. Briefly these may be defined as healing. It is of frequent occurrence to observe that ulcers which have for weeks, maybe for months, resisted all ordinary forms of treatment, show signs of improvement within 24 hours of the first application of the treatment I have described.

In bringing my remarks to a close, I strongly desire to emphasize the fact that the constant successes which for the last ten years have obtained through the treatment of ulcers by means of the method outlined, more than justify the latter's use and I have every confidence in recommending it to the careful consideration of the profession.

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PICK'S SYNDROME, WITH REPORT OF A CASE.*

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In June, 1907, a boy of nineteen had an attack of typhoid fever of moderate severity which was followed by a relapse. In the latter part of this relapse he came under my observation. I found on first examination signs of a complicating pneumonia and pericarditis, viz., dulness and bronchial voice and breathing over the lower lobe of the left lung and a to and fro friction sound over the præcordium. His pulse was extremely soft and dicrotic and the sphygmographic tracing showed a short, slanting primary upstroke and a dicrotic wave nearly as high as the primary wave. His urine contained a moderate amount of albumin and a few casts.

The condition of this patient remained critical for several weeks, chiefly on account of the extreme myocardial weakness. Eventually his heart action improved, but it was not until the middle of September, more than three months after the beginning of his typhoid, that he was able to get out of bed. The albuminuria was reduced to a small trace by the beginning of October, and subsequently disappeared entirely. The pericardial friction sound disappeared after a few days and was not followed by signs of effusion, though there was some enlargement of the area of deep cardiac dulness. The pulmonary consolidation was still unresolved in the beginning of December.

In order to hasten the resolution of the consolidated lung, and also to avert tuberculosis, which was feared, the patient spent the ensuing winter in the pine woods of North Carolina.

The following spring he returned in excellent condition, with weight increased, color good, strength nearly normal, and pulmonary consolidation cleared up, though diminution in the intensity of the respiratory sounds and slight dulness over the affected area persisted for nearly a year longer. He continued in what appeared to be good health until the spring of 1910, and was engaged in business.

During April, 1910, he noticed some enlargement of the abdomen.

May 11, 1910, I found him, on physical examination, to be fairly well nourished, not anæmic, not jaundiced, with a slight cyanosis of the lips and ears and duskiness of the face; the lungs appeared normal; the area of deep cardiac dulness was slightly increased, extending to the nipple line on the left and nearly an inch beyond the sternal border on the right; the heart sounds were clear though somewhat diminished in intensity, and there were no murmurs; the area of liver dulness extended downward nearly to the umbilicus; there was a moderate amount of fluid in the peritoneal cavity; and there was a very slight œdema of the ankles. In the urine, which was diminished in quantity, no albumin or casts were found.

The patient was put to bed, his heart was moderately stimulated, diuretics were given, and his diet was restricted. This treatment did not lessen the ascites nor produce much increase in the amount of the urine. The ascites increased steadily, paracentesis was performed on June 3, 1910, and a large pailful of clear, pale yellow fluid withdrawn. The ascites reaccumulated so rapidly that withdrawal of a like quantity of similar fluid was required on June 18th. The ascites continued to recur, calling for tappings at intervals varying from fifteen days to three months. It is now about ten months since the first recognition of the ascites, and in that period the patient has been tapped ten times.

The patient's general condition remained good. After a few weeks in bed he was allowed to get up and walk around, being careful to avoid overexertion. The slight œdema of the ankles and cyanosis of the face soon disappeared and has not, up to date, returned. His appetite and digestion are good, and he is able to take a varied though simple diet. His urine has remained normal except that diminution in quantity is observed in proportion to the rapidity with which the ascites accumulates. There has been no change in the signs observed in the heart. The enlargement of the liver remains constant, its surface is somewhat uneven but not at all nodular, and its edges can be distinctly felt as smooth and rather hard.

What is the diagnosis in this case?

The hepatic enlargement and ascites suggest hypertrophic cirrhosis of the liver, but that diagnosis can be excluded by the absence of jaundice and functional disturbance of the liver, by the absence of the usual ætiology, and especially by the fact that the ascites returned rapidly, necessitating many tappings, while the patient continued in good general health. In uncomplicated cirrhosis of the liver, as Hale White has clearly pointed out, the patient is well advanced in the disease when tapping becomes necessary, and rarely lives to need a second tapping.

Without going extensively into the differential

*Read before the Brooklyn Pathological Society, March 14, 1911.

diagnosis, I will say that a process of exclusion brings us to the heart for a solution of the difficulty. We first think of valvular disease, particularly mitral stenosis, for we know that in that condition, as a comparatively infrequent occurrence, marked symptoms of liver stasis may appear early in the declining stage, instead of late, as is usually the case; and what has been called a cardiac cirrhosis of the liver may develop under a degree of back pressure that is not sufficient to produce marked symptoms of failure of the systemic circulation; and with this condition the patient may have recurring ascites while the systemic circulation is sufficiently well maintained to enable him to be up and around. A woman of middle age with mitral stenosis and this liver condition, who had been tapped thirty times in the course of about a year, was tapped by me four times more before she died; between tappings she usually attended to her housework.

But in the case we have under consideration local evidences of cardiac disease are wanting. There are no murmurs or any other signs which suggest a cardiac abnormity capable of producing an effective degree of myocardial weakness. The only positive cardiac fact in this case is a history of pericarditis nearly three years before.

Light on this diagnosis seems to come from an article published by Pick in 1896, in which is described a syndrome very similar to the collection of signs and symptoms which comprise the principal features of my case. The signs and symptoms which essentially constitute Pick's syndrome are: Enlargement of the liver with obstinately recurring ascites, but without jaundice and without signs of cardiac abnormity, in a patient who gives a previous history of pericarditis. Pick believes that the latent pericarditis disturbs the circulation, thereby producing hepatic engorgement and also connective tissue hyperplasia which interferes with the ramifications of the portal vein and thus brings about the ascites. He calls this pathological complex pericarditic pseudocirrhosis of the liver.

Before Pick several others noted and described similar conditions. Curschmann in particular, in 1884, described a condition of fibrous perihepatitis, which he called sugar iced liver from the resemblance shown by the fibrous covering of the liver to the frosting on a cake. This condition is characterized by a slow, insidious course and obstinately recurring ascites, but is not accompanied by connective tissue hyperplasia in the liver substance. The perihepatitis is often associated with similar fibrous inflammation of other serous membranes in the peritoneal and also in the pleural and pericardial cavities.

In 1887 Rosenbach stated that pericardial obliteration was sometimes associated with extensive fibrous perihepatitis, enlargement of the liver, and ascites, and he suggested that a causal relation might exist between these conditions.

Rumpf, in 1895, reported such a case; the patient was tapped 301 times.

Cantu, in 1894, and Villani, in 1895, reported cases which presented the syndrome of enlarged liver and recurrent ascites and exhibited at the autopsy fibrous inflammation of the lining membranes of the great serous cavities without much connective tissue hyperplasia in the liver substance. These and other Italian writers mostly call this condition polyserositis.

In America cases exhibiting this syndrome have been reported by Osler, in 1896, whose patient was tapped 141 times; Cabot, in 1898; Herrick, in 1902; and Kelly, in 1903. Kelly included his case with thirty-eight others which he collected mostly from German and Italian sources, and studied them with special reference to the association of chronic obliterating pericarditis with ascites. He expresses the following opinion: "There can be little doubt that presenting the complex of obliterating pericarditis and ascites, there are grouped a number of cases that differ more or less in nature from one another. However, I believe that in the majority of cases the ascites is due primarily to the perihepatitis and the peritonitis; that in consequence of the inflammation the peritonæum becomes a *locus minoris resistentiæ;* that in consequence of the pericarditis the activity of the myocardium is interfered with, and the place that first manifests evidences of impeded circulation is the *locus minoris resistentiæ;* that the relief afforded the general circulation by the ascites prevents to some extent the occurrence of œdema in the extremities; that the connective tissue hyperplasia in some of the cases is due to the same causes that induce the serous membrane inflammation—the irritant being carried by the lymphatics from the diseased capsule into the substance of the liver." Kelly considers that the perihepatitis and peritonitis dominate the clinical picture in the well developed disease, which he prefers to call multiple serositis.

Hess, in 1910, discussing the behavior of the liver in chronic pericarditis, arranges the cases which show the syndrome of Pick in three groups. In the first group he includes the cases of polyserositis, in which chronic inflammatory processes involve several serous membranes and reach their height in the neighborhood of the right half of the diaphragm and the liver. There may be right chronic pleuritis, perinephritis, perihepatitis (Curschmann's sugar iced liver), and almost always chronic pericarditis. The chronic pericarditis, however, Hess believes, plays a more complicated and coordinated rôle in the production of liver stasis in the cases of this group than that accredited to it by Pick. Along with the chronic inflammatory processes in these cases Hess thinks the following factors may enter into, modify, or confuse the clinical picture: Weakening of the heart power, chiefly that of the right ventricle, alterations in position of the blood and lymph vessels which are brought about by restriction of the movements of the diaphragm, kinking of the vena cava or hepatic veins in the neighborhood of the diaphragm, compression of the liver by a hard capsule, and connective tissue hyperplasia. These factors may cause interference with the circulation in the liver, according to Hess.

In the second group Hess includes cases which have regularly for a foundation a latent tuberculous pericarditis, and which present a distinct picture of chronic stasis limited to the liver and portal systems, viz., great enlargement of the liver and rapidly recurring ascites; and there may be also slight signs of chronic stasis in the drainage area of the

superior vena cava, viz., duskiness of the face and slight cyanosis of the lips and lobes of the ears, and more rarely slight distention of the superficial veins of the upper part of the body; but signs of stasis in the drainage area of the inferior vena cava, viz., albuminuria and œdema of the lower extremities, are wanting, as well as dyspnœa and signs of cardiac abnormity. In post mortem examination the heart in these patients is found surrounded by a mass of thick, disintegrated, caseous material, but is not, as a rule, either hypertrophied or dilated, the tissues in the neighborhood are unchanged, and the pleuræ and peritonæum are free from chronic inflammation. In the greatly enlarged liver there is marked congestion, but seldom any connective tissue hyperplasia. Hess considers the pericardial condition to be the primary cause of the portal stasis in the cases of this group.

The cases in the third group described by Hess resemble those in the second, in that they show a chronic pericarditis in the background, but they are distinguished from them by the presence of pronounced connective tissue changes in the liver. The liver is large and tough, and its lobes are distorted by bands of connective tissue which pass through them and unite with each other, and which seem to have their origin in the neighborhood of the central vein.

Hess experimented on dogs, producing an artificial pericarditis by injection of tincture of iodine, and, as a result of his experiments as well as of his clinical observations and study of the literature, he concludes that the dilatation of the bloodvessels in the liver and the damming back of the portal circulation with the production of ascites is a conservative process, the object of which is to help out the weakening heart while it is trying to develop the compensation which, however, in this condition it can never succeed in doing; at best it enables the heart to maintain itself for some months or years.

The study of the case reported by me at the beginning of this paper has led into a subject which is complicated and confused. We may, perhaps, escape from the thickest of this confusion by accepting provisionally the following theses:

First, there seems to exist a pathological entity which is characterized by chronic fibrous inflammation of the serous membrane covering the liver and perhaps other portions of the peritonæum, which often, but not always, involves the pericardium, and not infrequently the pleuræ, and which produces the syndrome of liver enlargement and obstinately recurring ascites without jaundice or functional disturbance of the liver, and in which definite signs of disease of the heart are wanting. This pathological entity probably has for its cause some infectious or toxic agent, and its characteristic inflammatory changes may begin in any one of the three serous cavities which constitute the field of its activity, and later spread to the others, or they may be produced independently in the different cavities.

Second, as a rare and infrequent occurrence we find cases of chronic obliterating pericarditis, of tuberculous, or other origin, in which the earliest signs of weakening of the heart power are found not in a stasis of the circulation in the lower extremities, which is the regular course, but in a hepatic stasis which brings about in some way not clearly known great enlargement of the liver and recurring ascites.

The names polyserositis and pericarditic pseudocirrhosis of the liver, each of which has been applied to both these conditions, are, I think, more properly applied to the two as previously differentiated. It is true that both these conditions give the syndrome which has been described, and clinically they may be almost indistinguishable, but ætiologically and pathologically they may show essential differences. It was on account of this fact that I used the purely clinical term syndrome in the title of this paper, thus preserving unity of subject in a discussion of at least two pathological entities.

I have also called the case which I reported a case of this syndrome instead of a particular disease, in order to avoid making a definite pathological diagnosis, which could be made positively only by an autopsy. I will say, however, that the history and clinical picture presented by this case suggest that it may be one of those rare cases of chronic pericarditis in which the first signs of heart failure are manifested in the liver and portal system.

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TRAINING FOR PUBLIC HEALTH WORK.

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Probably nothing in recent years has produced so much change in the current of medical thought and ideas as the principles underlying preventive and constructive medicine. Factors which but a short while ago were considered of little importance are now recognized to be of great value. One of the basic principles is the necessary consideration of the many problems from a community standpoint; not to ignore the individual, but to emphasize as a unit the community, which is composed of many individuals.

To those men engaged to a greater or less degree in public health work, this community viewpoint has shown very clearly that properly to consider the many problems associated with morbidity and mortality it is essential to have at least a general knowledge of the relation of medicine to such conditions as ignorance, poverty, crime, insanitary surroundings, and social and industrial hygiene. This does not require an exhaustive study of social and political economy, but does demand a familiarity with the general principles underlying these subjects.

If medical men are to be leaders in many of the great world movements aiming toward the decrease of illness, the lengthening of life, and the increase of health and happiness, they must consider these problems from a broad general standpoint. It is most regrettable to note the vast number of medical men who to-day are not even interested in these great enterprises. They are so occupied with their individual affairs that they apparently have no time to pause and observe the many health saving campaigns that are developing in the midst of them, and which have such a vital relation to their own profession. Will they awaken to find at the head of

these great movements men of nonmedical training?

At the present time, many of those engaged in these crusades are sociologists, economists, sanitary engineers, educationalists, and prominent laymen, and they should be so interested, for the problems to be solved are very complex, and must be approached from many directions. But surely in movements which are of such importance, concerning health and deviations from health, medical men should be very prominent. Well qualified leaders should have a thorough knowledge of medical matters, and there are comparatively few men whose education has been along the lines of sociology, political economy, or sanitary engineering who have also had this medical training. On the other hand, physicians are not qualified by the medical education of to-day efficiently to handle these problems in which so many of the activities of life are so closely related.

It has been maintained that medicine concerns itself with pathological conditions and that, therefore, the physician should take care of that field and leave the preliminary measures to others. But who is to determine where the dividing line is between the normal and the abnormal, between the physiological and the pathological? Are we to wait for some poor unfortunate to present himself with tuberculosis and then recognize in the contracted chest and anæmia that home and social factors have long been at work preparing this victim for his destiny? Are we to continue correcting orthopædic defects in children and not go farther back to the child labor conditions that we know, in some of these cases, have produced these ill effects?

In the medical profession, many of the leaders will come from those now actively engaged in public health affairs. These men, with the exception of those trained by the United States Government for its purposes, have been recruited from the ranks of private practice, and their knowledge of public service has been largely obtained as the result of their own practical work and experience. Knowledge in this way is very slowly obtained, but no other method has been available. But the field of preventive and constructive medicine is broadening so rapidly that within a few years the demand for well trained public health officials will require men equipped to take up their duties immediately, and for this special training is necessary. Are we meeting this need at the present time?

For those entering the service of the United States Government adequate training is provided by the Public Health and Marine Hospital Service, and the admirable work done by that organization is sufficient evidence of the careful scientific education received by its members. But the ever broadening field of preventive work, especially in our States and municipalities, is creating a demand for men capable of handling the health problems peculiar to such communities.

In England, courses are open to graduates in medicine, leading to the degree of Doctor of Public Health (D. P. H.). In this country, so far as the writer is aware, the University of Pennsylvania is the only institution which has given this special training the attention it deserves. A few of our schools give short courses in preventive medicine and hygiene, either as postgraduate study or as part of the regular curriculum. None covers all the phases that this work now embraces.

Education along these lines is properly of a postgraduate character, as it cannot be expected in the regular curriculum of our medical colleges. But as preventive measures in general are so interwoven with all modern medical efforts, due recognition of the importance of these principles must be given in the course of instruction. This does not merely mean including in the curriculum the subject of hygiene to be treated more or less as a side issue. It does mean that every man who receives the degree of Doctor of Medicine should know what the field of preventive medicine embraces, should realize that back of things pathological are causes of a social, industrial, and economic nature, and should fully appreciate how closely medical affairs are affiliated with other conditions in life. To a great extent the lack of interest of many physicians in the present day health campaigns is due to their medical education, which principally concerned individuals and pathology. The concept of modern medicine is on a much broader basis, and the school which does not appreciate this fact, fails to equip its graduates for their proper professional relation to every day activities.

Training for public health service involves the preparation of physicians and of nurses. Physicians who wish to give special attention to preventive and constructive medicine should consider it supplementary to their regular medical education. Such a course should include:

Hygiene studied from public, semipublic, and personal standpoints. Public hygiene includes municipal, State, and Federal hygiene. While the last named is maintained and supervised by the Federal government, yet in such a course it should be briefly considered in its relation to other branches of public health service. State hygiene attends to the health affairs of towns and rural communities, both individually, and collectively in counties. It also concerns itself with the regulation of labor of women and children, occupations in their relation to health, etc. Municipal hygiene covers a very broad field, is becoming more important, and will require the services of a vast number of medical men, for year by year our cities are becoming larger and more numerous, and their health problems more varied. Consideration must be given to sewage, garbage, cleanliness of streets, water supply, food supply, sanitation of dwellings, including ventilation, lighting and plumbing, air pollution, transmissible diseases, and child hygiene.

Semipublic hygiene refers to the administration and control of hospitals, to institutions for the care of the insane, defectives, deaf and blind, foundlings, etc. School hygiene is developing very rapidly, its phases already being so many that it should have the entire time service of medical men.

Personal hygiene deals with environmental conditions, such as air, soil, dwellings, clothing, nutrition, and exercise.

Chemistry, bacteriology, pathology, and general medicine should be considered in their relations to community problems, and vital statistics and sanitary law deserve attention.

To these must be added the study of economic, industrial, and social problems. The maintenance of health, and the deviations therefrom, are so dependent upon social conditions that a knowledge of these subjects is essential. To remedy abnormities alone, and not recognize the aggravating causes which are the basis of them, is the treatment of symptoms and not causes; therefore, it is necessary to appreciate those factors which are at work deep down below the surface. Familiarity with the work of charitable organizations, social settlements, etc., will promote efficiency when their aid is needed.

To realize the value of this social knowledge, consider child hygiene, one of the many phases of preventive medicine. This embraces the care of mothers during and after childbirth, care and feeding of infants and children, care of foundlings in private homes and institutions, medical inspection and examination of school children, and the question of child labor. Here to do effective medical work it is desirable to know about proper methods of caring for children in such institutions, the relation of home and street environment to the development of the child, the proportionate value of school and home factors, the relation of occupation to normal physical development.

In the proper consideration, therefore, of the many problems arising in the field of preventive medicine, social, industrial, economic, and medical factors must be given their due proportions.

Nurses are a most valuable adjunct to public health work. Introduced as an experiment only a few years ago, they have proved to be a necessity in this field, and are now greatly in demand for public service along various lines. They are in the employ of the United States government, notably in hospital and field work down in the Panama canal zone. They are utilized by our large industrial insurance companies, as well as by department stores and mercantile establishments. In the public health service of our large cities they are actively engaged in the schools, in tuberculosis campaigns, and in the efforts to reduce infant mortality by instructing mothers in the care and feeding of babies. In municipal fields their sphere of usefulness is destined to enlarge very rapidly. Much of the routine work now being performed by medical inspectors could well be done by nurses, such as visits to quarantined, contagious cases in homes, a large part of the school inspections and examinations, the "follow up" visits to the homes, and foundling inspections. Relieved of a large part of this routine work, the physicians required would be fewer in number, but these would need as qualifications, good training, initiative, research ability, and at least some degree of executive capacity. To secure such inspectors, proper remuneration is of course essential, and this will be given as soon as the wisdom of obtaining such qualified men is apparent. The higher executive and administrative offices should be occupied by those especially qualified for such positions.

Inasmuch as the per hour cost of the nurse is decidedly less than the per hour cost of the inspector, an arrangement whereby a large corps of nurses would do the routine work, and a comparatively few but well qualified physicians would have charge of the purely medical and also semiexecutive affairs, is worth considering as an economical measure. By this method, for the same amount of money that is now spent on this work in many of our cities, much more effective results would be secured. The many problems and the research possibilities demand the full time service of the medical officer, while the danger of developing into a mere routine man is avoided by shifting a great part of the routine work to the nurse.

What training is necessary for a nurse to engage in public health work? As a preliminary, the regular hospital course of to-day is desirable, and supplementary to this must come training along the lines of public service. Those who see the nurse enter this field directly from the hospital, or after an experience in private nursing, realize the need for this special training. Heretofore, her tasks have been along individual lines, but now she comes in contact with organized work and community conditions, needs, and problems. By the slow process of experience she eventually adapts herself to this new environment, and while this may do at the present elementary stage of public health nursing, the future demand for competent nurses in this field will require them to begin their service intelligently.

The medical training received in a hospital is necessary as a basis for further education. Such a course includes the study of cleanliness, asepsis, first aid measures, care of the sick, food values, the proper preparation of food, and personal hygiene. Possibly, this fundamental knowledge, in so far as it is necessary for public service, might be obtained in a much shorter course than is required at present. Following this, the relation of these fundamentals to community work should be taught. This includes the study of ventilation, light, rooms, personal cleanliness, food, sleep, and exercise, together with the consideration of such subjects as social and industrial conditions, poverty, and ignorance, in their relation to physical welfare. These social studies might be practically taught in connection with some of the relief and settlement organizations in our cities. The nurse thereby learns to appreciate the relation of these social factors to the predisposition to disease, to the aggravation of illness, and to the termination of life prematurely. It is desirable for her to know about the work of the many social, charitable, and relief agencies, as to their relation to one another, and to the public health service.

With such a training the usefulness of the nurse is greatly enhanced, she will approach her task more intelligently, and the facts obtained by her to be used for executive and administrative purposes will be more trustworthy.

Knowledge of the close relation of those conditions which make up our complex civilization, and the effect produced by them on the physical welfare of the individual and the community, is therefore seen to be necessary to the performance of effective public health work. To community affairs the physician must know how to apply his medical knowledge, and the nurse must know how to apply her nursing knowledge.

CAUSES OF CONSTIPATION.

By Samuel Floersheim, M. D.,
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Discarding all textbook classifications, we may say that there are two causes of constipation, the known and the unknown. To the latter class belong the so called cases of heredity.

During infancy and early childhood parents are prone to drug their offspring in order to obtain additional evacuation of the bowels, instead of resorting to Nature's means to attain the same results. The universal habit of taking laxatives or cathartics for the relief of trivial ailments, the idea being "that in a good physic the fever would disappear"; a neglected diarrhœa or repeated attacks of diarrhœa improperly treated, i. e., either too mildly or too rationally, the resulting inflammation causing pathological changes in the glandular and muscular structures of the intestines and interfering materially with the processes of secretion, motion, and tone; chronic dilatation of either a portion or the whole length of the large intestine; spasmodic contractions of the gut due to reflex neuroses; deficiency of the acid secretion in the stomach; and, finally, a hypochlorhydria or an achlorhydria are known causes of constipation.

In the greater number of diarrhœal cases the reaction of the stool is acid, while in the constipated it is usually alkaline. Bringing the acid content of the stomach to the normal is likely to be followed by improvement.

A condition exists where the fæces are deprived of the major portion of their fluid content. We may term this condition one of "drying of the fæces." It may be due to deficiency of the gastrointestinal secretions, insufficient intake of fluids with or between meals, increased excretion of urine, the abstraction of the fluids from the fæces in the small and large intestines from pathological changes which interfere materially with the secretions, motility, and tone of the gut.

Rectal diseases, gallstones, and enteroliths, intussusception, volvulus, ptoses, and malignant disease of the intestines, abdominal tumors, strictures of the gut from ulceration within the intestines, from peritonitic exudations, the sequel of inflammations of, and operations upon the intestinal tract and contiguous organs, require recognition as probable factors in the ætiology.

In modern medicine it is difficult to conceive that inheritance can be ascribed as an ætiological condition. The history points to the existence of constipation three generations back, yet may it not be logical to ascribe the condition to the maternal conditions existing shortly before and after labor and to the care and methods of feeding the infant?

Diet is a most important factor in the production of constipation. The more we progress in medicine the more valuable do we find the study of the diet in the treatment of disease. Drugs are being less frequently employed. Foods and drinks, rich in astringent and irritating properties, highly seasoned, or of minute residual constituent, are apt to produce constipation. Lack of proper exercise, particularly in the open air, certain occupations, as well as the disinclination or refusal at the moment of submitting to the call of Nature, tend to promote sluggish movements of the bowels.

808 Lexington Avenue.

REMOVAL OF THE THIRD DIGITAL PHALANX WITH FORMATION OF A NEW JOINT.

By Eric Beck, M. D.,
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During the course of the year many cases of badly smashed or badly infected fingers come to the surgical clinics of the lower East Side. Factories and sweat shops abound in the neighborhood and naturally accidents to the workers happen in plenty.

When a patient comes to us with his fingers almost cut off by some sort of a cutting machine, the prognosis for the health of the bone and the preservation of the finger is better than if his hand had been mashed and crushed by a press, as we find them in accidents occurring while handling printing machines. Where a finger has been cut into very deeply, so deeply in fact that we find fracture of the phalanx, we can always figure on a favorable result as long as the retaining flap is approximately one third the circumference of the finger. I have in mind a case I have just seen in which three fingers of the left hand were cut almost completely in two, the cut running through the middle of the second phalanx of the second, third, and fourth fingers of the left hand. The wound margins were disinfected with tincture of iodine and sewed together with iodized catgut. The x ray showed that each second phalanx of the separate fingers had been broken. Ten days after the injury the wound had healed by primary union and the bone fragments were united three weeks later.

The case I wish to describe, however, is not one of an injury obtained in a workshop, nor was it due to a machine of any kind.

The patient, a young girl, aged six years, had smashed the index finger of her left hand while trying to close the front door. She was treated for several weeks by Dr. I. Stoloff, who finally brought her to me, being in doubt whether he should amputate or not. When I first saw the little girl the index was very much swollen and discolored and very sensitive to the touch, and the flexor surface showed a deep sinus running to the bone. The probe when introduced grated upon necrotic bone. I cleaned the wound thoroughly, removing all slough, until I gained a clear view of the phalanx; the bluish white appearance of it demanded removal. But was it possible to remove simply that one phalanx and preserve the rest of the finger? Would the tendons contract sufficiently to cause apposition of the bones, or would she simply have an apology for a finger dangling from her palm? I decided to try. I explained the case to the mother as simply as I could, citing as to the point the fact that we know that tendons will contract in some diseases, and that muscles will contract when the tension upon their extremities is relieved, as, for instance, in fracture of the femur. My explanation seemed to satisfy her curiosity.

I removed the phalanx under local anæsthesia and applied a small plaster of Paris splint, leaving an opening for drainage, and shaping the splint so that the finger could slide in the groove of the splint, but was held in a straight line. I might compare the dressing with the finger of a glove. The discharge stopped within four or

five days and the wound closed up. The swelling went down and I removed the dressing entirely. There seemed to be slight contraction at that time. I applied a different splint, covering the entire palm of the hand, and just wide enough to hold the finger extended, as I had attached it with narrow adhesive plaster strips.

The patient was returned to Dr. Stoloff's care where she continued for two weeks, when she suddenly stopped. Neither one of us saw the patient until four months later when her mother brought her into one of my clinics. I was surprised at the result. The finger had shrunk so much that the articular surface of the second phalanx rested upon the articular surface of the metacarpal bone of the index. Flexion and extension were perfect, but there was a slight deviation toward the thumb. By manipulation I was able to bring it into a straight line, and with adhesive strapping kept it in an overcorrected position for four weeks longer. Since then, August, 1910, the mother has been to see me and tells me that the child uses its abbreviated finger as well as its mate on the other hand, and displays no discomfort.

The question that now arises in my mind is: "Are we able to remove a median phalanx of a finger in an adult, and will the contact of the tissues take place to form a practically new joint as it did in this little girl of six years?"

37 East Sixty-first Street.

THE LITERATURE OF SALVARSAN.

List of Original Articles on Dioxydiamido-arseno-benzol Dihydrochloride (Ehrlich-Hata "606"; Salvarsan) Found in the Current Literature up to the Middle of March, 1911.

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Therapeutical Notes.

Stroganoff's Treatment of Eclampsia.—An interesting abstract from the *Archiv für Gynäkologie* published in the *British Medical Journal* describes the results obtained by the employment of Stroganoff's method in the treatment of eclampsia in a large hospital in Dresden, the author being E. Roth. The treatment consists in the administration of morphine, chloral hydrate, and chloroform according to a definite scheme, the aim of which is to prevent the development of the convulsions. It is, therefore, prophylactic and not merely palliative. The patient is continuously kept under the partial influence of narcotics, and is isolated in a darkened room in order to escape external stimuli as much as possible. Reflexes are further checked by administering a small quantity of chloroform (2cm) whenever catheterization, disinfection, or the injection of an enema is performed. Even a hypodermic injection of morphine is preceded by inhalation of chloroform, and none but the medical attendant and nurse is allowed in the room. Stroganoff individualizes; but gives the following instructions for a typical case:

[illegible]

The chloral is usually given with milk or barley broth as an enema. The convulsions subside and usually cease at the end of the first day, but the chloral should be continued in doses of from 1 to 1.5 gramme thrice daily on the following days, and even after birth. Careful attention must be paid to every detail of this prescription; attempts to vary it in the Dresden hospital were singularly unfortunate. As soon as the conditions are favorable to both mother and child, labor is induced, and, in the absence of contraindications, the membranes are ruptured. When the convulsions are refractory to treatment Stroganoff employs accouchement forcé, but this he has found necessary once only. With his material of 360 cases he shows a mortality of 6.6 per cent. for the mother and 21.6 per cent. for the child. The figures compare favorably with those which are published by hospitals in which immediate induction of labor is practised in this complication. Thus the mortality for the mother is fourteen per cent. according to Bumm and fifteen per cent. according to Zweifel, while in the Munich clinic it is as high as 21.8 per cent. for the mother, with a mortality of forty-three per cent. for the child. In twenty-three of the writer's thirty-one cases the convulsions appeared after the onset of labor. The treatment made the convulsions cease at once in twelve cases, after one to three attacks in thirteen cases, after four or more attacks in six cases. Of the five deaths among the infants one was due to cyphotic pelvis, which necessitated perforation, one infant was dead before the patient's admission, and one was premature. Only one mother died (empyema). The sooner the treatment is begun the better. It can be employed in the patient's home, but a hospital is preferable where she can be under constant observation, and where, if necessary, labor can be induced or hastened, either because the convulsions continue in spite of the treatment or because labor has advanced so far that the additional aid of the forceps is advisable. The treatment has still to pass through its period of probation, during which it should be limited to the larger maternity hospitals, though to the medical attendant outside a hospital who in a difficult case has at present to choose between a number of alternatives, all more or less heroic, it presents many advantages during the dilatation of the cervix.

Solutions for Use in the Ears.—Various formulæ are given in the *Journal of the American Medical Association* for April 15, 1911, for use in the ears, as the following:

℞ Cocaine hydrochloride, ... gr. iv;
[illegible] ..... [illegible]
[illegible] ..... 5ii.
Glycerin, ... 5ss.
Camphor water, ... ad 5i.
M. et Sig.: Ear drops. Warm before using.

℞ Cocaine hydrochloride, ... gr. iii;
Boric acid, ... gr. v;
Glycerin, ... 5iii;
Water, ... ad 5i.
M. et Sig.: Ear drops. Warm before using.

℞ Boric acid, ... gr. xxx;
Tincture of opium, ... 5iii;
[illegible] ..... [illegible]
Water, ... ad 5ii.
M. et Sig.: Ear drops. Warm before using.

℞ Adrenalin chloride, ... gr. ss;
[illegible] ..... [illegible]
Water, ... ad 5ss.
M. et Sig.: Ear drops. Warm before using.

The Local Treatment of Acne.—The following treatment is recommended by Hahn (*Fortschritte der Medizin*, No. 15; through *Le Bulletin médical*, April 29, 1911): The patient should use soap every day as a cleansing agent, and afterward wet the parts affected with one or other of the following solutions applied on cotton: Resorcin, one tenth to one half per cent.; thymol, one fourth per cent.; salicylic acid, one quarter to one half per cent.

Following this an ointment of the following composition is applied:

℞ Resorcin, ... gr. xv;
[illegible] ..... [illegible]
[illegible] 5ss;
Petrolatum, ... 5i;

or

[illegible] ..... [illegible]
Salicylic acid, ... gr. xv;
Tincture of benzoin, ... mxv;
Petrolatum, ... 5i.
M.

After these ointments have remained in contact with the skin for an hour or two the irritation caused by them is removed by the application of a soothing cream of wool fat, rose water ointment, or by an ointment containing zinc oxide and bismuth subnitrate.

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THE DISEASES OF ALASKA.

From the observations made by Assistant Surgeon H. E. Hasseltine, while on board the revenue cutter *Rush*, from April 8, 1910, to March 20, 1911, and published in the *Public Health Reports* for May 5th, we learn that poliomyelitis exists among the native children in Juneau, Douglas, Chicagoff, and Yakutat, among other places. As might be expected from their limited acquaintance with civilization tuberculosis is the great scourge of the Alaskans. Dr. Hasseltine thinks that fully thirty-three per cent. of the natives are attacked. There is much syphilis, which does not worry the natives much unless the lesions are very prominent, and trachoma causes considerable diminution of vision, particularly in southwestern Alaska. It is very hard to impress the natives with the importance of sanitary measures; some of them spit regularly into a tin can, but only if one is conveniently to hand; when the can is filled they calmly empty it immediately outside the house. When told to burn the contents they answered that there was such a quantity as to render likely extinguishment of the fire. The death rate seems to exceed the birth rate everywhere. The faith of the natives in medicine is like that of more civilized people; once sure of a bottle of medicine it is difficult to get them to bother about hygienic or other precautions. The food is largely fish, but they have game, berries, fish oil, seal oil, and what canned goods they are able to buy. They admire the dress of the white man and are willing to wear it except when in a hurry, which causes them to run out in the most inclement weather insufficiently covered. There is much drinking, liquor being obtained from pedlers in violation of the law, and they are able to distill a beverage of their own from sugar, flour, water, and hops, the result being known as *hootchinoo*. As a rule the Alaskans are lax in morals. An exception is to be noted in favor of Metlakatla, a village under wise missionary control, where the conditions are better in every respect. The natives here are able to take care of their health, know how to make a living independently of the whites, are able to read and write English, have separate homes, and conduct successfully a salmon cannery and a sawmill.

PYLORIC STENOSIS IN INFANCY AND ITS MEDICAL TREATMENT.

It was as late as 1887 that pyloric stenosis in infancy was first described by Hirschsprung and in 1898 Pfaundler suggested that there were two types of the disease, one a true organic, congenital stenosis, and the other a condition in which pyloric spasm was from some cause first induced which eventually led to hypertrophy of the organ with stricture of its lumen. Mr. Percy Marsh points out these facts in the *Medical Press and Circular* for April 26th, and further gives notes of six cases of the affection which came under his immediate observation at the Liverpool Infirmary for Children. After describing the symptoms he proceeded to discuss the nature and genesis of the condition and points out that there are those who believe that there is no organic hypertrophy, that there is no increase of tissue formation, and that the stomach is entirely normal. Some believe exactly the opposite and furthermore are of the opinion that the hypertrophy is a primary congenital condition which generates stenosis and secondary spasm. Caultey explains it as being merely an excess of new tissue due to an attempt of Nature to produce a sufficient closure of the pylorus, while Löbker and others contend that there is real tumor formation, leiomyoma or fibromyoma. Pritchard considers the spasm to be due to fissure, erosion, or dyspepsia, and Knöpfelmacher and Freund have demonstrated the presence of hyperchlorhydria, which they consider to be the primary cause of the spasm. As to treatment, it must be borne in mind that it is some days before a positive diagnosis of pyloric stenosis can be made, but when this is done the first object is to find a food, if possible, that will agree with the infant, and as breast milk is almost always the best, every endeavor should be made to keep the milk secretion active.

With regard to mechanical treatment, if the vom-

iting is frequent, for the first few days the stomach should be thoroughly washed out, night and morning, with warm water and, according to Marsh, gastric lavage is generally attended with beneficial effects while the continuous administration per rectum of saline solution is a measure which in combination with the lavage produces satisfactory results. When drugs are given, opium or atropine may be administered in small doses and with them an alkali on the assumption that there is superacidity. It goes without saying that purgatives should be avoided. As regards medical or surgical treatment for this condition, there is a divergence of views between physicians and surgeons. Physicians, as a rule, and medical authorities in Germany in particular, are averse to operative measures, whereas some physicians and most surgeons consider that surgical aid should be invoked as early as is possible.

It is somewhat curious to note the wide discrepancy between the German figures relating to the medical treatment of pyloric stenosis in infants and those supplied by British physicians. Of ninety-one cases reported by Bendix, Bloch, Heubner, Hutchison, and Stark, 91.2 per cent. have ended in recovery under medical treatment, while of 106 cases reported by Caultey, Thompson, and Still and from the Great Ormond Street Children's Hospital, London, only 18.8 have so terminated without surgical interference. Hutchison is an Englishman and why he and the German school should be so much more successful in the medical treatment of the affection than British physicians in general, it is hard to understand. Marsh believes that a thorough trial of medical treatment should be pursued before recourse to surgical measures. Considering that, according to the statistics of Hutchison and German authorities, medical treatment in their hands has been attended with such conspicuous success, this belief seems to be well founded. It would be interesting and useful, too, to learn what may be the methods of treatment of Hutchison and the German school.

GREEK IN MEDICAL NOMENCLATURE.

At a meeting of the Medical Association of the Greater City of New York, held March 20, 1911 (see Proceedings of Societies, p. 1005), Dr. Achilles Rose read a paper on How May We Make Our Scientific Nomenclature More Accurate? Dr. Rose has, for a number of years, interested himself in the question with which he so exhaustively dealt in the paper mentioned.

It is, indeed, obvious that our medical nomenclature contains many absurd and wrongly constructed words, but a great number of these have become so generally used that it would be impossible to change them. Others have been connected with our profession for so long a time that we should sorely miss them. There have been coined, however, during the last fifty years a number of words which certainly could be improved upon. The foundations of our science were laid in many countries of the ancient world, and the science itself was encyclopædically dealt with by the Greeks, from whom it went to the Romans. Thus the standard words are either of Greek origin or transferred from the Greek to the Latin language, thence to come to us; but when, with the Renaissance, there came an awakening of medicine, the scholars of that time formed words which, either from lack of knowledge of the Greek or Latin tongues, or intentionally conforming with the style or lack of style then in vogue in the universities, were wrongly constructed. The custom of adopting hybrids was continued during the ensuing centuries, not only in clinical medicine but even more so in anatomy.

To designate a disease by the name of the man who first described it is perhaps permissible, but to use the name of the patient for a newly observed illness is certainly wrong. Anyone who is interested in medical literature and, therefore, reads the literature of many tongues, will very often find it impossible to recognize a professional word in its foreign dress. When Latin was the international scientific language, it was much easier to become acquainted with the literature of the profession; but when this old classical language was dethroned and French became the medium of diplomatic communication, every country began to use its own language for medical terms. This custom must continue, but we certainly should try to form a universal nomenclature and the language upon which to base this nomenclature would logically be Greek.

The hopes which many men based upon Esperanto will never be fulfilled. It might be possible to form a written Esperanto which would be understood by every scholar, but the pronunciation of this artificial language would, in a century, be as varied as the different languages of the nations. This has happened with Greek and Latin. The pronunciation of these two languages, as found in English, French, German, or Italian schools makes, in reality, either classical language impossible for international conversation. The adoption, by most of the colleges, of the so called Roman pronunciation would undoubtedly give a great impetus to the use of a spoken Latin language. No language stands still. The pronunciation of English of Chaucer's or of Shakespeare's time is widely different from the English spoken to-day; even the English of Amer-

ica and England differs considerably and that of the East and West of our country. This will be the case with Esperanto.

The reformers of whom Dr. Rose is the type, are to be congratulated upon the stand they take, although, like all reformers, they may insist upon too many changes. The anatomical terminology, adopted by the Basle Conference, is certainly a step forward. The International List of Causes of Death, which is now used by our Bureau of Census, points the way to be followed by future generations.

ADVANCES IN THE DIAGNOSIS OF KIDNEY SUFFICIENCY.

Among the many notable improvements in diagnostic technique which have been developed within the past decade, a prominent position must be given to the methods by which the activity of the renal function may be determined with accuracy and convenience, the more important being chromocystoscopy, to establish functional value, and x ray examination after injection of colloidal silver salts, to determine physical characteristics.

Chromocystoscopy depends for its results upon the time and degree of elimination by the kidneys of a solution of some aniline dye, preferably indigocarmin, which has previously been introduced into the system by intramuscular injection; the time of elimination being determined by direct observation of the ureteral orifice with the cystoscope. The diagnosis of the actual functionating ability of the kidney depends upon observations, not only of onset, intensity, and duration of the aniline color elimination, but also upon the frequency and number of the blue colored urinary jets from the ureteral orifices, and the contractile and expansile power, the form, size, and pathological condition of the latter, together with a general study of the condition of the interior of the bladder. A careful study of this method of diagnosis by Thomas led him to conclude that chromocystoscopy afforded the same functional diagnostic advantages as cryoscopy, the phloridzin test, and urea determination with a minimium of the time and intricacy attendant upon the latter procedures; that comparative observations of the onset and intensity of the color elimination frequently warranted conclusions as to the sufficiency of one or both kidneys, provided that the ureters were patulous, and that, aside from its value in diagnosis and prognosis in contemplated operative interference, chromocystoscopy was of great aid in ureteral diagnosis and catheterism.

The other diagnostic method, that of x ray examination of the kidneys and ureters after the injection of a solution capable of casting a shadow, is of especial value in determining the anatomical relations and form of these organs. It reveals the size of the renal pelvis, the amount of destruction of the kidney substance, and the position of the kidney in relation to other organs, and definitely establishes the position and alterations in size and shape of the ureter and bladder. The technique of this procedure is simple and easily carried out after the method of Miller, Uhle, Mackinney, and Pfahler, consisting of the injection, through a ureteral catheter, of five cubic centimetres of a fifty per cent. solution of colloidal silver oxide into the ureter and renal pelvis, the injection being carried on by slight gravity pressure. The entire internal urinary tract may then be immediately observed by means of the x ray.

By the combination of these two general plans of diagnostic technique it would seem that certainty of diagnosis, in gross organic renal diseases at least, has been reduced almost to an exact science, and that the more minute histological changes occurring in the various forms of nephritis may be much more definitely determined than by any procedures in previous use.

HODGKIN'S DISEASE.

Pseudoleuchæmia, or Hodgkin's disease, a communication concerning which we publish in this issue of the *Journal*, is one of the most resistant to treatment of all pathological conditions. There is a suspicion that it is allied to the malignant neoplasms, yet arsenic, which, according to Sir Jonathan Hutchinson, will give rise to cancer, seems to have produced the best results so far, if we except two somewhat obscure cases reported some ten years ago by W. A. Pusey, in which recovery is said to have taken place after persistent use of the x rays. Iodine and potassium iodide are praised by some therapeutists and severely condemned by others. In following up the idea of the specificity of arsenic, sodium cacodylate and atoxyl have been tried and found wanting; they have been given internally and by injection. Applications of green soap and of solution of formaldehyde and rectified spirits have been made to the skin over the enlarged glands. Berberine hydrochloride has been exhibited. A list of the drugs tried seems to be mainly useful in stimulating the imagination of the practitioner who may be confronted with a case of Hodgkin's disease so that he may strike out a new path in treatment and not waste time in repeating measures that have not produced a single authentic cure. Surgery seems to be equally helpless in the face of this baffling malady.

COMMON SENSE AND INSANITY.

It is curious to note that many exponents of so called natural methods of preserving health and combating disease, founded, according to their authors, on common sense, eventually show unmistakable signs of mental derangement, leading, as in one conspicuous recent case, to suicide. There is no sense in denying the fundamental postulate of disease, the germ, which is present to all beholders who will take the trouble to gaze through the eye piece of a microscope. While many persons who deny the existence of disease must be fortunate enough to enjoy good health, there seem to be others who are intoxicated by the morbid products of imperfect metabolism, the effects of which are similar to those of the narcotic poisons in producing a feeling of euphoria, coupled with a contempt for and neglect of the ordinary precautions against infection observed by sane and sober people. The intense egotism of these subjects, their volubility, their impatience under criticism, and imperviousness to argument are also very similar to the symptoms of a narcotized neurasthenic.

News Items.

The Triprofessional Medical Society of New York held its forty-fourth stated meeting on Tuesday evening, May 16th, under the presidency of Dr. Gordon K. Dickinson, of Jersey City. The scientific programme consisted of a "symposium" on Cleanliness in Medical and Surgical Practice.

The Annual Conference of Sanitary Officers of the State of New York will be held in New York City on October 25th, 26th, and 27th, in the Carnegie Lyceum. It is planned to hold three morning sessions and to devote the afternoons to the inspection of such institutions and such places of the local health department's activities as may be decided upon. There will be no evening sessions.

The Medical Society of the Borough of the Bronx held a stated meeting on Wednesday evening, May 10th. The programme included the following papers: Syphilis, by Dr. William S. Gottheil; Clinical Aspects of Syphilis in Children, by Dr. Walter A. Dunckel; Personal Experiences with Salvarsan, by Dr. Howard Fox. A general discussion followed which brought out many interesting points.

The American Surgical Association will hold its thirty-second annual meeting in Denver, Colo., on June 19, 20, and 21, under the presidency of Dr. Richard H. Harte, of Philadelphia. The other officers of the association are: Dr. S. J. Mixter, of Boston, and Dr. G. E. Armstrong, of Montreal, vice-presidents; Dr. A. J. Le Conte, of Philadelphia, secretary; Dr. C. A. Powers, of Denver, treasurer; Dr. Archibald MacLaren, of St. Paul, recorder.

The One Board Medical Bill of Pennsylvania.—The Gerberich bill, called the one board medical bill, has finally passed the House of Representatives and will be laid before the Senate. This bill provides for a Bureau of Medical Education and Licensure as a bureau of the Department of Public Instruction. The board that is to regulate the practice of medicine and surgery, of the regular, homœopathic, and eclectic schools, is to consist of seven members. The State Superintendent of Public Instruction and the Commissioner of Health are to be ex-officio members of the board. The other five members are to be appointed by the Governor, one from each of the schools named and the other two at large, but both cannot be members of the same school of medicine.

A Decision Against Osteopathists.—The Appellate Division of the Supreme Court, Second Division, has handed down a decision upholding the New York Board of Health in refusing to accept death certificates signed by doctors of osteopathy. According to a statement made by the president of the Osteopathic Society, the osteopaths are at a loss to understand on what grounds such a decision could have been based, and the matter will probably be taken to the Legislature.

Medical Expert Testimony.—A stated meeting of the New York Academy of Medicine was held in Hosack Hall, on Thursday evening, May 18th, under the auspices of the Section in Neurology and Psychiatry, the subject chosen for discussion being Medical Expert Testimony. The legal aspect of the subject was dealt with by the Hon. Judge A. T. Clearwater, and the medical by Dr. Charles L. Dana. A general discussion followed, which was participated in by Dr. Carlos F. MacDonald, Dr. Barney Sachs, Austin G. Fox, Esq., and others.

A New Ward Opened at Beth Israel Hospital.—The Beth Israel Hospital, occupying the entire frontage of the block on Jefferson Street between Monroe and Cherry Streets, has again increasd its bed capacity by the addition of another ward thirty feet wide and sixty feet long, accommodating thirty beds for male medical patients. The floor of this ward is marble tiled throughout and has doors all around opening on a roof garden for the convalescent patients and other patients requiring special outdoor treatment.

The Extermination of Mosquitoes.—The New York Board of Health recently adopted an additional section to the Sanitary Code, which reads as follows:

Section 1240. Every tank for [illegible] fitting cover, or with an extra fine mesh screen, to prevent the access of mosquitoes to the [illegible] shall be ventilated. Every tank from which water is furnished for general use shall be emptied and the inside thoroughly cleaned at least twice a year, and at such other times as may be directed by the Sanitary Superintendent or an Assistant Sanitary Superintendent of the Department of Health.

To Amend the Act Regulating the Sale of Viruses, Serums and Allied Products.—A bill has been introduced in Congress by Representative Mann, of Illinois, amending the act of 1902 regulating the sale of viruses, serums, and allied products. The bill provides that the Surgeon General of the United States Public Health and Marine Hospital Service shall have authority to issue, suspend, and revoke the licenses for the manufacture of such preparations. Licenses shall be issued only on condition that the establishments shall be subject to inspection by the authorities.

The Baltimore Eastern Dispensary.—At the annual meeting of the board of directors of this institution, held on May 8th, the following officers were elected: President, Dr. D. W. Cathell; vice-president, Lewis W. Randolph; secretary and treasurer, Alexander F. Jones; directors, George R. Heffner, Dr. John F. Hancock, Dr. F. C. Bressler, John C. Distler, Jr., W. S. Hugg, Walter E. Bradey, Mark Wells, E. H. Allison, and M. K. Burch. During the year just ended 25,840 cases were given medical and surgical treatment. Dr. Robert S. Kirk was reelected superintendent for the twelfth year.

National Board of Sanitary Inspectors.—Senator Burton has introduced a bill in the Senate of the United States, known as Senate bill No. 2227, providing for the creation of a national board of sanitary inspectors composed of the surgeon general of the Army, of the chief of the Bureau of Medicine and Surgery of the Navy, and of the surgeon general of the Public Health and Marine Hospital Service. The bill provides that this board shall designate one or more officers from their respective services to act as inspectors of all buildings and offices used by the Government of the United States in the District of Columbia as to their sanitary and hygienic condition.

A Public Health Department at the Museum of Natural History.—On the evening of May 15th there was held at the American Museum of Natural History an exhibition of apparatus, models, charts, and diagrams, illustrating the work of the Metropolitan Sewerage Commission, and signalizing the inauguration of the department of public health at the museum. Addresses were made by President Osborn, Mayor Gaynor, Dr. George A. Soper, president of the Metropolitan Sewerage Commission; Professor C. E. A. Winslow, curator of the museum's department of public health, and Dr. Harvey W. Wiley, of the United States Department of Agriculture.

Prohibits Distribution of Patent Medicine Samples.—A law was enacted by the Ohio Legislature in 1902 prohibiting the miscellaneous distribution of samples of proprietary or patent medicines, but before final passage was amended so as to permit of their distribution to persons over sixteen years of age. An amendment to this bill has recently been enacted by the Ohio Legislature prohibiting dealers or others from throwing or depositing upon the doorsteps or delivering to any person except in a place where they are kept for sale any patent or proprietary remedy, disinfectant, or antiseptic, or any drug, or medicine containing a poison for purposes of advertising. The measure is now in force, having been signed by the Governor.

The Medical Society of the County of New York.—A stated meeting of this society will be held in Hosack Hall, New York Academy of Medicine, on Monday evening, May 22d, at 8:15 o'clock. The programme includes the following papers: The Fatalities of Delay in the Diagnosis and Treatment of Rectal Diseases, by Dr. James P. Tuttle; The Operation of Choice in Carcinoma of the Rectum, by Dr. Joseph A. Blake; The Dilatation Test for Chronic Appendicitis, by Dr. Walter A. Bastedo. The papers by Dr. Tuttle and Dr. Blake will be discussed by Dr. John F. Erdmann, Dr. Samuel G. Gant, Dr. Samuel Lloyd, Dr. Jerome M. Lynch, and Dr. Charles N. Dowd. The next meeting of the society will be held on October 3d.

The Weir-Mitchell Lecture by Professor Arrhenius.—Professor Svante A. Arrhenius, of Stockholm, who has won distinction through his work in physical chemistry, and who is known to medicine principally through his studies and elaborations of Ehrlich's theories in connection with immunity and chemotherapy, delivered the Weir-Mitchell lecture at the College of Physicians, Philadelphia, on the evening of May 16th. On the afternoon of the 17th, Professor Arrhenius delivered an address at the College of the City of New York, and was tendered a reception at the Chemists' Club on the same evening, where he also spoke. He lectured at the Columbia University on the afternoons of Thursday and Friday and sailed for Europe on Saturday.

Personal.—Dr. John J. MacPhee, formerly clinical professor of nervous and mental diseases at the New York Polyclinic Medical School and Hospital, has been appointed professor of nervous and mental diseases at the New York Postgraduate Medical School and Hospital.

Personal.—Professor Henry Lord Wheeler, of the Sheffield Scientific School, Yale University, has sent his resignation as professor of organic chemistry in the school, to the university corporation. The matter will be acted upon at the next meeting of the corporation.

Dr. George Ross and Dr. A. D. Whiting have been appointed instructors in surgery in the Medical Department of the University of Pennsylvania. Both are graduates of that school and for some time have been assistants to Dr. John B. Deaver.

Dr. Paul S. Hunter, of Denver, Colo., has been elected secretary of the State Board of Health.

Dr. William M. Sweet has been appointed attending physician to the Wills Eye Hospital, to fill the vacancy caused by the death of Dr. Charles A. Oliver.

The Building Fund of the New York Academy of Medicine.—The Committee on Finance reports the following results of the canvass thus far made for subscriptions to the building fund of the New York Academy of Medicine: Fifty-nine persons have subscribed $1,000 each; one person (anonymous) has subscribed $750; fifty-two persons have subscribed $500 each; forty-seven, $250 each; three, $200 each; six, $150 each; four, $125 each; sixty-six, $100 each; thirty-eight, $50 each; thirty, $25 each; one $20, and one $10, making a total of $108,780 subscribed by 307 persons. The Finance Committee is composed of the following: Dr. L. Emmett Holt, Dr. Joseph D. Bryant, Dr. William M. Polk, Dr. A. Jacobi, Dr. A. M. Jacobus, and Dr. Reginald H. Sayre. Dr. L. E. La Fetra, Dr. David Boviard, Jr., Dr. N. R. Norton, Dr. H. S. Carter, Dr. N. E. Ditman, Dr. Henry Heiman, Dr. De Witt Stetten, Dr. L. J. Ladinski, and Dr. W. H. Luckett constitute a subcommittee which has been of material assistance to the Finance Committee in its work of getting subscriptions from the members of the Academy. Only about one-fourth of the members have so far subscribed, and the committee feels confident that there will be no difficulty in raising the $175,000 which they planned to do.

No Uncared-for Tuberculosis in New York State in 1915.—Ex-Ambassador Joseph H. Choate, president of the New York State Charities Aid Association, in summarizing the progress which had been made in one year toward the realization of "No Uncared-for Tuberculosis in New York State in 1915," points out that the number of county hospitals has increased in a year from eight to sixteen; the number of dispensaries from 15 to 25; the number of visiting nurses from 32 to 39, while the localities providing special relief have increased from 8 to 15. Mr. Choate believes that if this rate of progress is maintained the society will be able to celebrate the accomplishment of its purpose in 1915.

The Medical Library Associaton held its fourteenth annual meeting in Atlantic City, on May 9 and 10, under the presidency of Dr. John H. Musser, of Philadelphia. The first session was held on Tuesday evening, at the Marlborough-Blenheim Hotel, and the programme was as follows: The annual presidential address, by Dr. John H. Musser; Hospital Records in Relation to the Hospital Librarian, by Mrs. Grace W. Myers, of Boston; The Establishment of Medical Libraries in County Medical Societies, by Dr. Carl Black, of Jacksonville, Ill.; The Changes in the Medical Periodical Literature since January, 1909, by Mr. C. Perry Fisher, of Philadelphia. The second session was held on the morning of May 10, and was devoted to receiving the reports of various committees and the election of officers.

The Prescription to be Discussed.—At the New York Academy of Medicine, on the evening of Thursday, May 25th, there will be a joint meeting of the Medical Society of the County of New York and the New York Branch of the American Pharmaceutical Association. The topic for discussion is The Prescription, and the programme will include the following addresses: Some Curiosities in Prescriptions, by Dr. James J. Walsh; The Prescription from the Physician's Point of View, by Dr. Egbert Lefevre; Some Interesting Prescriptions, by Professor Joseph P. Remington, of the Philadelphia College of Pharmacy; Efficient Medicaments in Palatable Form, by Jacob Diner; The Ethical Consideration of the Prescription, by Dr. George C. Diekman. A general discussion will follow, which will be participated in by prominent members of the medical and pharmaceutical professions.

Dinner to Doctor Butler.—A dinner in honor of President Butler was given by nearly two hundred members of the faculties and administrative officers of Columbia University at the Hotel Astor on the evening of Monday, May 15th, to commemorate the completion of the tenth year of his service as president of the university and the twenty-first since his election as first dean of the faculty of philosophy. Addresses were made by Professor T. C. Janeway, of the College of Physicians and Surgeons; Professor C. J. Keyser, of the department of mathematics; Professor G. W. Kirchwey, of the school of law; Professor E. R. A. Seligman, of the department of economics, and Professor F. J. E. Woodbridge, of the department of philosophy, and by President Butler. Professor Calvin Thomas, of the department of Germanic languages was toastmaster. The committee in charge was composed of Professor H. E. Crampton, Professor F. J. Goodnow, Professor Paul Monroe, Professor E. D. Perry, Professor A. H. Thorndike, and Professor R. Tombo, Jr.

The Annual Meeting of the Schuyler County, N. Y., Medical Society was held at the Jefferson House, Watkins, N. Y., on Tuesday afternoon, May 9. Dr. John M. Swan, medical director of The Glen Springs, read a paper entitled Summary of the Recent Literature on Salvarsan. Dr. Henry L. Elsner, professor of medicine in the Medical Department of the University of Syracuse, opened the discussion. The president of the society, Dr. C. D. Clawson, read the president's annual address. The following officers were elected for the ensuing year: President, Dr. John M. Quirk, of Montour Falls; vice-president, Dr. A. H. Jackson, of Odessa; treasurer, Dr. D. W. Scutt, of Watkins; secretary, Dr. John M. Swan, of Watkins; delegate to the one hundred and sixth annual meeting of the Medical Society of the State of New York, Dr. James K. King, of Watkins; delegate to the Sixth District Branch of the Medical Society of the State of New York, Dr. Frederick B. Bond, of Watkins. It was voted to hold the semiannual meeting on the third Tuesday in October instead of the second Tuesday in November. A committee was appointed to draw up resolutions on the death of Dr. [illegible] of Valois.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending May 6, 1911:

	Cases	Deaths	Cases	Deaths
Diphtheria	256	..	224	
Typhoid fever	..	..	..	..
Whooping cough	52	..	..	..
Total	989	..	906	..

The Health of Philadelphia.—During the week ending May 6, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Typhoid fever, 13 cases, 1 death; scarlet fever, 57 cases, 9 deaths; chickenpox, 60 cases, 0 deaths; diphtheria, 66 cases, 12 deaths; measles, 515 cases, 10 deaths; whooping cough, 52 cases, 5 deaths; pulmonary tuberculosis, 103 cases, 78 deaths; pneumonia, 38 cases, 61 deaths; erysipelas, 18 cases, 2 deaths: mumps, 51 cases, 0 deaths; trachoma, 2 cases, 0 deaths; cerebrospinal meningitis, 2 cases, 0 deaths. There were 10 deaths from tuberculosis other than that of the lungs, 16 from diarrhœal diseases under two years of age, 1 from malarial fever, and 1 from puerperal fever. There were 41 stillbirths: 26 males and 15 females. The deaths of children under five years of age numbered 145, of whom 81 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 576, in an estimated population of 1,580,250, corresponding to an annual death rate of 18.95 in a thousand of population, as compared with a death rate of 18.10 for the preceding week.

Vital Statistics of New York.—During the week ending May 6, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,601, corresponding to an annual death rate of 16.76 in a thousand of population, as compared with a rate of 15.48 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 17.84; the Bronx, 16.62; Brooklyn, 15.92; Queens, 12.26; Richmond, 20.39. There were 151 stillbirths. The deaths of children under five years of age numbered 443, of whom 280 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 58; over five years of age, 62. There were 213 deaths from pulmonary tuberculosis, 21 from bronchitis, 122 from pneumonia, 140 from bronchopneumonia, 90 from Bright's disease, 166 from organic heart diseases, and 64 from congenital debility and malformations. There were 11 deaths from suicide, 4 from homicide, and 75 due to accidents. Nine hundred and twenty-one marriages and 2,383 births were reported during the week.

The New Jersey State Homœopathic Medical Society will hold its forty-eighth annual meeting at Monomonock Inn, Caldwell, N. J., on Wednesday, Thursday, and Friday, May 24th, 25th, and 26th. The first session will be held on Wednesday afternoon, with Dr. A. W. Atkinson, of Trenton, first vice-president, in the chair. The president will deliver a preliminary address, and the remainder of the session will be devoted to receiving reports of various kinds, the election of officers, and the transaction of other routine business. There will be two scientific sessions on Friday, and in the evening the visiting members and their friends will be entertained at dinner by the Essex County Homœopathic Medical Society. On Saturday morning a scientific session will be held, and the final session, which will be devoted to the transaction of miscellaneous business, will be held on Saturday afternoon. An elaborate programme has been prepared, and the meeting gives promise of being a great success. Ample arrangements have also been made for the entertainment of the visitors. The officers of the society are: President, Dr. Carl H. Wintsch, of Newark; first vice-president, Dr A. W. Atkinson, of Trenton; second vice-president, Dr Frank Parker Ekings, of Paterson; third vice-president, Dr. Walter H. Phillips, of Cape May; recording secretary, Dr. Alfred Drury, of Paterson; corresponding secretary, Dr. Charles F. Hadley, of Camden; treasurer, Dr. Llewellyn E. Hetrick, of Asbury Park.

The Society of the Alumni of City (Charity) Hospital.—The one hundred and seventh stated meeting of this society was held at the Hotel Bristol, on the evening of Wednesday, May 17th. After the dinner, which was served at 7:30 p. m., the following programme was presented: The exhibition of a series of x ray plates showing fractures of the skull, by Dr. W. W. Stewart; several interesting cases were reported by members; a paper on Nasal Obstruction was read by Dr. Herman Jarecky, which was discussed by Dr. F. J. Quinlan, Dr. C. C. Rice, Dr. D. Bryson Delavan, Dr. George McAuliffe, and Dr. M. L. Carr. This was followed by an executive session.

The Kentucky State Association of Railway Surgeons.—At the annual meeting of this association, held in Louisville last week, the following officers were elected: Dr. Charles W. Kearns, of Covington, was chosen president-elect; Dr. W. O. Bullock, of Lexington, was elected first vice-president; Dr. D. Y. Roberts, of Louisville, second vice-president; Dr. William Cheatham, of Louisville, third vice-president; Dr. J. B. Kinnaird, of Lancaster, secretary, and Dr. C. H. Vaught, of Richmond, treasurer. Dr. Charles G. Daugherty, of Paris, who was installed as president at the beginning of the meeting, appointed Dr. J. L. Phythian, of Newport; Dr. H. C. Jasper, of Richmond, and Dr. F. M. Beard, of Shelbyville, as members of the Committee on Credentials. Dr. M. H. Dills, of Carlisle; Dr. W. E. Senour, of Bellevue, and Dr. Z. A. Thompson, of Pikerville, were appointed to the Committee on Public Health and Legislation, while Dr. W. O. Bullock, of Lexington; Dr. Cuthbert Thompson, of Louisville, and Dr. J. H. Letcher, of Henderson, were chosen to compose the Committee on Entertainment. The association will meet next year in Lexington.

The Health of Chicago.—During the week ending May 6, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 11 cases, 5 deaths; measles, 335 cases, 5 deaths; whooping cough, 14 cases, 2 deaths; scarlet fever, 279 cases, 15 deaths; diphtheria, 165 cases, 14 deaths; chickenpox, 56 cases, 0 deaths; tuberculosis, 205 cases, 97 deaths; pneumonia, 40 cases, 128 deaths. There were reported 5 cases of German measles, 7 of smallpox, 9 of cerebrospinal meningitis, and 53 of contagious diseases of minor importance, making a total of 1,179 cases, as compared with 1,274 for the preceding week and 1,090 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 35, and there were 32 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 177, of whom 117 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 682, corresponding to an annual death rate of 15.8 in a thousand of population, as compared with a rate of 15.79 for the preceding week and 15.0 for the corresponding week last year.

Society Meetings for the Coming Week:

Monday, *May 22d.* Medical Society of the County of New York.

Tuesday, *May 23d.*—New York Dermatological Society (annual); Metropolitan Medical Society of New York City; Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); New York Medical Union; New York Otological Society; New York City Riverside Practitioners' Society; Valentine Mott Medical Society, New York; Washington Heights Medical Society, New York; Alumni Association of Seney Hospital, Brooklyn; Rome, N. Y., Medical Society.

Wednesday, *May 24th.*—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society; The Medical Union, Buffalo.

Thursday, *May 25th.*—New York Academy of Medicine (Section in Obstetrics and Gynæcology); Hospital Graduates' Club, New York; New York Celtic Medical Society; East Side Physicians' Association, of New York; Bronx Medical Association; Brooklyn Society for Neurology.

Friday, *May 26th.*—Academy of Pathological Science, New York; Society of New York German Physicians; New York Clinical Society; Manhattan Medical Society; Hospital Graduates' Club, Brooklyn.

Saturday, *May 27th.*—West End Medical Society; New York Medical and Surgical Society; Harvard Medical Society; Lenox Medical and Surgical Society.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

May 11, 1911.

1. Recent Experimental Work on the "Fusion" of Nerves and Its Practical Bearing on Infantile Paralysis. Report of a Case of Infantile Paralysis Treated by This Method, By HENRY O. FEISS.
2. A Case of Hemiatrophy from Scleroderma, By PHILIP COOMBS KNAPP.
3. The Towns-Lambert Treatment for Morphinism and Alcoholism, By RICHARD C. CABOT.
4. A Review of 214 Cases of Extrauterine Pregnancy at the Massachusetts General Hospital, By W. T. COUES.

4. Extrauterine Pregnancy.—Coues reviews two hundred and fourteen cases of extrauterine pregnancy, and observes that irregular flowing seems to play the important part given it in the textbooks as a symptom of extrauterine pregnancy. The importance of a long period of sterility as a cause of extrauterine pregnancy does not seem to be borne out by these statistics. Conditions possibly leading to extrauterine pregnancy are: The fact that cystic ovaries, disease of the opposite tube, adhesions or a previous miscarriage occurred in over eighty-three per cent. of 202 cases is suggestive, and is in agreement with authorities as to the possible relation of such conditions to extrauterine pregnancy. The fact that in only 26.5 per cent. of 207 cases the pain was sudden is of interest. In about three fourths of the cases the sudden severe pain was preceded by pain of less severity, coming on gradually. Of considerable interest is the leucocytosis observed in the cases in shock. This is apparently a perfect example of leucocytosis after hæmorrhage. The finding of a temperature of 100° F. or over in 43.4 per cent. of the cases, and of a temperature of 101° F. or over in 14.4 per cent. of cases, is also of interest. Ordinarily it is supposed these women rarely have any fever. Some observers with much experience in this subject say that active hæmorrhage actually seen at operation occurs so rarely as to be practically negligible. It occurred in 4.4 per cent. of all the cases operated in. It is possible that the hæmorrhage was in some cases started up by operative manipulation. It is with misgivings that one approaches any definite conclusions in regard to immediate *vs.* delayed operation. Many operators of great experience differ about the best procedure. Coues concludes that they are not greatly influenced by statistics and that in this condition every case must be judged on its own merits. These statistics show that it is best to wait for a time before operating upon patients in shock. Twenty-five per cent. mortality of those operated on in shock, 8.3 per cent. mortality of those for whom the operation was delayed for a time. Active stimulation and blood pressure raising drugs seem to be best given after the bleeding points in the tube are secured. Rest and morphine while waiting are most important. Waiting any length of time with a case of extrauterine pregnancy in good condition is dangerous, since it has been shown that bleeding may recur at any time, so that in a few hours the patient may be again in a desperate condition.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

May 13, 1911.

1. The Rôle of Dreams in Ætiology, By F. X. DERCUM.
2. The So Called Œdipus Complex in Hamlet, By JAMES HENDRIE LLOYD.
3. Chronic Glanders in Man, Report of a Case; Patient Treated with Glanders Vaccine. Apparent Cure, By WALTER C. CRAMP.
4. Case of Choked Disk and Progressive Blindness Due to Sarcoma of the Brain, By JEROME B. THOMAS.
5. Report of a Case of Anencephalus, By J. S. KALAYJIAN
6. Report of Case of Bronchopneumonia, Showing Positive Brudzinski Neck and Collateral Signs, By MARTIN J. LOEB.
7. Treatment of Cancer with Body Fluids and Cancerous Ascitic Fluids, By EDWARD H. RISLEY.
8. Chemical Dermatitis from Incompatible External Applications, By A. M. MENDENHALL.
9. Peculiar Case of Intestinal Obstruction, By ISRAEL BROWN.

1. Dreams in Ætiology.— Dercum gives a review of Freud's theory which, although ingenious, challenges criticism. He thinks that the rôle of dreams in ætiology is a very doubtful one, dreams are probably always symptomatic and never causal.

3. Chronic Glanders in Man.—Cramp reports a case of chronic glanders from which he concludes that cases of chronic glanders can easily be overlooked unless one is constantly on the lookout for the disease. Multiple abscess, especially on the extremities, without definite cause, should excite suspicion, as Robin has shown that in eighty per cent. of cases multiple abscesses occur. In his case there was no direct association with horses. The point of entrance of the infection was unknown, no abrasion on the body being present and no history of a wound being obtainable. There was never any nasal discharge. The patient remained apparently cured for six weeks and then showed a return of symptoms. No bacilli were found in the sputum. Extreme exposure to bad weather seems to be a predisposing cause. His case was proved to be one of glanders by laboratory methods and by reaction to the vaccine injections. The patient was apparently cured by vaccine injections.

7. Cancer.—Risley reports a series of forty-five cases of cancer, upon which, during the past seven months, trials have been made, comprising variety enough both in the fluids used and in the type of cancer treated to warrant the following statements in conclusion, based on a careful analysis of the results in this series. 1. The various transudates and exudates of the body, cancerous and noncancerous, have no effect in retarding the growth of cancer in mice. 2. The use of cancerous ascitic fluid from patients in the active or even moderately resistant stages of the disease has no permanent effect in preventing or checking the growths of cancer, or permanently benefiting the cancer patient. 3. The other noncancerous body fluids are even more inert. 4. Temporary beneficial effects may be noticed for periods of from one to five months, but the course of the disease is in no way permanently retarded. 5. Temporary relief from pain, especially in uterine cases, and in other cases in which large doses can be given, and retardation of the growth for periods varying from one to five months, may be expected in a small per cent. of the cases. 6. No-

ticeable benefit in the general physical condition has resulted in one patient with cancer of the ovary by the injection of her own fluid.

MEDICAL RECORD

1. Mistakes in the Diagnoses of Chronic Lesions: Their Causes and Prevention. Based on Some Illustrative Cases of Chronic Lesions, Involving the Midlower Abdomen and Pelvic Regions. By W. A. Bartlett.
2. Acute Amygdalitis and Its Treatment. By Harold Hays.
3. The Prevention of Insanity: Hygiene of the Mind. By A. J. Rosanoff.
4. The Ætiology of Pancreatic Diseases. By James E. Davis.
5. Ocular Manifestations of the Peripheral Affections of the Fifth Cranial Nerve. By George Huston Bell.
6. The Chlorides, Phosphates, and Sulphates of the Urine in the Last Stage of Pulmonary Tuberculosis. By John C. Warbrick.
7. Postoperative Urinary Incontinence; Urethroplastic Operation. By J. Bentley Squier.
8. Short Talks with My Students and Others: Being Random Suggestions for the Younger Practitioners. By Robert H. M. Dawbarn.

2. Treatment of Acute Amygdalitis.—Hays observes that amygdalitis should be considered as a local disease causing systemic infection. If such is the case the patient must primarily be treated locally. Our first object, then, is to destroy the invading organism as thoroughly as possible. Moreover, spraying or swabbing the surface of the tonsil with antiseptics is worse than useless. The deeper infection in the crypts is much more important than the surface infection. It must be remembered that a tonsil consists of crypts, lined with columnar epithelium going deep down, in places touching the root of the tonsil itself. Sometimes these crypts communicate. Their lining epithelium is very thin, and is immediately in contact with the parenchyma of the tonsil itself, which is composed mainly of mononuclear cells. Infection through these crypts, tuberculous and otherwise, has been fully explained. Infection in these parts cannot be reached by swabbing or sprays. The crypts must be opened up in some manner which will allow of proper drainage. Many writers advocate the washing out of the crypts with antiseptic solutions by means of a cannula and syringe. But inserting such an instrument, even after applying cocaine, has a tendency to increase the inflammatory reaction. Moreover, one agent has been found which is almost specific in these cases of acute amygdalitis, silver nitrate in a strength of fifty per cent. This is to be used as follows: After taking a smear and culture of the tonsil the throat is thoroughly sprayed with some alkaline antiseptic to dissolve the mucus. Then it is again sprayed with cocaine (one per cent.) and adrenalin (1/5000), particularly over the tonsillar regions. Finally the tonsils are swabbed with pure cocaine. After an interval of a few moments the opening of each crypt is applicated with fifty per cent. silver nitrate, the applicator resting in the crypt for ten to fifteen seconds. The patient is told to remain quiet for that day, to take a light diet, a cathartic, to spray the throat with a fifty per cent. hydrogen peroxide solution, to suck cracked ice and to apply iced cloths to the neck. As a rule the patient is well in twenty-four hours, but sometimes a second application is necessary. I have never had a patient who has not been cured after the second treatment. The applications are painless and the effect from the silver nitrate is readily explained. This antiseptic is extremely powerful, and on inflamed tissue acts as an astringent. One immediately sees after applying the silver nitrate an appreciable diminution in the size of the tonsil. This in itself is a comfort to the patient. The mouth of each infected crypt is disinfected, and what is of more importance, the shrinking process retracts the mucosa at the ostium, so that the deeper portions of the crypt are opened up. No permanent injury has been known to result from this treatment, when it has been used in competent hands with proper illumination.

5. Ocular Manifestations.—Bell remarks that diseases of the teeth should at all times be suspected as one of the causes of tic douloureux and migraine is not surprising, from their situation and intimate connection with the fifth pair of nerves, which are more frequently affected with neuralgia than the other nerves. The writer thinks that enough attention is not paid by the ophthalmologists and stomatologists to the inflammation of the various branches of the fifth cranial nerve. The oculist should catechise more of his patients in regard to the conditions of the teeth and gums and especially when they come to him complaining of neuralgic pains in the head and face. Pain referred to the distribution of the ophthalmic or maxillary divisions of the trigeminal should always lead to careful examination of the eyeball as well as of the teeth. The writer holds that supraorbital neuralgia of the periodical class is a form of migraine. That the thorough study of a case of sick headache or neuralgia is one of the most difficult problems of medicine. The distinctive diagnosis of tic douloureux, migraine, and hysteria is not always easy. In a large percentage of persons whose headaches are without doubt due solely to eye strain and its associated local conditions the symptoms disappear promptly and permanently under correcting glasses. But in many others the results are disappointing. In this class of cases, we must look to the teeth, the nose, sometimes the ear, and also for symptoms of latent sinus disease to help us out of the difficulty. The writer points out the fact that the ophthalmologist and the stomatologist are frequently interdependent, and how important it is for both of them to be on the lookout in obscure cases for reflex neuroses that may throw some light on the subject.

BRITISH MEDICAL JOURNAL

May 6, 1911.

1. An Address on Hæmorrhoids. By [illegible]
2. The Operative Treatment of Carcinoma Recti. By [illegible]
3. Some Practical Points in Operating on the Kidneys and Ureters. By E. Deanesly.
4. Remarks on Appendicular Dyspepsia and on the Treatment of Diffused Peritonitis. By [illegible]

[illegible] By [illegible]

Remarks on the Pathology and Treatment of Fistulæ. By [illegible]

[illegible] By [illegible]

Pulmonary Conditions. By Gerald G. Wray.

The Mechanism of Transmission of Trypanosoma Lewisi from Rat to Rat by the Rat Flea,
By C. STRICKLAND.

9. A Drainage Tube for Suprapubic Cystotomy, Liver Abscess, and Abdominal Cysts,
By LAWRIE MCGAVIN.

1. **Hæmorrhoids.**—Bishop says concerning the operation in this condition: 1. The radical method of obliterating the perineal portion of the internal hæmorrhoidal plexus (Whitehead's operation) is the one method which can be relied upon to prevent any return of the condition. 2. In order to carry this out effectually the whole perineal portion of this plexus up to the pectinate line should be removed, and the submucosa beyond brought down and firmly fixed to the skin. 3. Failure to do this is at the root of organic stricture of the anus following an operation. 4. In many, at least, of the cases of organic stricture following operation, dissection out of the resulting scar tissue, freeing of the external sphincter, and bringing down of the submucosal layer to the skin will result in a cure.

2. **Carcinoma of Rectum.**—Smith points out that rectal cancer, except in young subjects, does not possess a high rate of malignancy. It is much less than that of the tongue, breasts, or stomach, largely because the rectum is a self contained viscus. Its mucous membrane is enclosed by muscular walls of some thickness, and it is further isolated by the strong fascia propria, one of the visceral layers of the pelvic fascia. Very extensive cancerous ulceration of the rectum frequently exists without this fascia being invaded. At its lower end where it joins the anal canal this isolation ceases, owing to the insertion of the levators, and lymphatic communication is here much freer along the intersecting muscular fibres. Hence cancer at the lower end of the rectum infiltrates the surrounding tissues more quickly, and is more likely to recur after removal, however freely this may be done. The prognosis is better in high growths than in low ones. It follows, therefore, that in low growths no attempt must be made to save the anal canal or sphincters. To save the anus may be desirable enough from the point of view of the subsequent comfort of the patient, but it must not be allowed to endanger his safety and should not be done if the lower edge of the growth is within three inches of the anus. Speaking of the abdominoperineal operation, he believes that: 1. Extension of the growth is chiefly by local infiltration, not by lymphatic metastasis. 2. Lymphatic invasion once spread above the sacrum would not be likely to be eradicated by removal of the pelvic mesocolon. 3. The operation involves a greater risk, especially in men, where the narrow pelvis, often along with much fatty tissue, makes its performance more difficult. Men do not stand the shock so well as women. 4. In ampullary rectal cancer the operation by the perineal route gives complete removal of the rectum and circumrectal tissue. Also by it twelve inches of bowel at least can be removed, and it satisfies all reasonable requirements. Smith prefers the perineal route, because: 1. A better view of the upper part of the pelvis, as far the sacral promotory, can be got. This facilitates a higher division of the fat and tissues in the mesocolon, and though the Kraske operations resulted in 50 per cent. of so called cures, he is sure that the operations of the last two years have been more complete, and ought to show even better results as regards recurrence when the time comes for them to be collected. 2. The freeing of the pelvic colon is rendered easier. Thus the new anus can be kept in the normal position, and experience shows this to be better than the sacral or gluteal anus. The sacral anus, situated directly below the prominent ridge of the lower border of the sacrum, which stands out more after the coccyx has been removed, is on a depressed and uneven surface, and is difficult to manage afterward. Being in a rigid position, where it cannot retract between the folds of the buttock, it is also more liable to accidental leakage if the fæces are soft or fluid. 3. Separation from the prostate is easier by the perineal route, and the early opening of the peritoneal cavity through the rectovesical pouch in front rather than higher up on the lateral walls makes the later stages easier. 4. The lateral sacral incision takes longer to heal than the perineal one. After the latter, healing practically by first intention occurs not unfrequently. He reckons three weeks as the average time before the patient can get about after perineal operation, whereas by the sacral method it used to require five. 5. The perineal position is preferable for the administration of the anæsthetic and the prevention of shock. As a matter of fact, the amount of shock after the operation is sometimes astonishingly small. The elevation of the pelvis and legs in this method certainly helps to diminish the shock, and constitutes one of its greatest advantages. The disadvantages of the artificial anus, wherever it may be situated, can be very largely mitigated by careful management. The chief care must be not to let the bowels become loose, and this can be done by attention to diet. A tumbler of hot water, alone or with salines, taken on waking insures emptying of the colon within an hour before the patient dresses. After cleansing, a T bandage with a pad is put on and worn through the day. Some patients have no further movement of the bowels till next morning; others have a second evacuation after the evening meal, necessitating a second dressing. But, unless the fæces are allowed to become fluid, no inconvenience occurs, and the patient can go on doing his work and enjoying life.

8. **Transmission of Trypanosoma Lewisi.**—Strickland concludes that: 1. Infection of rats with T. lewisi is caused by the rats' act of eating infective fleas. 2. It is not caused by contamination of the rats during a short time, nor by their being bitten by the fleas. 3. Many more fleas are infective than cause infection in nature. 4. The infective form of the trypanosome, which is probably the small trypanosome of Swellengrebel and Strickland, must reach the blood through the gut wall. 5. It is possible that other trypanosomiases may be transmitted by perhaps even nonbloodsucking creatures

LANCET

May 6, 1911.

1. Sensibility of the Alimentary Canal in Health and Disease (Lecture III), By ARTHUR F. HERTZ.
2. Symptomatic Vagaries of Partial Pyloric Obstruction. By A. ERNEST MAYLARD.
3. Some Indications of Inborn Proclivity to Gout, By Sir DYCE DUCKWORTH, Bart

4. On the Surgical Diseases of Special Interest in Gynecology, By THOMAS WILSON
5. Aneurysm of the Innominate Artery; Proximal Ligature; Recovery, By PERCY SARGENT.
6. On Reversible Pulmonary Crepitation in Cardiac Failure, By ALEXANDER MORISON.
7. Infant Mortality, By W. E. HEILBORN.

1. **Sensibility of Alimentary Canal.**—Hertz summarizes his conclusions as follows: 1. The mucous membrane of the alimentary canal from the upper end of the œsophagus to the junction of the rectum with the anal canal is insensitive to tactile stimulation. 2. The mucous membrane of the œsophagus and the anal canal is sensitive to thermal stimulation, but that of the stomach and intestines is insensitive. 3. The mucous membrane of the œsophagus and stomach is insensitive to stimulation by dilute hydrochloric acid and dilute organic acids, and the rectum, but not the anal canal, is insensitive to stimulation by glycerin. Contact of alcohol with the mucous membrane of all parts of the alimentary canal gives rise to a sensation of heat. 4. The surface of gastric and intestinal ulcers is no more sensitive to tactile, thermal, and chemical stimulation than the intact mucous membrane. 5. The sensation of fullness in the alimentary canal is due to a slow increase in the tension exerted on the fibres of its muscular coat; the adequate tension is constant for each segment, but the volume of contents necessary to produce this tension varies with the tone of the muscle fibres. 6. The sense of fullness in the rectum has a special character, by virtue of which it produces the call to defæcation. 7. Hunger consists in a general sensation of malaise and weakness in the body as a whole and local sensation of emptiness in the abdomen. The latter is due to the periodical motor cavity of the stomach and intestines during fasting, when the sensory nerves are in a condition of superexcitability. 8. The only immediate cause of true visceral pain is tension; this is exerted on the muscular coat of hollow organs and on the fibrous capsule of solid organs. The sensation of pain in the alimentary canal is due to a more rapid or greater increase in tension on the fibres of its muscular coat than that which constitutes the adequate stimulus for the sensation of fullness. 9. Pain in diseases of the alimentary canal is most frequently true visceral pain; it is sometimes due to spread of the disease to surrounding sensitive structures or to tension exerted on the peritoneal connections; and, lastly, it may be situated in the skin, muscles, and connective tissues, to which it is referred from the segment of the central nervous system, which receives the afferent nerves from the affected organ. 10. Tenderness in diseases of the alimentary canal is most frequently due to hyperalgesia of the skin, voluntary muscles, and connective tissues supplied by the segment of the central nervous system, which receives the afferent nerves from the affected organ. It may also be due to increase in tension within the organ produced by the external pressure giving rise to the adequate stimulus of visceral pain; this is rare in the stomach, but comparatively common in spasmodic conditions of the colon and in appendicitis. Lastly, it may be due to the spread of the disease to the parietal peritonæum. 11. Visceral sensibility is exaggerated by training in hypochondriasis, and visceral and referred sensations are exaggerated by the irritable condition of the central nervous system in neurasthenia and anæmia.

3. **Proclivity to Gout.**—Maylard says that it is noteworthy that the characters of the gouty constitution are not readily recognizable in infancy. The general nutrition is good, the bones and muscles are well developed, and the head is large and well formed. The first tokens of the tendency may be observed in the vascular system. Some degree of venous fulness and slight dilatation of superficial facial capillaries, constituting what is sometimes called a "rosy" face, may be noted. The teeth are generally good in both sets and well enameled. The nails are apt to be striated longitudinally, and brittle. Later in life may be noticed a special delicacy and susceptibility of the fauces, leading to attacks of amygdalitis with enlargement of these organs and the nasopharyngeal glands. This is remarkable, because, as a rule, the lymphatic system in goutily disposed persons is not irritable or specially sensitive to localized manifestations of gout in after life. Persons of gouty stock are not liable to tuberculosis, but there are tendencies to hemicrania and neuralgias, irregularities of menstruation, gastroduodenal dyspepsia, epistaxis, lumbago, sciatica, vague, deeply seated pains, loosened teeth. Gouty fathers lay a heavy burden on their daughters, even if the latter are most abstemious. As to treatment, Maylard says: With respect to those persons who are goutily disposed by inheritance in any degree, it may be said to consist mainly in an appropriate nutrition with some restriction of animal food and a limited amount of saccharine matters, especially of food cooked with sugar and fatty materials. Meals consisting of animal food and carbohydrates, with sugar, taken at one time, are found to be imperfectly digested by such persons. An open air life, especially in inland and somewhat elevated districts, is desirable. Water much impregnated with lime is improper. Marine districts, especially in exposed situations, are apt to be unfavorable for most of these subjects. Occasional aperients, containing some mercurial, are of especial value. In cases of an asthenic type, especially in young girls with feeble circulation and tendency to chilblains, it may be desirable to employ a small quantity of some red wine—Bordeaux or Burgundy—well diluted with water, with the principal meal of the day. Exposure to cold and damp is especially to be avoided.

7. **Infant Mortality.**—Heilborn makes the following suggestions: 1. Institute a thorough system of education for those about to become mothers. This should consist in teaching them how to prepare themselves for motherhood and in instructing them in the art of cleanliness and in the general management and feeding of infants. They should be taught that the proper nourishment for an infant is the mother's milk; if that fails, that the only substitute is pure fresh cow's milk, with or without the addition of a certain quantity of water. That infants do not require feeding every hour during the night or every few minutes during the day, or whenever they cry, and that the regular weighing

of the infant is the sole guide as to whether it is thriving or not. 2. To pass a law preventing all women about to become mothers from working in a factory or mill, and this should hold good during the whole of their child bearing period. 3. To institute a system of dairies through which the public can be supplied with pure, fresh milk. 4. That every physician who delivers a child should look upon that child as his patient, and that it should be under his immediate supervision during the whole of its infancy. 5. That the sale of patent infant foods to the public be made illegal. (If physicians would only impress upon the public the harmfulness of these foods this would be unnecessary.) 6. To obtain an efficient army of competent and trained female inspectors who shall visit every infant each week and immediately report to the physician if the infant does not seem to be thriving. 7. To make it illegal to insure an infant's life. Meanwhile, we must find means to deal with the wasting babies which are the result of our hopelessly inadequate system. At present we are sadly behind the times in this respect, and those who have been abroad and have seen the provision made for this class of case must feel a sense of shame that as yet nothing has been done for them in England. He is referring to the nursling hospitals of Paris, Berlin, and Vienna, with their army of wet nurses. The results obtained at these institutions are little short of marvelous, and he recommends those who are interested in this subject to read Professor Budin's book, The Nursling, translated by Dr. W. J. Maloney.

PRESSE MÉDICALE

April 15, 1911

1. Colpotomy. By Faure.
2. The Hæmolytic Streptococcus in Puerperal Infection. By Menzger.

April 19, 1911

3. Albuminoreaction in the Sputum, Diagnostic of Tuberculosis. By Ferreira.
4. Electroionization in the Treatment of Blenorrhagic Urethritis in Man. By Dupuy.
5. Rôle of the Hypophysis Cerebri in Nutrition. By Dunan.

April 22, 1911

6. The Laboratory and the Practitioner. By Hallion and Bayle.
7. Drainage with Flexible Metallic Drains. By Lemaire.
8. Structure of, Prognosis, and Operation in Pterygium. By Terson.
9. Chronological Relation between Ovulation and Menstruation. By Busquet.

April 26, 1911.

10. Diathermansis. By Labbé and Blanche.
11. Facts Concerning Agar Agar. By Martinet.

3. Albuminoreaction in the Sputum.—Ferreira corroborates, by his observations in thirty cases, the great value of this reaction in the early diagnosis of tuberculosis; it is apparently absolutely pathognomonic, even in the absence of other signs, and its absence is strong evidence that no tuberculosis is present.

4. Electroionization in Urethritis.—Dupuy speaks highly of this method of treatment, particularly in resistant cases which do not yield readily to older methods. In ninety per cent. of cases one application was enough. In 100 chronic cases, lasting from two to fourteen years, twenty-four were cured after one application, twenty after one vigorous application and a series of milder ones, and twenty-six needed about ten applications; there were thirty complete failures.

5. Rôle of the Hypophysis Cerebri in Nutrition.—Dunan finds that the use of pituitary extract, unlike the extracts of the ovary and the suprarenal gland, has no effect on the bodily weight; without influence on the temperature, it causes somatic growth; it accelerates respiration, causes diarrhœa, a diminution in the nitrogen excreted, glycosuria, and increased elimination of toxic products in the urine.

7. Flexible Metal Drains.—Lemaire states that drainage tubes of metal must supersede rubber and other materials; he has used them to correct anteflexed and anteverted uteri, in the cul de sac of Douglas, and, with superior results, in the treatment of wounds. They are easily sterilized in a flame or by boiling, and take up but little space in the physician's bag.

9. Ovulation and Menstruation.—Busquet states that the question whether these are simultaneous or otherwise could be solved by surgeons, who need only note when performing laparotomy on women the date of the last menstruation and the state of the Graafian follicles.

10. Diathermansis.—Labbé and Blanche, after a series of experiments on tissues of the lower animals, tried the effect of electrocoagulation on an epithelioma of the cheek in a man aged sixty-four years; in a fortnight there remained a hardly perceptible, parchmentlike scar only. The high frequency currents do not resemble at all in their effects faradaism or galvanism; they have no electrolytic action, do not excite, or cause pain or contraction. They lower arterial tension, increase perspiration and sebaceous secretion, as well as metabolism, and bring about a rise in temperature. They have proved useful in varicose veins, hæmorrhoids, gastralgia, chronic rheumatism, and certain facial paralyses.

MEDIZINISCHE KLINIK

April 30, 1911

1. Intradural Conglomerate Tubercle of the Spinal Cord; Operation; Considerable Improvement. By Boenniger and Adler.
2. Technique and Indications for Breast Nursing. By Siegfried Weiss.
3. Radium from the Biological Standpoint. By Kionka.
4. The Surgical Treatment of Ulcers of the Stomach. Answers by Hochenegg, Friedrich, Wilms, and Borchardt.
5. Clinical Importance of Endoscopy of the Lower Air Passages. By A. Ephraim.
6. The Use of Salvarsan in Two Cases of Variola Vera. By Lenzmann.
7. Epileptic Convulsions in Consequence of Appendicitis. By F. Berndt.
8. Can We Have Artificial Sunlight? By Breiger.
9. Has Silicic Acid Any Balneotherapeutic Importance? By H. Schultz.

5. Endoscopy of the Lower Air Passages.—Ephraim reports several cases in which the diagnosis in obscure cases was made by endoscopy. One

was a case of hæmoptysis of unknown origin, which by this means was found to be due to a primary bronchial tumor. Another was a case of slight hæmoptysis, occurring at intervals, apparently due to pulmonary phthisis, which was found to be due to a carcinoma of the lungs. A case of periodic hæmoptysis was found to be due to a varicose condition of the veins in a certain place on the posterior wall of the trachea. Dyspnœa in a case of goitre was proved to be due to bronchostenosis, in another case to aneurysm of the aorta. In the last case reported the condition was evidently that of either an aneurysm of the arota, or a mediastinal tumor, but the distinction could not be made by endoscopy.

6. **Salvarsan and Variola.**—Lenzmann reports two cases of variola in which the injection of salvarsan seemed to him to have mitigated the symptoms.

7. **Epileptic Convulsions from Appendicitis.**—Berndt reports two cases in which epileptic attacks were added to the ordinary symptoms of appendicitis. In each case the diagnosis of appendicitis was confirmed at the operation, and the epileptic attacks were cured. In one case they have not recurred in ten years.

AMERICAN JOURNAL OF OBSTETRICS.

1. The Test of Labor in General and Hospital Practice, By R. Peterson.
2. Menstrual Disorders of Obscure Origin, By H. C. Coe.
3. Twenty-five Cæsarean Sections with no Fœtal or Maternal Mortality, By O. P. Humpstone.
4. A Case of Primary Ovarian Pregnancy, By I. C. Rubin.
5. The Chamberlen and the Obstetrical Forceps, By C. B. Ingraham.
6. Torsion of the Normal Uterine Appendages and the Report of a Case, By C. C. Norris.
7. Pulmonary Embolism and Thrombosis from the Obstetric Standpoint, By C. Foulkrod.
8. Fibroid Tumors of the Uterus Complicating Pregnancy, Labor, and the Puerperium, By J. F. Moran.
9. The Present Status of the Midwife, By T. Darlington.
10. The Influence of the Midwife upon the Infant and Maternal Morbidity and Mortality, By [illegible]
11. The Remedy for the Midwife Problem, By J. C. Edgar.
12. Gynæcology and the Country Doctor, By B. R. McLellan.
13. Delinquent Children from a Medical Standpoint, By S. Block.
14. Atypical Aberrated Children, By E. H. Bartley.
15. Abdominal Rheumatism, By LeGrand Kerr.

1. **The Test of Labor in General and Hospital Practice.**—Peterson thinks that it makes a great deal of difference in the practical application of the test of labor whether the patient is at home or in a well equipped maternity. In the latter it will not be necessary to wait so long before resorting to operative treatment, by skilled hands, in cases in which vaginal examinations have been reduced to the minimum, and always under the strictest aseptic precautions, as in cases in which similar procedure is contemplated in private practice. The mortality [illegible] will of course [illegible] in these situations. In the border line cases of pelvic contraction the patient should be given every chance for spontaneous delivery before operative measures are undertaken. If this fails forceps delivery should be attempted, but with gentleness. If this should fail, and the patient should be septic, perforation of the child's head will be preferable to abdominal Cæsarean section. The abdominal operation in septic cases will usually mean the loss of both mother and child.

2. **Menstrual Disorders of Obscure Origin.**—Coe remarks that in many cases of painful menstruation we are unable to discover any local cause for the pain either by careful examination or by operation. The fact that it is not due to minor palpable changes in the uterus or ovaries is shown by the occasional failure of operation to relieve the pain. It is believed that such cases belong to the domain of the neurologist rather than the gynæcologist. Hence the desirability of careful observation of the patient, a guarded prognosis and less frequent resort to operation until fair trial has been made of local and general treatment. Irregularities of the menstrual flow may be unaccompanied by discoverable pathological conditions either local or general, and may resist ordinary methods of treatment, both surgical and nonsurgical. Exploration of the uterine cavity is legitimate, under proper indications, but too great reliance cannot be placed upon the curette or upon the usual medicinal treatment. Radical operations should, of course, be limited to intractable cases, especially in women who are near or who have passed the climacteric.

11. **The Remedy for the Midwife Problem.**—Edgar recommends: 1. The establishment of schools for midwives in such outdoor maternity services as may deem it wise to do so. 2. The establishment of outdoor maternity services in connection with maternity hospitals to serve as schools for midwives. 3. That in each maternity service which teaches midwives a school for midwives shall be established, with suitable teachers for the class of pupils which are likely to be drawn to such a school. 4. Rooms should be set apart for lectures, recitations, demonstrations, and drilling in asepsis and examination for pregnancy. Patients who are to undergo confinement may be utilized for such examinations. 5. When the pupils are not busy with confinements, lectures, and demonstrations they should be encouraged to witness operations and confinements in the delivery room of the maternity hospital. 6. Most of the instruction should be given in the patients' home by paid instructors, and the more intelligent pupils should be trained with the view of becoming instructors in schools for midwives. 7. Textbooks covering the instruction of midwives would necessarily appear as the result of such schools and teaching.

AMERICAN JOURNAL OF SURGERY.

1. Stricture of the Urethra: Why Stricture is Less Prevalent than Formerly; Errors in Diagnosis, [illegible]
2. Dilatation of the Male Urethra with Especial Reference to Mechanical Dilators, [illegible]
3. The Sterilization of Woven Catheters and Their Aseptic Conservation, By Martin W. Ware.
4. Hydrocele, By J. R. Alvarez.

5. A Criticism of Bevan's Ligation of the Cord for Undescended Testicle, By Eugene H. Eising.
6. Report of a Case of Inguinal Ectopia Testis Operated upon after the Method of Bevan, By Lewis Whitaker Allen.
7. The Clinical Peculiarities of Gonorrhœa in Child Bearing Women, By Barton Cooke Hirst.
8. Supravaginal Hysterectomy in Double Gonorrhœal Salpingitis, By Clarence Reginald Hyde.
9. A Criticism of the Technique of Ureteral Catheterization of Dr. Howard Kelly. (Published in the *American Journal of Surgery*, January, 1911), By A. H. O'Neal.
10. The Result in Two Cases of Extraperitoneal Transplantation of Ureters into the Rectum for Extraversion of the Bladder Four and One Half Years after Operation, By J. V. Arumugum.

1. **Stricture of the Urethra.**—Swinburne says that of late years he has been impressed with the apparent fact that tight, hard, fibrous stricture of the urethra is far less common than it was even a few years ago, and he thinks that this condition of fibrous stricture might be, on the one hand, due to the use of strong irritating injections, employed with the idea of aborting the disease; or, on the other hand to the unskilful use of instruments. The profession should be warned again, as they have been many times before, that under no circumstances should a sound be passed through the compressor muscle unless one knows very definitely why he is doing it.

2. **Dilatation of the Urethra.**—Bethune states that the sound or bougie is, always has been, and probably always will be, the most generally used urethral dilator. It is very effective in the treatment of gonorrhœal stricture until a caliber equal to that of the penile urethra has been attained. In the scrotal and bulbous regions it is impossible to dilate the urethra to its normal caliber with a sound, because the normal capacity is from one third to one half greater than that of the penile urethra. The mechanical dilators overcome this difficulty, and in treating soft infiltrations and folliculitis of these regions (which never narrow the lumen), they are the only effective instruments. Gentleness and due regard of asepsis, especially as to irrigating after dilatation, and not repeating the dilatation oftener than every third or fourth day, are essential to success.

3. **Sterilization of Catheters.**—Ware proposes the following method of sterilization of catheters: Wash in cold water to remove blood and pus from the catheters. Use green soap and warm water and force this through the catheter, or shake catheter in a test tube with green soap. Plain water washing. Removal of water from interior by shaking or, preferably, by compressed air. Dry exterior of catheter with a piece of gauze. Spread catheters on a clean sheet in which they are loosely rolled to absorb any moisture and become air dry. Place in envelopes of parchment paper and label. Sterilization. (Tyndalization.)

4. **Hydrocele.**—Alvarez gives three methods of treating hydrocele: 1. The simple incision of the tumor, known as Volkmann's operation, which consists in laying open the tumor, irrigating the cavity with a three per cent. solution of carbolic acid, suturing the edges of the serous membrane to the margin of the scrotum and packing the cavity with iodoform gauze until it closes by granulation. The disadvantages of this method are: That it frequently fails either from some patch of the serous surface not being destroyed and covered with granulations, or from a diverticulum being overlooked, or in cases of communicating hydrocele when the openings are imperceptible. Moreover, the advocates of this method tell us that if one is rigidly aseptic he may fail to obliterate the sac. 2. The second method, known as the eversion method, or Jaboulay's operation, consists in making an incision down to the sac (and if this is too large, a portion is excised) which is then everted; one or two sutures fix the sac behind the testicle: the skin is then closed over. The disadvantages of this operation are that the everted serous membrane may continue to secrete and the fluid dribble out through the skin wound; or the function and nutrition of the testicle may be interfered with. 3. The third method, or complete removal of the serous membrane, is known as Bergmann's operation. It never fails to cure, it keeps the patient in bed less than either of the two preceding methods, and experience has shown that it does not interfere with the nutrition or function of the testicle. Moreover, in cases complicated with hernia or varicocele these troubles can be attended to at the same sitting. The operation is easy of performance. Incise the tumor until fluid escapes and then proceed to peel off the serous coat from the fibrous until the edge of the epididymis is reached and all the secreting surface is removed. Then resect it all. Be sure to ligate all the bleeding points and then insert a strip of rubber tissue to drain the cavity which is otherwise closed with plain catgut, preferably in two layers; allow the patient to sit up in bed in five days and to be out of bed in seven days, wearing a snug suspensory bandage. There should be very little reaction from this operation. If more than the one sac is discovered treat it in a similar manner. If hernia or varicocele should exist they can be dealt with at the same time.

Proceedings of Societies

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting of March 20, 1911.

The President, Dr. Reynold Webb Wilcox, in the Chair.

An Adjustable Foot Brace for Patients Sitting up in Bed.—This brace was presented by Dr. A. Ernest Gallant, who said that at the last meeting of the association, in the discussion on Posture in Certain Medical Conditions, it was quite evident that the comfortable maintenance of patients in the semireclining, Fowler, or sitting posture while in bed was attended with considerable difficulty, and had taxed many ingenious minds in devising means for overcoming the common tendency to slide down to the foot of the bed. Having had during the past year a bedridden patient under his care, it occurred to him to have made the foot brace now presented, and he had found it of great service. It consisted of a wooden framework with a padded foot board adjustable by means of pegs, so that its distance from the foot of the bed could be regulated at will.

Dr. Gallant went on to say that he had found that the muscular effort brought into play by this device went far toward maintaining the tone and strength of the legs and thighs; so that the weakness of the legs so distressing to patients getting up after long confinement in bed was prevented. By varying the extension of the foot rest from day to day the pressure point on the buttocks could be changed, and bed sores avoided. A small pillow placed under the knees would obviate wearisome strain on the hamstring muscles, and still further lessen the discomforts of sitting up in bed.

How May We Make Our Scientific Nomenclature More Accurate?—This was the title of a paper by Dr. ACHILLES ROSE, who said that with the new relations which now united the civilized nations of the earth there had become felt the necessity of one common language. It might be stated at once, however, that scientific nomenclature was independent of the language of commerce and everyday communication. Whatever the success of the Esperanto movement, for instance, might be, it did not aim to affect scientific names, especially those of medical science. But there were men of science who were strongly opposed to an international language of science and to the establishment of a uniform scientific nomenclature, in place of the imperfect, incorrect one now in use. It was necessary that this opposition should be overcome, and that we should return to the ancient source of our science as regards scientific language. It should be known by all that Greek was not a dead language, but was spoken by several millions of living men. Moreover, Greek, although only a fragment of it, was cultivated by scholars outside of Greece, and from this language were coined day by day many scientific and technical terms. The speaker, in this connection, referred to the great historical Greek lexicon which is now in process of preparation, and went on to say that for physicians a work of this kind meant a considerable gain, because by its aid the correct scientific denomination of words of Greek origin could be definitely established.

Dr. Rose was complimented on his work by the president and Dr. Gallant, and the latter offered the following resolutions, which were unanimously adopted:

WHEREAS, We, the Medical Association of the Greater City of New York, realize the woeful lack of etymological uniformity and exactness in medical nomenclature, and deplore the use in it of many hybrid terms; and, further, recognizing the importance of adopting and adhering to the highest standard; therefore, be it

Resolved, That we hereby tender to Professor Achilles Rose our heartiest congratulations on his work in the past;

That we highly appreciate his uplifting paper of this evening;

That we assure him of our cordial cooperation in the future, and express the hope that he may live to see the dawn of a "renaissance" in American medical nomenclature, when pure, classic Greek will be the standard in scientific medicine.

The Chemical Relationship of Diabetes, Gout, and Cystinuria.—Dr. WILLIAM H. PORTER said it must be recognized by all that these three conditions differed from each other chemically, or were related to each other, by reason of the fact that they belonged to that great class of affections known as disturbances in metabolism. They were essentially affections in which there was an imperfect oxidation reduction of the proteid molecule. To understand these conditions fully we must have an accurate conception of what occurred when metabolism was effected normally and what the normal end products were. The latter consisted of a certain amount of urea, uric acid, kreatinin, sulphuric acid in the form of an ethereal or fixed sulphate, carbon dioxide, and water; all of which escaped through the kidneys. In addition, through the liver were eliminated taurocholic and glycocholic acids, biliverdin, bilirubin, as well as carbon dioxide and water. Another important point to remember in connection with the oxidation and elimination of the nitrogen of the proteid was that, in round numbers, only seventy-three per cent. of the nitrogen left the body through the kidneys; the other twenty-seven per cent. passing off through the liver and alimentary canal. This fact was not as well recognized as it should be, and, in consequence, much error had crept into the elucidation of these disturbances of metabolism. In Dr. Porter's opinion, uric acid was produced normally only by the oxidation reduction of the proteid molecule in the epithelial cells of the kidneys; so that it never occurred in the blood. It was an agent which was only wanted in the lumen of the uriniferous tubules to convert the neutral sodium phosphate into the acid phosphate, thus rendering the urine acid and holding the earthy phosphates in solution. The union of the acid with the phosphate naturally produced a urite, so that normally the urine, as voided from the bladder, did not contain any free uric acid.

Gout was a condition in which there was an over production of uric acid. Simple over production of uric acid, however, did not give rise to the phenomena which were recognized clinically as gout, for we often saw cases in which there was an enormous over production of uric acid without any gouty symptoms being present. In addition to such over production, we must have an abnormal nutritive condition of the various protoplasmic structures of the body, more frequently observed in connection with the cartilage cells of the joints. When this occurred the proteid molecule was drawn into the protoplasm of the cartilage cell with oxygen, and there vicariously oxidized. This resulted in the formation of uric acid in the cells of the cartilages of the joints, and we then have the condition which chemically might be called gout. The acid immediately set up energetic chemical action, and there were formed urates and insoluble phosphates, with a permanent deposit. This chemical activity naturally produced much pain, as well as excited a true inflammatory process to wall in the foreign body which resulted from such activity. This, then, was the explanation of the gouty attack and its symptoms.

Now, if the oxidation reduction was dropped to a slightly lower degree, we would find not only a decrease in the urea and over production of uric acid, but glucose resulting as one of the end products of the proteid suboxidation. The glucose did not come

from the imperfect transmutation of the starch, sugar, or fats, but from the imperfect oxidation of the proteid molecule in the renal cells, and, in Dr. Porter's opinion, the glucose molecule was produced only in the cells of the kidneys. To his mind there could be no question that there were two distinct types of metabolism disturbance in which a glucose molecule was an end product of the imperfect oxidation of the proteid molecule in the kidney cells. One was the result simply of eating and drinking too much, while the other was associated with certain intrinsic changes going on in the system. The former yielded readily to treatment, but the latter was often quite difficult to handle. In the two instances the glucose molecule, while it contained the same number of atoms, differed materially as to its isomeric construction.

In that condition, designated cystinuria, we had an imperfect oxidation reduction of the proteid molecule in the renal cells in which one of the resulting end products was a sulphur bearing molecule known in chemistry as amino acid. When this form of suboxidation occurred, crystals of cystin were found in abundance in the urine. While in themselves nonirritating, they were apt to mass together and form calculi. Just what determined the various types of suboxidation had not been fully ascertained. It might be due to the formation of toxines in the alimentary canal or to changes within the system by which were developed toxines which caused a deviation in the oxidation reduction from the normal to the abnormal.

Some of the Latter Day Endeavors in the Treatment of Diabetes.—In this paper Dr. Heinrich Stern, having mentioned that, inasmuch as we had no knowledge concerning the underlying cause or causes of the diabetic process, it was out of the question to indicate a causal treatment, spoke first of physical therapeutic measures. In 1905 Lüthje, as the result of experiments on dogs, ascribed the influence of the surrounding temperature upon the sugar excretion which he noted to regulatory processes in connection with the body heat, because the experiment animal, exposed to cold, in the endeavor to maintain its momentary most important function, the retention of the body heat, suddenly excreted large amounts of sugar. In human diabetics, in temperatures varying from between 15° and 30° C., he also noted fluctuation in the sugar excretion, though not as marked as in dogs. Under the influence of a high external temperature tolerance (for what was not stated), body weight, and general vigor rapidly increased. After mentioning other references in medical literature to the influence of the external temperature on the degree of the glycosuria and the course of diabetes, the speaker stated that he had known from personal experience for a number of years that diabetes occurring in certain districts of Central and South America (irrespective of a diet very rich in carbohydrates) often ran a protracted and very mild course. This was also the case to some extent in certain localities in our own southern States. Furthermore, it was a well known fact that rest in bed was of benefit in many instances of grave diabetes, though the good effect was universally credited to the rest, and not to the bed warmth. He then gave as his conclusions that the external temperature exerted a distinct influence upon the intensity of the glycosuria, which was depressed by warmth and raised by cold; a temperature of the surrounding dry air of from 80° to 90° F. might be employed therapeutically to reduce the glycosuria; this might *per se* reduce the sugar output by from one fourth to one third; a warm external temperature did not materially influence the acetonæmia in grave cases; it had no noticeable influence on mild cases of diabetes, but exerted a salutary effect on severe and moderately severe cases; the salutary effects of a warm surrounding temperature, besides the reduction of the glycosuria, were the production of an increased tolerance for carbohydrates and proteids, the increase of body weight, resistance, and vigor, the lessening of gastrointestinal disorders, and the relief of neuritic and angeiosclerotic pain.

The most efficacious way to obtain the proper external warmth for the diabetic patient was, of course, to let him live in an evenly warm and dry climate all the time, or at least during the period when it was cold at his own home; but, unfortunately, this was possible in only a few instances. Patients with the severer forms of diabetes, who stayed at home during the cold season, should live, when out of bed, in well ventilated rooms, heated to from 75° to 85° F. They should wear flannels, and be in a mild perspiration for one or two hours after the midday meal. They should lie in bed, well covered, for from ten to sixteen hours a day; during which time the temperature of the room might be lowered to about 65° F. The temperature under the bed covers, however, should be somewhat higher than that of the fully clothed body in a room heated to from 75° to 85° F.

In speaking of the use of electricity in diabetes Dr. Stern said he had seen a great number of patients during and after their treatment by electrotherapists, and had himself employed high frequency currents, both by effleuve and autocondensation, in more than sixty instances of various types. His conclusions as to the effects of the high frequency currents on the diabetic process were as follows: These currents *per se* did not influence in any way either the glycosuria, the azoturia, or the acetonuria; a diabetic glycosuria irreducible by diet could not be reduced by means of the addition of high frequency currents; occasionally these currents, together with a properly regulated diet, would yield better results as regards the general condition of the patient than when such diet was used alone; eventual benefits from this combined treatment were more lasting when the patient was surrounded by a high external temperature; neither mild cases nor the great majority of grave and advanced cases were at all benefited by the high frequency currents.

In regard to dietary measures, three different opinions prevailed to-day as to the energy requirement of the diabetic. Some contended that the caloric value of his food should not essentially differ from that of a healthy individual; others, and these were still in the majority, that there would ensue a metabolic deficit if sufficient extra calories were not added to his ration; and others, again, that the nutrition of the diabetic should be kept at

a comparatively low level. Each one of these views was right and wrong at the same time. Adherence to one might benefit one patient and infinitely harm another; iron clad rules had no place in the management of the diabetic state. It was now recognized that a diabetic regimen of rather scant caloric value (from twenty-five to thirty calories each day and for each kilogramme of body weight) was better adapted to enhance the tolerance for both carbohydrates and proteids than the time honored, highly calorific, antidiabetic dietary. It was thought advisable rather to keep down the total nutrition and reduce the intake of all types of food in certain forms and stages of diabetes than to risk the development of untoward phenomena, the possible precursors of a fatal issue. The tolerance for certain carbohydrates varied in diabetics. The slower and more imperfect the absorption of the carbohydrate yield, the lower would be the degree of the resulting glychæmia. This might be made use of for therapeutic purposes. Lenné, for instance, had pointed out that the carbohydrates were best tolerated in that form in which they were absorbed and entered the blood current most slowly. Coarse, tough, moist bread was therefore better suited to the diabetic than fine, dry, and toasted bread. Hence, in order to increase the tolerance for carbohydrates it was only necessary to render the latter somewhat difficult of absorption. The employment of cellulose in the diet of diabetics, as had been suggested, meant practically nothing but the ingestion of material which was slowly, if at all, absorbed. Clinical experience had demonstrated that the ingestion of a single type of carbohydrate may occasionally temporarily improve certain cases of grave and far advanced diabetes. Oatmeal was one of these carbohydrates, and it was a fact that if no other carbohydrate were ingested at the same time the glycosuria, as well as any existing acetonuria, might be depressed temporarily. In respect to lessening the glycosuria it exerted no effect other than that following the intake of material rich in cellulose. Large amounts of it exhausted the activity of the special organs concerned in the elaboration and absorption of the nutritive principles, and but small amounts of these entered the blood stream at any one time. The antiacetonæmic effect of an oatmeal diet was commonly grossly exaggerated; such an effect ensued in comparatively few instances, and in these it might just as often be procured if some other single carbohydrate was ingested. Fresh milk, especially when skimmed, was, in the opinion of the speaker, that antiacetonæmic single carbohydrate best suited to advanced cases.

In very grave cases even the carbohydrate derived from the protein molecule was not utilized. Here the proteid intake should invariably be kept at a minimum, and it was best to restrict it to the ingestion of but one type during a given period. The so called vegetable days signified a diminished food intake, especially of proteid material. To all intent such days were practically starvation days, because nothing but cellulose and some fat were partaken of. On account of the insufficient nutrition the glycosuria was, of course, diminished, but the acetone bodies appeared in increased amounts. For this reason the much vaunted vegetable diet should be reserved for comparatively mild cases. Concerning the ingestion of fats in diabetes, especially with acetonuria, nothing new had been advanced since Dr. Stern's published communications on the subject in 1904, 1905, and 1906. If we wished to cope successfully with acidosis without aggravating the diabetic condition we could neither add carbohydrates to the nourishment for any length of time, nor, in most cases, increase the amount of proteid. Therefore, nothing remained but to turn to the fats, namely, such fatty ingesta as contained but small amounts, if any at all, of fatty acids of low molecular weight. The fatty acids which might be considered mother substances of acetone bodies were valerianic, butyric, and caproic acids, while fatty acids of high molecular weight, like palmitic, stearic, and especially oleic, yielded comparatively little acetone. Hence, butter and cream were productive of largely increased acidosis, while lard, suet, and particularly olive oil did not cause a very marked augmentation of the acetone bodies. Were we, however, to prescribe, in a grave case of diabetes with pronounced acidosis, a diet consisting of nothing but small amounts of proteids and large quantities of lard, suet, or olive oil, the patient would soon tire of this regimen, and not only would his nutrition not be improved, but his digestive organs might become seriously disordered. Besides, the vegetable oils, as a rule, were not well tolerated when used in larger than the ordinary amounts, and lard and beef suet could be relied upon neither for suppressing an existing acidosis nor to improve the nutrition. There was only one fatty article of food which he had found well adapted to the needs of the diabetic organism when acidosis was established, and that was the yolk of the hen's egg. Partaken of in the raw or semiraw state, fresh yolks might be eaten in large quantity without satiety resulting. The rationale of the "yolk cure" he ascribed to the following main factors: Yolk fat, in its native state, in suitable admixture, was well borne and assimilated by the vast majority of diabetics; the great absorbability of yolk fat; its fat components, palmitin, stearin, and olein, did not favor the production of the acetone bodies; the large amount of lecithin in the yolk tending to restore nerve force and acting as a general reconstructive; a diastatic ferment, assisting in the conversion of amyloid substances; the property of stimulating the digestive secretions.

The reading of the last section of the paper, devoted to medicinal measures, had for lack of time to be omitted.

(*To be concluded.*)

Letters to the Editor.

TRACHOMA.

917 [illegible]

To the Editor:

I have carefully read Dr. Brown's article on Trachoma in the *New York Medical Journal* for April 11, 1911, in which he claims special knowledge by virtue of his connection with Mt. Sinai Hospital, the only fully equipped hospital in the Ghetto. By

this introduction he at once conveys to the readers of the *Journal* the fact that his patients in the institution belong to the poorer classes of the foreign Jewish element in our city. Every one reading his paper will necessarily take his conclusions as based upon facts obtained from his practice upon this class of patients. Such is the normal procedure of scientific authors. At least, due regard to the noble institution he is connected with should have prompted this fair and accurate method in dealing with this disease. Fearing that his article, by virtue of his connection with the Mt. Sinai Hospital, may and will do incalculable injustice to both medical science and to the social question that this disease involves, I take this means to demand proof for claims he makes in his article.

He says: "The sight may be only slightly impaired, but in true cases blindness is rather common." This statement he makes without any qualification. Now, will he tell us, is this statement based upon facts obtained at the Mt. Sinai Hospital? Will he tell how common this blindness is in his hospital service? (It will not reflect upon the treatment). Will he give us the exact figures of blindness on record at his hospital as a result of trachoma? I ask this as a physician in the name of truth and for the good name of the hospital whose records he misinterprets. Some years ago I searched the records of the Mt. Sinai Hospital and of the 8,000 cases not one case of blindness did I observe resulting from trachoma. I ask him to produce the actual facts as seen in his hospital.

I feel that neither he nor the trachoma commission of Philadelphia has seen many blind Jews in Philadelphia or elsewhere as a result of trachoma. I feel further that neither he nor anybody whose work he seems to praise has seen any Jew in the blind institute or in the poorhouse as a burden upon the community directly from this disease. He seems, on the one hand, to think that the disease is not very contagious; in the three years' service he observed only three homes in which more than one member was affected. Statistics have failed to show any great contamination of the classes in the schools by the presence of trachoma, yet he finds it necessary to urge upon the treasury department and marine hospital service the necessity of more rigid inspection. He has a personal right to present a paper before the profession that contains all the old threshed out ideas coupled with a few compliments for the various powers that be so as to give it a modern flavor; he may, if he so chooses, deviate from scientific truth consciously or unconsciously provided he does not drag the integrity of an institution into his endeavor by claiming that his effort is the result of investigation in that institution and provided he does no harm to the community at large or even to one portion of it. In his paper on trachoma his observation is based upon Jewish patients; his conclusion must therefore be in harmony with his observation.

It is his duty to the institution that gave him the chance to observe trachoma in Philadelphia to explain his position and to produce the hospital records to prove his assertion. Unless he can show by the hospital records that blindness is rather common and that the conditions at Mt. Sinai Hospital warrant the necessity of more stringent measures on the part of the Government, I shall be compelled to think of his otherwise excellent article as a mere framework to encase a little jewel of ill feeling towards the very patients that allow him to obtain knowledge of the disease. We do not ask for humanitarian considerations; we want the truth, and that I demand from my friends as well as from my enemies.

AARON BRAV, M. D.

THE PRONUNCIATION OF GASTROPTOSIS, ETC.

29 SOUTH THIRD STREET, HARRISBURG, PA., *April 28, 1911.*

To the Editor:

Will you please publish in your columns the proper pronunciation of the word "gastroptosis"? I know that the accent is popularly placed upon the first syllable and pronounced as though it were spelled with two p's, gastropptosis, which I think is incorrect. It is a word used to indicate a ptosis, and a gastroptosis—accent upon the first syllable. To make the usually accepted pronunciation correct, you would either have to insert the letter p after gastro, which is senseless, or you would have to spell ptosis as it sounds, tosis, which is bad English. I therefore offer the pronunciation as it should be, and place the accent upon the first syllable gastroptosis. Likewise enteroptosis, etc.

WILLIAM E. WRIGHT, M. D.

[We think that our correspondent is in error. When our ancestors, in all the dignity of their laziness, made up their minds to suppress the sound of the letter p in such words, and of other consonants similarly situated and therefore a little hard to pronounce, they did not carry their decision to the point of denying the snubbed letters their existence altogether; they suffered it to appear in compounds made by prefixing something to the letter. For example, in *psychosis* the p is not pronounced, but in *metempsychosis* it is.]

Book Notices.

[*We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.*]

Textbook of Operative Surgery. By Dr. THEODOR KOCHER, Professor of Surgery and Director of the Surgical Clinic in the University of Bern. Third English Edition. Authorized Translation from the Fifth German Edition. By HAROLD J. STILES, M. B., F. R. C. S. Edin., Surgeon to the Chalmers Hospital, Edinburgh, etc., and C. BALFOUR PAUL, M. B., F. R. C. S. Edin., Assistant Surgeon, Royal Edinburgh Hospital for Sick Children. With 415 Illustrations. In Two Volumes. New York: The Macmillan Company; London: Adam and Charles Black, 1911. Pp. xxiv-723. (Price, $12.)

This third edition in English of this admirable work is a translation of the fifth and latest German edition, and the rearrangement and revision of the text and new material added may be judged by the increase of some three hundred more pages.

The first volume includes four sections, and the second volume the fifth section into which the text is divided. The first section describes the prepara-

tion of the patient, the disinfection of the surgeon and his assistants, the methods of sterilization, surgical technique, treatment of wounds, and local and regional anæsthesia.

The second section deals with the surgery of the vascular system, and one notes with surprise that this is limited almost entirely to ligature of vessels. The description of suture of bloodvessels is inadequate and nothing is said of the operations for aneurysm.

The third section is devoted to the consideration of the surgery of the nervous system, and the accepted methods of operating on the brain, cerebral ganglia, and nerves are described.

The fourth section reviews the surgery of the extremities, including that of muscles, tendons, ligaments, and bones, as well as arthrotomy, amputations, and disarticulations. The later methods of operative treatment of paralysis and deformities are included.

The fifth section is devoted to the surgery of the head and trunk, and the recent advances in the treatment of the thoracic viscera and of the liver are dealt with fully.

The illustrations are numerous and excellent, and the high character of the work is maintained in this new translation.

A Handbook of Obstetric Nursing. For Nurses, Students, and Mothers. Comprising the Course of Instruction in Obstetrical Nursing Given to the Pupils of the Training School for Nurses Connected with the Woman's Hospital of Philadelphia. By ANNA M. FULLERTON, M. D., Formerly Obstetrician, Gynæcologist, and Surgeon to the Woman's Hospital of Philadelphia, Physician in Charge and Superintendent of the School for Nurses, Clinical Professor of Gynæcology in the Woman's Medical College of Philadelphia, etc. Seventh Revised Edition. Illustrated. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xv-272. (Price, $1.)

The excellent little work has proved its value and popularity by reaching a seventh edition. Pages 1 to 26, which are occupied with very rudimentary notions of anatomy and embryology, might be spared. The nurse, or any intelligent woman in fact, who has mastered the other contents of this volume, should be able to afford the obstetrician very valuable assistance. The illustrations are well chosen and none seems to be superfluous with the exception already noted. There is an excellent index.

Prevention of Infectious Diseases. By ALVAH H. DOTY, M. D., Health Officer of the Port of New York. New York and London: D. Appleton & Co., 1911. Pp. 281. (Price, $1.50.)

Written out of the fullness of experience and embodying the results of the latest scientific achievements, this book gives the reader a clear account of the latest and most practical methods of controlling infectious diseases. Worn out theories are discarded, even though they may still have a strong hold on the popular mind. This is well illustrated by the author's stand toward the fomites theory and his attitude concerning the closing of schools for controlling contagious diseases. The title of the book is rather misleading, for the work does not cover all the infectious diseases, but rather only the important infections demanding the attention of quarantine officials. Nevertheless, the principles laid down are of general applicability, and we cordially commend the book to the attention of all interested in modern preventive methods.

[illegible]
M. KATSAINOS. New York: G. E. Stechert, 1910.

This is perhaps the first scientific medical book in modern Greek published in America written by a Greek physician practising in America. It represents the high standing of medical science in Greece and, what is of special importance to those who have never seen a modern Greek medical work (and there are many), it furnishes conclusive evidence that the language spoken and written by the educated classes in Greece does not deviate from classical Attic except by some simplification of grammar, and it will be a revelation to those who have learned Greek in school but never have read even a Greek newspaper that they can understand Katsainos's monograph without the slightest difficulty. And this will serve to silence our college professors who speak slightingly of modern Greek. There is first an historical chapter which gives in concise form all that is of importance and of interest, showing how well read the author is; he has by rights availed himself of the writings of Iwan Bloch. Of great value is the author's practical experience, his casuistic. And there is one observation which deserves to be acted upon by the medical profession and the legislature. Foreigners of the humbler classes, Greeks especially, when afflicted with venereal disease, become the prey of the meanest advertising quacks, who advertise in foreign languages in our daily papers. They generally know only English or German and employ some layman as interpreter. This fact is well known, but the sad cases which the author describes of serious harm done by such quacks are especially appealing. It is to be wondered at that nothing can be done to stop certain shameful advertisements completely and once and for all. The making up of the book, type, and paper are excellent.

Plastic and Cosmetic Surgery. By FREDERICK STRANGE KOLLE, M. D., Fellow of the New York Academy of Medicine, Member of the deutsche Medizinische Gesellschaft, N. Y., etc. With One Colored Plate and Five Hundred and Twenty-two Illustrations in the Text. New York and London: D. Appleton & Co., 1911. Pp. xxi-511. (Price, $5.)

The author states that his object has been to place before the medical profession a thoroughly practical and concise treatise on plastic and cosmetic surgery, but a volume of some four hundred pages of text is hardly concise, though greater brevity might have been accomplished by omitting the chapters on requirements for operating, requirements during operation, preferred antiseptics, wound dressings, secondary antisepsis, and anæsthetics, which are much the same in plastic as in other surgical procedures.

There is an excellent chapter on the general principles of plastic surgery, and separate chapters on the reparative procedures on the eyelid, ear, lip, mouth, cheek, and nose, and on subcutaneous hydrocarbon protheses, electrolysis in dermatology, and case recording methods. The author describes different procedures advanced by various surgeons and

states his preference, the text is well illustrated, and the volume invites attention to more general resort to operative methods that will afford relief to deformities that do much to cause mental if not physical distress.

[illegible] M. A., M. B., F. R. C. S. Edin. and Eng., Professor of Surgery, University of Durham, etc. With 146 Illustrations in the Text and Five Colored Plates. New York: William Wood & Co., 1911. Pp. 162. (Price, $2.50.)

The author advocates, and presents the substance herewith of a course of lectures in surgery that are directed toward those main principles of diagnosis and treatment which are based on a sound knowledge of pathology. By studying these general principles the student will understand the value of their universal application to diseases affecting any portion of the body.

There are brief descriptions of inflammation, bacteria, ulcers, gangrene, syphilis, tubercle, malignant disease, hæmophilia, wounds, the abdominal and pelvic viscera, the indications for operation, and x rays. It is stated that if the teaching seems fragmentary and dogmatic it is due to the fact that the purpose is to provide a supplement to, and not a substitute for, the standard textbooks.

MEDICOLITERARY NOTES

A magazine of avowedly literary nature and objects should be beyond reproach from the viewpoints of editing and proofreading. We note in the May *Bookman* the use of sight for site and the remarkable spelling bedison, presumably for bedizen. Young readers are very likely to be misled by such slips. The spelling is reactionary, such Anglicisms as realise, colour, etc., being used, while we read that Macaulay received a "cheque" for a certain amount. It is a pity that carelessness and affectation should mar what is really an excellent and most readable magazine.

* * *

We have received from a colleague, Dr. Flavel B. Tiffany, a memoir of Mrs. Olive E. Fairbanks Tiffany, late of Kansas City, Mo. It is a handsomely printed collection of affectionate tributes to a distinguished and beloved woman, artistically bound and illustrated, and a model of what such memoirs should be.

* * *

"I have seen a number of books lately," remarked Dr. Ben Trovato, with a woeful sigh, "that make me wish to parody Dr. Johnson's famous saying, to the effect that they are books that you may carry to the fire and drop them readily from your hand."

* * *

In the *Educational Review* for May, Annie G. Porritt writes on the political consequences of the feminization of our public schools. The lady believes that the enfranchisement of women is all that is necessary to make their teachings regarding patriotism, politics, etc., impressive to the boys under their charge. Universal suffrage would not remove the main objection to women teachers of big boys. A man teacher who is liked has an influence never to be obtained by any woman and presents for emulation certain ideals indispensable to the masculine character. In the eyes of the average woman teacher, disordered neckties or muddy shoes present as grave a crime as lying. A boy needs a man's example in order to absorb the proper male viewpoint regarding certain things that really matter.

* * *

J. Remsen Bishop, in the same journal, discusses the poor results of the teaching of Latin in our public schools. A point he does not take up is the fact that Latin is begun much too late. When Latin was considered a *sine qua non* of a gentleman's education, the boy began its study when he was eight or nine years old. Intimate acquaintance with any language, ancient or modern, demands an early introduction.

* * *

Painting the Lily, by Henry B. Hyde, in the *Saturday Evening Post* for May 13, 1911, is an amusing account of what might be called advertising of supererogation by people in various lines of business. For example, a firm of patent medicine makers prints on each of its checks: "If you suffer from dyspepsia, headache, catarrh, or kidney disease send to us for a free bottle of Cureitupquick. We guarantee it will be worth more to you than the amount of this check." This offers a suggestion to the ethical advertisers who specialize.

* * *

The *Ladies' Home Journal* for May 25th has found what Mr. Bok calls "a consensus of opinion"—which seems to connote the most extreme unanimity of unity and accord, if we may so speak—to the effect that two issues a month are too much of a good thing; henceforward, ladies, and some delighted men, like ourselves, will have to content themselves with one journal monthly. In this number there is an article which we hope will be widely read, especially by parents in our smaller towns, who have the most astonishing confidence in their daughters' ability to construct and live up to severe ethical standards; it is called The Danger of a Girl's Intimate Friend and is by Harriet Brunkhurst. Parents really should not share in Jove's delight at lovers' oaths, which are not made solely to each other, but also to parents and guardians.

NEW PUBLICATIONS

Bernard, Henry M.—Some Neglected Factors in Evolution. An Essay in Constructive Biology. Edited by Matilda Bernard. With Forty-seven Illustrations. New York and London: G. P. Putnam's Sons, 1911. Pp. xxi-489.

Sherman, Henry C.—Chemistry of Food and Nutrition. New York: The Macmillan Company, 1911. Pp. viii-355.

Hoffmann, Aug.—Funktionelle Diagnostik und Therapie der Erkrankungen des Herzens und der Gefässe. Mit 109 Abbildungen und einer farbigen Tafel. Wiesbaden: J. F. Bergmann, 1911. Pp. xiii-483. (Through G. E. Stechert & Co., New York.)

Jesionek, A.—Praktische Ergegnisse auf dem Gebiete der Haut- und Geschlechtskrankheiten. Erster Jahrgang, Bearbeitet von S. Bettmann, L. Hauck, H. Hübner, A. Jesionek, P. Lisner, E. Meirowsky, E. Riecke, Fr. Siebert, L. von Zumbusch. Wiesbaden: J. F. Bergmann, 1910. Pp. viii-573. (Through G. E. Stechert & Co., New York.)

Knopf, S. Adolphus.—Tuberculosis as a Disease of the Masses and How to Combat It. Seventh American Edition, Revised and Enlarged. With Sixty-four Illustrations. The International Congress to Combat Tuberculosis as a Disease of the Masses, which Convened at Berlin, May 24 to 27, 1899, awarded the International Prize to this Work through its Committee, on July 31, 1900. First American Edition, 1901. Seventh American Edition, 1911. New York: The Survey, 1911. Pp. 124.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending May 12, 1911:

Places.	Date.	Cases.	Deaths
Chile—Arica	Mar. 20-Apr. 3	Present	
China—Chefoo	Mar. 26-Apr. 8	36	36
Japan—Formosa	Mar. 19-Apr. 1	12	10
Peru—Arequipa, department	Mar. 22-Apr. 4	5	3
Straits Settlements—Singapore	Mar. 19-25	1	1
Trinidad	May 10	1	
District of Columbia	Apr. 23-29	8	
Kentucky—Newport	Apr. 23-29	1	
Louisiana—New Orleans	Apr. 23-29	4	
Maryland—Washington County	Apr. 1-30	5	
Minnesota	Mar. 1-Apr. 3	143	
Missouri	Apr. 16-29	51	
Arabia—Aden	Apr. 4-10	1	
Argentina—Rosario	Feb. 1-28		3
Brazil—Para	Apr. 9-22	3	
Canada—Charlottetown	Apr. 19-25	6	
Station	May 3	2	

Places.	Date.	Cases.	Deaths
Canada—Vancouver	Mar. 19-25	1	
China—Amoy	Mar.		
China—Hongkong	Mar.		
China—Shanghai	Mar.		
China—Tsingtau	Mar.		
Egypt—Cairo	Mar. 26-Apr. 1	3	
Germany	Apr.		
Hawaii—Olaa	May 4		
India—Calcutta	Mar. 12-18		2
India—Rangoon	Mar. 6-25		14
Italy—Palermo	Apr. 2-15	21	
Mexico—Ensenada	Apr. 16-22	5	
Russia—St. Petersburg	Apr. 2-8	17	5
Siam—Bangkok	Feb. 22-Mar. 16	12	8
South Africa—Johannesburg	Mar. 17-Apr. 1	12	
Straits Settlements—Penang	Feb. 26-Apr. 1	2	
Straits Settlements—Singapore	Mar. 12-18		
Switzerland—Bern Canton	Apr.		
Turkey in Asia—Beirut	Apr. 2-8	2	
	Dec. 1-28		

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the United States Public Health and Marine Hospital Service for the seven days ending May 13, 1911:

ASHFORD, F. A., Passed Assistant Surgeon. Granted seven days' leave of absence from April 12, 1911, under paragraph 191, Service Regulations.

BANKS, C. E. Surgeon. Granted ten days' leave of absence from May 10, 1911.

BILLINGS, W. C., Passed Assistant Surgeon. Granted seven days' leave of absence from April 8, 1911, under paragraph 191, Service Regulations.

BROWN, B. W., Surgeon. Leave of absence for one month upon being relieved by Surgeon F. W. Mead, amended to read "nine days from December 6, 1910."

CARMICHAEL, D. A., Surgeon. Granted fourteen days' leave of absence from May 26, 1911.

CARTER, H. R., Surgeon. Directed to proceed to Cairo, Ill., on special temporary duty.

FOSTER, M. H., Passed Assistant Surgeon. Granted five days' leave of absence from April 19, 1911.

GEDDINGS, H. D., Surgeon. Granted one month's leave of absence on account of sickness.

HART, G. G., Acting Assistant Surgeon. Granted five days' leave of absence from May 15, 1911.

KAPLAN, M. I., Acting Assistant Surgeon. Granted seven days' leave of absence from April 12, 1911, under paragraph 210, Service Regulations.

LUMSDEN, L. L., Passed Assistant Surgeon. Detailed to attend the annual meeting of the Ohio State Medical Association at Cleveland, Ohio, May 8 to 11, 1911.

MOORER, M. P., Acting Assistant Surgeon. Leave of absence for ten days from March 28, 1911, amended to read "twenty-four days from March 28, 1911, on account of sickness."

PORTER, JOSEPH Y., Jr., Acting Assistant Surgeon. Granted eight months' leave of absence from May 1, 1911, without pay.

SALMON, T. W., Passed Assistant Surgeon. Leave of absence for two months and ten days from February 8, 1911, amended to read "one month and twenty-three days from February 8, 1911, and seventeen days from April 1, 1911, on account of sickness."

TORRES, J. F., Acting Assistant Surgeon. Granted thirty days' leave of absence from May 22, 1911, with pay, and five months from June 22, 1911, without pay.

TRASK, J. W., Assistant Surgeon General. Granted two days' leave of absence, May 5 and 6, 1911.

WARNER, H. J., Assistant Surgeon. Granted five days'

Wetmore, W. O., Acting Assistant Surgeon. Granted one day's leave of absence, April 13, 1911, under paragraph 210, Service Regulations.

Williams, L. L., Surgeon. Directed to proceed to Vineyard Haven, Mass., on special temporary duty.

Wilson, J. G., Acting Assistant Surgeon. Granted one day's leave of absence, April 16, 1911, under paragraph 210, Service Regulations.

Woodward, R. M., Surgeon. Granted one day's leave of absence, May 7, 1911, under paragraph 189, Service Regulations.

Casualty.

Bowie, R. I., Sanitary Inspector. Died at Nagasaki, Japan, April 24, 1911.

Boards Convened.

Board of medical officers convened to meet at the Bureau, May 22, 1911, for the examination of candidates for admission to the Service. Detail for the board: Surgeon R. M. Woodward, chairman; Surgeon J. O. Cobb; Passed Assistant Surgeon W. C. Rucker, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending May 13, 1911:

Bayley, Edmund W., Lieutenant, Medical Reserve Corps. Ordered to Fort Sill, Oklahoma, for duty; will accompany the 55th Company, C. A. C., from San Francisco, Cal., to Fort Du Pont, Delaware, and upon the completion of this duty to proceed to Fort Sill, Oklahoma, for station.

Brown, Ira C., Lieutenant, Medical Reserve Corps. Ordered to proceed to Fort Douglas, Arizona, for duty in the field.

Dickenson, C. F., Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Barry, Cal., and ordered to Fort Duchesne, Utah, for duty.

Freeman, Charles E., Captain, Medical Corps. Assignment to duty with troops for station at Yosemite National Park, California, revoked, and instead assigned to duty at Army General Hospital, San Francisco, Cal.

Holmberg, Carl E., Lieutenant, Medical Corps. Relieved from Presidio of San Francisco, Cal., and assigned to duty at Army General Hospital, Fort Bayard, New Mexico.

Kendall, William P., Lieutenant Colonel, Medical Corps. Leave of absence extended one month.

Miller, R. M., Captain, Medical Corps. Granted thirty days' leave of absence.

Phelan, Henry du R., Lieutenant, Medical Reserve Corps. Ordered to Fort Barry, California, for duty.

Purnell, H. S., Captain, Medical Corps. Relieved from duty at Army General Hospital, San Francisco, Cal., and ordered to Madison Barracks, N. Y., for duty.

Richardson, William H., Captain, Medical Corps. Assigned to duty with troops from Presidio of San Francisco, Cal., for station in Yosemite National Park, California.

Snyder, H. McC., Lieutenant, Medical Corps. Ordered to Fort D. A. Russell, Wyoming, for duty on completion of examination for promotion.

Van Horn, James B., Lieutenant, Medical Reserve Corps. Relieved from further duty in the Philippines Division and assigned to duty at Army General Hospital, Fort Bayard, New Mexico.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending May 13, 1911:

Ames, M. H., Passed Assistant Surgeon. Detached from the *Albany* and ordered to the *Helena*.

Butler, S. S. J., Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the Asiatic Station.

Dessez, P. T., Passed Assistant Surgeon. Detached from the *Helena* and ordered home.

Dickinson, D., Jr., Acting Assistant Surgeon. Ordered to the Marine Recruiting Station, Cincinnati, Ohio.

Halsey, W. H., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the [illegible].

Higgins, S. L., Passed Assistant Surgeon. Detached from the Naval Hospital, Yokohama, Japan, and ordered home.

Holloway, J. H., Passed Assistant Surgeon. Detached from the Naval Hospital, New York, N. Y., and ordered to duty and treatment at the Naval Hospital, Las Animas, Colo.

Kindleberger, C. P., Surgeon. Detached from the navy yard, Mare Island, Cal., and ordered to the naval station, Guam, M. I.

May, H. A., Passed Assistant Surgeon. Detached from the Naval Hospital, Las Animas, Colo., and ordered to duty at the Naval Medical School Hospital, Washington, D. C.

Ohnesorg, K., Surgeon. Ordered to the navy yard, New York, N. Y.

Thomas, G. E., Assistant Surgeon. Detached from the *Saratoga* and ordered to the Naval Hospital, Yokohama, Japan.

Wheeler, L. H., Passed Assistant Surgeon. Detached from the *Virginia* and ordered to the *Salem*.

Woodland, E. E., Acting Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *Iowa*.

Zalesky, W. J., Passed Assistant Surgeon. Detached from the *Salem* and granted sick leave for two months.

Births, Marriages, and Deaths.

Married.

Cathey—Kruse.—In North Bend, Oregon, on Friday, April 28th, Dr. George A. Cathey and Miss Bertha Anne Kruse.

Died.

Baird.—In Colorado Springs, Colorado, on Monday, May 8th, Dr. William C. Baird, aged thirty-nine years.

Bevan.—In Bryn Mawr, Pennsylvania, on Tuesday, May 9th, Dr. A. J. Bevan, aged sixty-two years.

Bill.—At Cuyahoga Falls, Ohio, on Tuesday, May 9th, Dr. A. H. Bill, aged fifty years.

Danforth.—In Chicago, Illinois, on Friday, May 5th, Dr. Isaac N. Danforth, aged seventy-five years.

Davis.—In Beckley, West Virginia, on Friday, May 5th, Dr. Owen Davis, aged forty-two years.

Fox.—In Trinidad, Colorado, on Sunday, April 30th, Dr. Edward W. Fox.

Greenewald.—At Auburn Junction, Indiana, on Tuesday, April 25th, Dr. Marquis Greenewald, aged seventy-seven years.

Hafele.—In Baltimore, Maryland, on Wednesday, May 3d, Dr. George W. Hafele, aged thirty-two years.

Hartwell.—In Lockport, New York, on Tuesday, May 2d, Dr. John P. Hartwell, aged eighty-two years.

Hazen.—In East Wallingford, Vermont, on Friday, May 5th, Dr. Stephen D. Hazen, aged sixty-eight years.

Hendrick.—In McGraw, New York, on Thursday, May 4th, Dr. Henry C. Hendrick, aged eighty-four years.

Kindleberger.—In Indianapolis, Indiana, on Tuesday, May 2d, Dr. William H. Kindleberger, aged sixty-four years.

Latson.—In New York, on Thursday, May 11th, Dr. W. R. C. Latson, aged about forty-four years.

Madden.—In Bradford, Pennsylvania, on Tuesday, April 18th, Dr. Harry L. Madden, aged twenty-nine years.

Moore.—In Denver, Colorado, on Sunday, April 23d, Dr. Frederick W. Moore, aged forty-seven years.

Morgan.—In Augusta, Georgia, on Sunday, April 23d, Dr. James B. Morgan.

Pettingill.—In Amherst, New Hampshire, on Sunday, April 30th, Dr. James B. Pettingill, aged fifty-two years.

Showalter.—In Columbus, Ohio, on Sunday, April 30th, Dr. D. W. Showalter, aged fifty-two years.

Swing.—In Philadelphia, on Wednesday, May 3d, Dr. Erasmus V. Swing, aged seventy-one years.

Taylor.—In Le Roy, New York, on Monday, May 8th, Dr. Edmund C. Taylor, aged ninety-eight years.

Tidball.—In Pacific Beach, California, on Sunday, April 30th, Dr. Jasper Tidball.

Wall.—In Baltimore, Maryland, on Thursday, May 4th, Dr. Reuben A. Wall, aged thirty-four years.

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Original Communications.

AN OPERATION FOR PROGRESSIVE SPINAL DEFORMITIES.

A Preliminary Report of Three Cases from the Service of the Orthopædic Hospital.

BY RUSSELL A. HIBBS, M. D.,
New York,

Surgeon in Chief of the Orthopædic Dispensary and Hospital.

The treatment of Pott's disease or humpback by immobilization of the diseased joints has long been the accepted method, and is accomplished by various mechanical means, braces, plaster of Paris, etc. That much success has been obtained in the prevention of deformity and the cure of the disease by these means, there is no question. That there is still much to be desired is equally unquestionable, because these various means do not secure absolute immobilization, and for this reason it is necessary to continue treatment for long periods of time, and in almost every case the deformity increases more or less.

The treatment of lateral curvatures is still more unsatisfactory; the deformity is more complicated and its cause less definitely understood. In these, in spite of the best efforts by means of support to the column and the development of muscles, in a very large percentage of cases the increase of the deformity is progressive.

In the spine affected by tuberculosis, it is the body of the vertebra which is destroyed, and, in consequence of this destruction of bone, the deformity appears, and is, in the very large percentage of cases, a purely kyphotic curve. It is very rarely that the spinous or lateral processes are affected.

One of the reasons why the disease is so persistent in its destructive effect on the bodies of the vertebræ, is because of the motion which takes place between them, and while the various methods of treatment limit the motion; none absolutely prevents it. In the light of our present knowledge and experience, the greatest need in the treatment of this disease, both from the standpoint of shortening its duration and preventing deformity, is the perfection of a method which will absolutely immobilize the spine throughout the diseased area and make the development of deformity impossible.

The writer has done an operation for stiffening the knee joint (1), which consists of removing the patella from its periosteum and putting it in the joint after a space is freshened in the bones to receive it, the periosteum then being stitched to that of the tibia and femur. In these cases the patella was not absorbed, but formed a bridge between the tibia and femur, and the periosteum reproduced in every case new bone sufficient to make a large bony bridge and a perfectly safe bony ankylosis. This operation led to the conception, that if the periosteum of the spinous processes was carefully removed, and the processes were divided at their base and placed longitudinally in the interspinous space touching with either end the base from which the processes were removed (see Fig. 1a), and then the periosteum brought back and sutured, a similar condition would be produced. That is, the process would become adherent to the base at either end, thus filling up the interspinous gap with solid bone, and the periosteum would reproduce more bone so that there would be secured a fusion of the posterior aspect of the vertebra by a bridge of bone which would increase in size and strength so that absolute ankylosis would be secured.

It was thought that if a bony bridge could be established, its size and strength would gradually increase to meet the force exerted upon it, as is the case with the fibula when it is utilized to take the place of the tibia. This it seemed would be sufficient to prevent the kyphotic curve, while in the lateral curvature cases, in which the deformity is more complicated, it was thought necessary to do an arthrodesis in the articulation between the lateral processes, thus giving a cantilever support.

Through the kindness of Professor George S. Huntington, of Columbia University, I was given the privilege of doing this operation three times on the cadaver, in the fall of 1910, and I am indebted to him as well for many helpful suggestions. I have since done it upon three patients, all with Pott's disease of the spine. A sufficient time has elapsed only in one case to give positive proof that the condition which we attempted has been produced. The x ray pictures, Figs. 1b and 2, made by Dr. Caldwell, show the continuous bone formation between the vertebræ, three months after operation. One is a lateral view and the other an anteroposterior one.

Of course the report of these cases, as stated before, is preliminary, as there are many questions which arise that cannot now be answered, for instance, the earliest age at which the formation of this mass of bone may be expected, its effect on the future progress of the deformity, etc. The youngest patient was seven years old. The processes in this case were sufficiently ossified and long enough

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to fill the interspinous space. It is believed that in still younger children it will be successful.

The traumatism of the operation will hasten ossification and increase the activity of new bone formation from the periosteum. In the very young, however, I think it will be necessary to graft bone from the leg. This is a perfectly practical procedure. No case of lateral curvature has yet been done, but I propose to do exactly this same operation, and if it is not sufficient, to do an arthrodesis between the lateral processes, as already suggested.

This operation was done through a longitudinal incision directly over the processes; the ligament was split, and the periosteum of the processes removed very carefully and retracted with the muscles. The processes were divided at their base, as closely as possible, without opening the canal, then they were placed longitudinally so that there was fresh bone contact, one end, the proximal, touching the lower part of the fresh base from which the process was removed, and the distal end in contact with the upper part of the base from which the next process was removed, and so on throughout the diseased area, so as to ankylose the diseased one to healthy vertebræ above and below.

The periosteum was then brought back and sutured with chromic catgut, and the skin closed with silk, without drainage. Only in the first case were any bone sutures used, as it was thought unnecessary.

The ordinary sterile dressings were applied. The wound in each case was found completely closed at the first dressing, on the eleventh day. The first patient got up at the end of five and a half weeks, and all support was removed after three months.

Case I. E. Q., American, male, aged nine years. Entered ward of New York Orthopædic Hospital, December 27, 1910. Lumbar Pott's disease. Patient had moderate kyphos involving last dorsal and upper four lumbar vertebræ. Disease was quite active as shown by intense spasm of muscles, occasional pain, protective gait. Indeed he was admitted for rest because of acute symptoms, as there was no thought at that time of operating on him. Patient was kept on back in bed, wearing a spinal assistant; under this treatment he became free from pain and had no night cries at the end of two weeks. General condition good. Temperature normal. X ray showed disease to have almost completely destroyed the bodies of the second and third lumbar vertebræ.

January 9, 1911. Under gas and ether, an incision was made in the median line of the back from the eleventh dorsal to last lumbar vertebra, down to the periosteum. The periosteum was then divided over tips of spinous processes, and stripped down to base of spinous processes, the interspinous ligaments being split in median line, thus leaving a continuous layer of periosteum and ligament on either side of spinous processes. The last dorsal and three upper lumbar spinous processes were thus denuded. The four respective spinous processes were then fractured by means of a small bone chisel, close to their bases.

The third lumbar spine was then placed longitudinally so that its apex rested on the upper part of the base of the spinous process of fourth lumbar spine; in this position a No. 2 chromic gut suture was passed through the end of the third and body of the fourth lumbar spines, thus fastening the two processes together. In like manner the second lumbar was fastened to the third, the first to the second, and the last dorsal to the first lumbar.

The reflected periosteum was then brought together over the spinous processes and sutured with a running chromic suture, No. 1, and reinforced in three places with silk sutures. The skin wound was closed with silk. The wound was dressed and a plaster spica applied from knees to axilla, the spine being kept in slight overextension while plaster was applied. Patient was put to bed on back. On the first night after operation patient suffered severe pain which was difficult to control, even with opiates.

January 11, 1911, pain still severe and plaster was amputated at groin; this gave him very little relief. January 13, entire plaster jacket was removed. Wound found to be in excellent condition, with primary union. The wound was dressed and a modified spinal assistant applied. At no time after this did the patient have the slightest pain

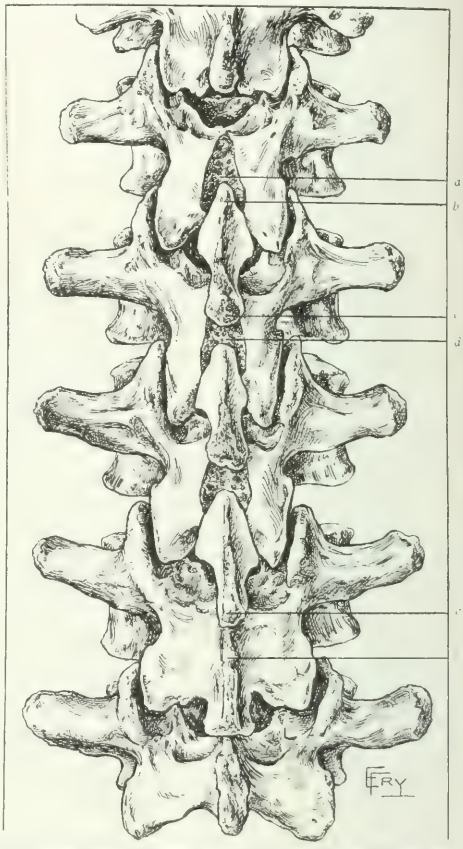


Fig. 1.—Scheme of using spinous processes for solidifying portion of aspect of vertebræ. *a*, Base from which spinous process has been removed; *b*, process touching *a*; *c*, tip of process touching *d*, base of next process removed; *e*, tip of last process removed touching bare bone at the base of *f*, the process of a healthy vertebra to which anchorage is made.

It is evident that the pain and discomfort were due to the overextension of the spine, and the pressure of the plaster.

The temperature rose to 100° F. on the day following the operation. On the third day after operation, the temperature dropped to normal and has remained so.

Patient was kept in bed, until February 20th. At that time he was in excellent condition and seemed to have bony union in spine. He was allowed up on that date, wearing a brace, with no adverse effect. After getting up he continued to improve and on March 10, 1911, was transferred to the country branch.

April 5, 1911, all support was removed. There was solid bony fusion of the posterior aspect of the vertebra. This

is absolutely demonstrated by x ray pictures made by Dr. Caldwell. (See Figs. 1b and 2. Fig. 3 is a photograph after the operation.)

Case II. W. M., Italian, male, aged seven years. Entered ward of New York Orthopædic Hospital December 31, 1910, with dorsolumbar Pott's disease of two years' duration. Patient had moderate kyphos extending from tenth dorsal to fourth lumbar vertebra. Back was very painful, spasm of back muscles very acute. He also had double psoas spasm which caused flexion deformity of both thighs of about 90°. Slight thickening in left inguinal region. Patella reflexes exaggerated.

Patient was put at rest on back and extension applied to both legs. General condition remained good and at the end of one week he had no pain and flexion of thighs was entirely reduced. Psoas spasm still present and patella reflexes +. Patient continued gradually to improve and by the middle of April, 1911, psoas spasm was very slight. Patella reflexes were normal.

April 26th. Under gas and ether a spinal operation was performed. Incision was made over the kyphos from tenth dorsal to fourth lumbar inclusive. Periosteum and ligaments were stripped back as in Case I. Spinous processes were found to be quite large and almost completely ossified.

The bases of the spinous processes (tenth dorsal to fourth lumbar inclusive) were then fractured with a small bone chisel, and placed so that the base of the fourth lumbar remained in contact with the lower part from which it was removed and the tip was placed in contact with the spinous process of the fifth lumbar, the third against the fourth, second against the third, etc., until the bridge was formed of continuous bone. The processes were not sutured in place as in the preceding operation, as it was thought that the close adjustment and suture of periosteum and muscle would hold them in place. The periosteum was then brought back over the bone and held with deep continuous chromic gut sutures. The skin wound was closed with silk without drainage.

Having in mind the extreme discomfort that the preceding patient had experienced from the plaster jacket, a modified spinal assistant was applied with perineal straps. The patient was placed in bed on the back. Patient had some discomfort for the first twelve hours after operation, but not severe enough to require any attention. On the following day he was free from pain and at no time since has he had the slightest discomfort. General health good.

Preceding the operation, temperature had never gone above 99.5° F., minimum being 97.5° F. Since operation the temperature has never gone above 98.6° F., minimum being 98° F. The wound was dressed on the tenth day and the sutures were removed, union being found perfect. (Fig. 4 is a photograph before, and Fig. 5 after [illegible].)

A sufficient time has not elapsed to make a final report. This will be done later.

Case III. Mrs. B., American, aged twenty-five years, mother of two children. Entered ward of New York [illegible] with dorsolumbar Pott's disease, of five years' duration. Marked kyphos involving ninth dorsal to second lumbar vertebra inclusive. Patient had considerable pain when in erect pos[illegible]

back; psoas spasm on left side; large fluctuating abscess in left inguinal region, which had burrowed under Poupart's ligament, and extended down the anterointernal aspect of thigh about six inches. General condition good, temperature normal. Patient was kept at rest in bed until April 27, 1911, when it was decided to operate on her spine. The abscess during this time had remained about the same.

April 27, 1911, under gas and ether an incision was made over the kyphos, down to spinous processes, the same technique being observed as in Case II. The last four dorsal and three upper lumbar spines were then fractured as in the preceding operations. The periosteum was then closed over the spines with continuous chromic gut sutures, reinforced at intervals with deep silk sutures. Skin was closed with silk, dressing applied, and the spine immobilized with modified spinal assistant with perineal straps. The patient being very heavy, she was put on a Bradford frame to facilitate moving her. She had very little pain after operation and slept during the first night without opiates.

Since the first twenty-four hours after operation, the patient had no discomfort; temperature normal; the ab-



[illegible] to discomfort and was slightly diminished in size.

The wound was dressed on the tenth day, and sutures were removed; union by first intention.

The most striking feature of the operation is the marked reduction in the kyphos. This patient is still in the recumbent posture. (Fig. 6 is a photograph before, and Fig. 7 after the operation.)

It is too early in this work to reach any final conclusion as to its value. It seems, however, that this method may possibly do much in the prevention of kyphotic curves and shorten the duration of the disease, saving the patient at the same time the necessity of wearing an apparatus for years.

In the lateral curvatures, it would seem to offer a means of preventing a progress of that distressing deformity.

REFERENCE.

(1) Hibbs, Russell A. An Operation for Stiffening the [illegible] March, 1911.

130 EAST THIRTY-SIXTH STREET.



[illegible]

PAPILLARY CARCINOMA OF THE BLADDER WITH METASTASIS TO THE TARSUS AND METATARSUS.*

BY GEORGE ERETY SHOEMAKER, M. D.,
Philadelphia,
[illegible] Presbyterian Hospital.

As illustrating many points in the diagnosis and life history of papillary carcinoma of the bladder, an example may not be without interest:

In August, 1909, Mrs. McC., aged sixty-nine years, multipara, was admitted to hospital because of hæmorrhage of the bladder. Family and personal history negative. Bloody urine had been noted at intervals for four or five years, continuing a few days and then disappearing for months, until finally severe hæmorrhage occurred. Hæmoglobin, 60 per cent., urine negative for tuberculosis. There was a systolic murmur. Œdema was noted over the dorsum of the right foot and a little pain was felt in passive motion of the tarsus. A small mass could be felt near the vagina, apparently in the bladder wall.

Careful cystoscopic study was made by Dr. George M. Laws and myself with the resulting diagnosis of malignant papillary tumor of the bladder. There was a growth rising as a sessile prominence above the level of the mucous membrane and situated on the right anterolateral wall of the bladder, between the sphincter and the right ureteral orifice. The mass was irregularly rounded in outline, pinkish red in color, and covered with clots of blood and flakes of pus. The size is shown in the photograph (Fig. 1, p. 1019) of the color sketch made by Mr. Schmidt. The left ureter, opened by a large reddened pouting mouth, had stiffened sides and did not fully contract between jets. Near this orifice was a minute prominence with an ulcerated tip and an adherent blood clot. At the upper part of the internal sphincter there was a tumor edge made up of fronds moving in the current. This tumor was light pink in color and was apparently benign. Further to the right were firmer, darker, irregular elevated masses without fronds. At another examination indigo carmin (15 c.c. of a four tenths of one per cent. solution) was injected intramuscularly in order to determine accurately the position of the right ureter and the probability of its being involved. It was found just under the edge of the principal growth, and was enlarged, reddened, and swollen from either œdema or infiltration.

The operation of opening the bladder above the pubis was undertaken, with the hope of finding the tumors observed to be capable of removal. Several distinct masses were found in the right bladder base, occupying an area two or more inches in diameter. Some were of papillary form, soft and frondlike, springing from a constricted base. One of these, high up on the posterolateral wall, was cut away and the bleeding site controlled by purse string suture. It proved, on microscopical examination, to be a benign papilloma, and undoubtedly represented the primary

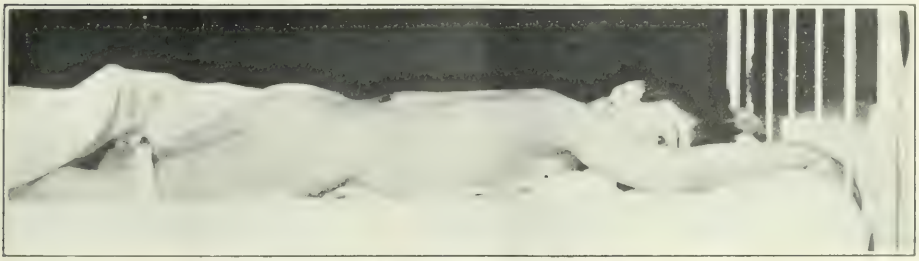
*Read before the College of Physicians of Philadelphia, [illegible]

growth which had been bleeding for several years. Around the internal urinary meatus were several indurations, and, to the right, overlying the lower inch of the course of the ureter just as it enters the blad-





der, was a hard, flat, carcinomatous mass, not covered by the soft fronds, but adjacent to them. Other smaller, firm, sessile tumors occupied a fixed portion of the wall at the base. The chief carcinomatous mass involved the right ureter. Because radical removal was not feasible the thermocautery was applied to the carcinoma and the bladder closed about a drainage tube which was conducted to a sterile urinal. This tube was finally removed on the seventeenth day and sound closure of the wound soon followed. The result of this cauterization and drainage was most satisfactory in the direction of bladder comfort and the lessening of bleeding. The nature of the disease was now clear. A benign papilloma had caused bleeding for four or five years and had



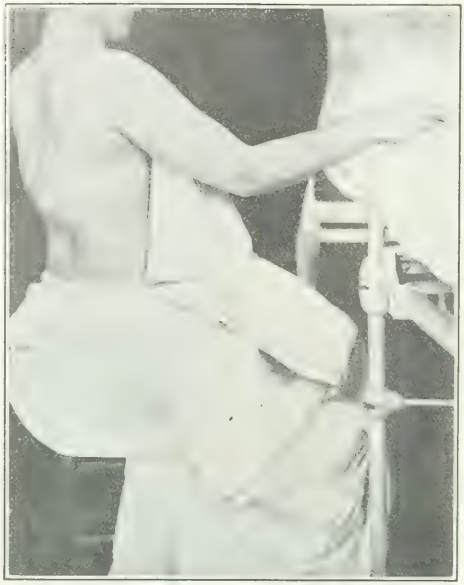


Fig. 1.—From a photograph of Case III before [illegible]

probably existed for some time before it bled. A portion of it had undergone malignant degeneration, and under our observation in the hospital a secondary invasion of the right foot was at the time proceeding.

At the time of admission there was nothing about the foot to suggest a growth. There were slight varicosities of both ankles, but no bone enlargements. Three weeks later, however, pain, tenderness, and a little swelling appeared and, in two months more, the condition had advanced with astonishing rapidity. A large, irregular, firm swelling involved the right tarsometatarsal articulations and near by bony structures, especially the head of the first metatarsal bone. The superficial vessels were engorged; the foot was everted below the tarsus (Fig. 2). The x ray showed extensive disease of the bones. Under the diagnosis of secondary carci[illegible] amputation was advised, but first, under ether, the field was incised and a frozen section made. Dr. Canby Robinson reported malignancy and amputation was at once done by the house surgeon, Dr. Dewitt, through the middle third of the limb. The object of the amputation was solely to relieve the excruciating pain in the foot which prevented sleep and exhausted the patient. The bladder symptoms were of far less moment. As a result there was great general improvement, with cessation of pain.

The tumor (see Fig. 2 on page 1019) was examined by Dr. Speese, who has kindly furnished the following data:

The specimen consisted of a foot, amputated at the middle third of the tibia. About the ankle joint there was a spindle shaped swelling which extended from the dorsum of the foot in the median line to the internal malleolus. The tumor was soft in consistence and on incision was seen to consist of soft tissue, white in color, containing a considerable amount of necrosis. The tarsal bones were infiltrated by the process which had resulted in the destruction of the bone, many spicules of which appeared in the tumor tissue. The neoplasm was seen to extend along the tibia to a point about two inches below the site of amputation, and to have infiltrated the tendons of the foot to a point corresponding to the metatarsal joint. Microscopical sections revealed a process consisting of a rather delicate connective tissue stroma, about the periphery of which were arranged layers of epithelial cells, columnar in shape and containing a round or rather spindle shaped nucleus. Many mitoses were observed in these cells. Osseous tissue and in a few places cartilaginous tissue was observed in the stroma. The arrangement of the cells followed the type of malignancy which was seen in the papillary carcinoma of the bladder. The pathological diagnosis was secondary papillary carcinoma of the foot.

The relief continued for eight months, when pain recurred in the stump about two inches above the end and a fresh metastasis appeared. The pain again became severe, and at the end of nine months the patient appeared, imploring relief by resection of the stump. The abdominal wall had become involved, but the suprapubic incision had not reopened. To afford relief, the resection was done by Dr. Ferguson, and the patient did well for a time, but sloughing of the abdominal wall set in, the bladder opened through the cancerous tissue, and she died exhausted between five and six years after the bleeding first appeared, and about fourteen months after coming under observation. At the limited autopsy permitted the primary carcinoma of the bladder was excised and slides are here presented, together with others from the benign growth and from the bony metastasis.

Growths of the bladder are most frequently of the papillomatous type. They are usually benign, at least at first, and may exist for an indefinite number of years with or without bleeding or interference with function. There is a well recognized tendency, however, for the benign to assume the

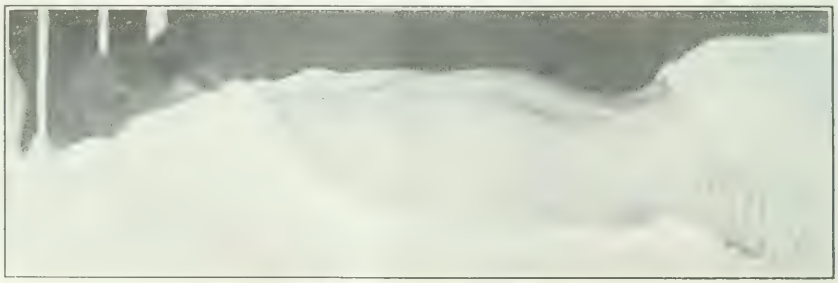
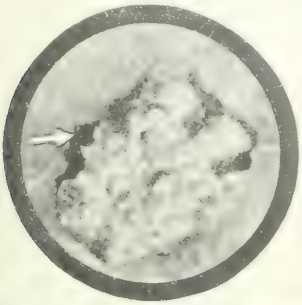


Fig. 2.—[illegible]

malignant form, as in papillary growths of the kidney. The tendency is to slow progress and to freedom from invasion of underlying tissue. This has made their surgical removal more hopeful.

Microscopically, the benign papilloma has been



described as "a number of connective tissue cores, rather rich in bloodvessels, which are covered with single or stratified polymorphous or columnar cells. If the tumor is malignant, . . . the mucosa and muscularis are found to contain masses of epithelial cells, resembling those covering the papillæ of the original growth" (Adami and Nicholls, *Principles of Pathology*, ii, p. 781).

In an instance such as this of metastasis from a more central point, like the bladder to a distal and



remote point like the tarsus, the route by way of the lymphatic channel is out of the question. If ever a tumor cell gets into the general blood stream this would seem to be an instance of it.

To explain why universal metastases are not more common from such a cause, there remains the theory that, on arrest or implantation of the cell, some tissues afford a good soil and others do not; or that in some the local resistance is sufficient. As a matter of clinical observation these predilections have long been noted. Some metastases were found by Recklinghausen to be frequently secondary to prostatic cancer and this has been confirmed by later experience. In all obscure carcinomata of bone an examination of the prostate gland and of the thyreoid is indicated in the search for the primary lesion. The same relation to adrenal cortical tumors has been brought out by Rolleston. Leugeyer is quoted as stating, that while bone metastasis occurs to the extent of from 2.3 per cent. to 3.5 per cent. in uterine cancer, it follows cancer of the heart in fourteen per cent., and cancer of the thyreoid in twenty-five per cent.

The general rule that metastases follow the type of the primary lesion is well illustrated by the present case, where the occurrence of columnar types of epithelium in the bone and joint growth is contrasted with the types normally found in synovial membranes. Were there no other findings the tarsal tumor could be considered secondary from the microscopical examination. The introduction of the tumor cell by traumatism into the blood stream is more and more the dread of surgeons. The use of the tenaculum, the curette, and the excision of portions for diagnosis of cancer of the uterus is just as dangerous without the wide use of the actual cautery, as is exploratory section of cancer of the breast.

1831 Chestnut Street.

EDUCATION IN SOCIAL AND SEXUAL HYGIENE

By Charles Edward Nammack, M. D., L. L. D.,
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A great difference of opinion exists regarding the necessity for giving instruction in sexual matters to the young. Ignoring the fact that the sexual instinct is implanted in every human being, and that its demands are insistent during puberty, parents are so imbued with the traditional prejudice that surrounds sexual matters with an atmosphere of shame, that they shrink from instructing their children in the physiological laws which govern the reproductive organs, lest perchance they might awaken a demoralizing curiosity. No greater satire upon modern wisdom can well be imagined. With the erotic literature, the sensuous music, the sex problem drama, and the suggestive pictorial art of the present day constantly before them, our youth are amply supplied with stimulants to curiosity and they need the thoughtful presentation of facts in physiology to guide them aright, as well as the knowledge of the awful effects shown by pathology to result from improper use of their sexual organs.

When one venereal disease, syphilis, causes 90 per cent. of all cases of locomotor ataxia, 75 per cent. of all ocular paralyses, 80 per cent. of all cases of paresis, 42 per cent. of all abortions, besides being the cause of death in from 60 to 80 per cent. of syphilitic children who are born alive, it is high time for the medical profession to join hands with the educators in awakening the public from the "ostrichism" which shuts its eyes to the evil it does not

wish to fight. It is time also to correct the false idea that gonorrhœa is a comparatively simple local disease which any young man may be reasonably expected to acquire. The discovery and subsequent study of the far reaching results of the gonococcus show that these results go to make up the saddest chapter in the martyrdom of married women. Seventy-five per cent. of all pelvic inflammations, and 50 per cent. of all gynæcological operations are caused by this infecting agent, and 45 to 50 per cent. of infected women are rendered irrevocably sterile. Eighty per cent. of the blindness of the newborn, and 15 to 25 per cent. of all cases of blindness, are due to this terrible infection (1). The vast majority of these infections in married life are effected through ignorance. Very few men are base enough willingly to enter upon matrimony with a pure woman, knowing that they are about to render her a helpless invalid and innocent victim to their former vice. The majority of men who have had previous venereal disease are unaware of the prolonged duration of its contagious activity, or, perhaps, have been told that they had been cured. As a result of this ignorance more innocent married women than professional prostitutes are victims of venereal infection.

No apology then is needed for insisting upon the means of arresting this Juggernaut which is daily crushing out the lives of innocent women and children. To preserve the healthy from infection, a general diffusion of knowledge of the physiology of the organs of generation is necessary, combined with the study of the hygiene of the sexual function and of the dangers which attend its irregular exercise.

This education problem presents many subsidiary questions, as for example: What should be the nature and scope of this education? At what age should it be given? Should it begin in the elementary school, the high school, the college, or the university? Should it be individual or collective? Should it be intrusted to the parent, the teacher, the physician, or the clergyman? Herbert Spencer, in his essay on *Education,* accorded primary importance to that knowledge which relates to self preservation or the maintenance of life. Next in importance is that knowledge relating to self perpetuation, or parentage, and of subordinate importance is the knowledge which prepares for the maintenance of proper social and political relations, as well as the gratification of the tastes and feelings. "Strangely enough," he says, "parents and schoolmasters take no care whatever to prepare the young for the position of parents."

Why public sentiment, as well as established routine, should exclude from education a knowledge of the laws of life and reproduction when upon these depend self preservation, self perpetuation, and the fitness of youth for society and citizenship, is one of those fatuous illusions which are difficult to understand in this enlightened age. If our youth are not told scientific truth, sound, sanative, and moralizing in its influence, they will surely learn dangerous error, false, unhygienic, and demoralizing in its tendency (2). Only by physiology can they learn the falsity of the licentious doctrine of "sexual necessity" and the truth that continence is compatible with the highest physical and mental vigor. And upon the foundations of sound knowledge, self reverence, respect for women and for good morals, can the young man build up his character so as to exercise self restraint upon his sexual desire, and to know the evils of promiscuous intercourse, that he may avoid them. That this knowledge would precipitate the evil we wish to prevent is very unlikely. No one would wish to drink freely of water which he knows contains the germs of typhoid fever. Education in sexual physiology and hygiene begets the idea of a clean mind in a sound body and also teaches that the reproductive function has a higher purpose than mere sensual gratification. Good education is better than bad. The bad is sure to be acquired, therefore let us attempt to substitute the good.

Sex education may begin in the elementary schools with the idea that all life, of plant, of animal, of fish, of bird, comes from a previous life, or rather from two lives, the male supplying something and the female something else, and this can be objectively illustrated through flowers and trees and the instrumentality of insects in fertilizing flowers, and in fertilizing each other, and so on through biological and zoological channels to reproduction in the higher animals (3). There is nothing in this programme that could not be accomplished delicately, chastely, and interestingly by the *genuine* teacher, but genuine teachers are much rarer than impressive school buildings. Teachers impart what they *are,* rather than what they know, consciously or unconsciously, and capacity on the part of the teacher, as well as receptivity on the part of the scholar, must be carefully individualized. As the elder Keyes graphically says, "the whole subject is a powder magazine and the instructor is smoking a pipe" (3). As a class subject, sexual teaching might be dangerous and for the same reason it might be unwise to incorporate it into elementary textbooks, or to distribute it in printed pamphlets which might fall into the hands of those who lacked understanding. The difficulties of properly presenting the subject are great; but they lie rather with the unpreparedness of the average teacher, and with the lopsided educational policy which prepares the individual for industrial, commercial and cultural ends, while ignoring the sacred function of passing on the torch of life undimmed and unblighted (4). And if it is difficult to find teachers competent to present the subject properly to the youthful mind, how much less easy is it to find parents qualified to do so? Some parents would fail through ignorance; some would shrink from the task; some would do more harm than good. The complicity of silence, which at present exists on the part of both teachers and parents, allows the boy or girl to derive their sex information from the streets or from quackish literature. The priest and the confessional may in many cases furnish the avenue of approach to a correction of this evil, but every child ought to be in frank and confidential relation with some wise older mentor, the parent of course preferred, who can anticipate by right teaching the absorption of falsehood and filth from degenerate sources (5).

If the elementary principles of biology are studied under well trained teachers in the primary schools,

the study of sex hygiene may follow as a natural corollary in the high schools, and be supplemented by a knowledge of the dangers of abuse of the reproductive organs, in the colleges. Dr. Robert M. Willson, in the University of Pennsylvania, has admirably presented to his students the perils of the social evil (6) and similar instruction is given with splendid results by Dr. George D. Meylan in his course on personal hygiene at Columbia University.

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42 EAST TWENTY-NINTH STREET.

WHY ARE WE OPPOSING REFORMS IN MEDICAL NOMENCLATURE?

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The language of medicine has been justly characterized as one being devoid of principles. Many of the terms used in medicine have no bearing, no relationship, or connection whatsoever with the subject at issue. Medical nomenclature is in fact a variegated mixture of a few expressive or at least suggestive terms, combined with many absurd, thoughtless, and ungrammatical, often puerile expressions for the earnest handicraft of the anatomist. Physicians of education and culture frequently pause to wonder at the inconsistencies of our medical nomenclature which has degenerated into a mere quasiscientific technical jargon or slang, perpetuated as sacrosanct by authority and tradition. Old customs, taste, and traditions are more powerful than exact science, and if any reformatory changes in our medical nomenclature are ever to be inaugurated, the transition will be so gradual that it will be hardly noticed. We are still governed by the tyranny of the dead, but a change is bound to come notwithstanding, and it cannot be delayed much longer. All the exact sciences, mathematics, astronomy, physics, and chemistry, have reasonable nomenclatures which are much more accurate than that of medicine. It would be a blessing if medicine could attain simplicity and clearness, definiteness and dignity in its nomenclature!

The attention of the writer was drawn to our faulty anatomical nomenclature when he, like every native American medical student, was studying Gray's popular textbook of anatomy over thirty-four years ago. When studying the arteries he was informed that they were so named from the belief entertained by the ancients that they contained air (from ἀήρ, air; τηρεῖν, to contain). Gray's *Anatomy* was always considered "dry" by students, and the writer considered himself very fortunate when he relieved this monotony by the study of the more fascinating, classical, and masterly work, Hyrtl's *Lehrbuch der Anatomie des Menschen*, which is replete with valuable information. Here, especially, the writer was made aware of the fact that our language of medicine is indeed very defective. Many diseases have been designated by utterly absurd names. The rage for *nomina obsoleta* becomes especially amusing among synonymous terms. Take, for instance, catarrh, rheumatism, cancer, sarcoma, apoplexy, gangrene, cataract, carbuncle and furuncle, caries, leprosy, and tuberculosis. The most frequent of all symptoms bears the name of a metaphor, "Inflammation;" inflammation without a fire, a combustion without flames. No one has suggested to substitute something better in the place of these metaphors. Descriptive zoology and botany possess a much more suitable and better nomenclature. The aim of all the sciences has always been in the direction of establishing a more correct nomenclature. Only medicine and anatomy have not thought of this necessity. Hyrtl's work, *Onomatologia anatomica* (1880), contains a fund of valuable information in regard to the barbarisms, absurdities, and grammatical errors of the language of anatomy. When the language of a science, which makes the pretension of being exact, must submit to such inaccuracies, it is high time to think of a purification of the anatomical vocabulary. Anatomists are so fully engaged with the object of their science, that they do not seem to notice the gibberish of anatomical names. Terms that have originated in remote antiquity, when there existed no demand or necessity for a scientific nomenclature, like the following which are still so familiar, musculus, arteria, bronchus, parenchyma, glandula, thymus, nervus, etc., express, *vi nominis*, something different from that which we intend to convey in our day. Certain names bear no relationship to the parts whatsoever. Take, for instance, the os sacrum, meaning the holy bone. There is no holiness attached to the os sacrum and its contiguous parts, where sacrum means as much as detestendum [illegible]. The obscene designations of certain parts of the brain that were invented during the middle ages: "*ut scientia anatomica juvenibus magis grata reddatur*" (Vesling), as nates and testes and those derived from ancient mythology, mons Veneris, cornu Ammonis, nymphæ, iris, hymen, and those from botany, amygdala, arbor vitæ, nucleus lentis, os pisiforme, ossa sesamoidea, and caruncula myrtiformis, as well as those from zoology, tragus, hippocampus, helix, pes anserinus, caput gallinaginis, crista galli, cauda equina, that are supposed to present a likeness to the parts, are still in usage. During the middle ages the choice in the selection of anatomical terms was most unfortunate. The simplicity of our ancestors and the narrowness of their intelligence gave origin to many unsuitable expressions, whose mystical and religious interpretations probably served the purpose of transforming sombre glances, which a gloomy spirit of the age did not fail to cast upon anatomy, into more cheerful ones. To this epoch belong such linguistic curiosities as morsus diaboli, pomum Adami, lyra Davidis, psalterium, memento mori, musculus religiosus, collare Helvetii, etc.

Among the writers who have also drawn attention to our defective medical nomenclature was the famous anatomist, F. G. Jac. Henle (1809-1885). The epithelium, according to our present understanding of the term, was, among other things, discovered and named by Henle. Other attempts to modernize anatomical nomenclature have remained without thanks and without any following.

In our own country, Dr. Achilles Rose, of New York, the indefatigable worker in the medical vocabulary, has the indisputable credit of having called attention in numerous publications to the very serious faults in medical nomenclature. Dr. Rose is the fortunate possessor of that high order of intellect which characterizes an accomplished philologist; besides being a master of the Latin, German, and French languages, he is also capable of expressing his ideas in classical as well as modern Greek—a rare accomplishment. In order to show how far this corruption of the language of medicine really goes, the writer would like to cite a few examples from the long array of terms mentioned in Dr. Rose's work entitled *Medical Greek*. Let us take, first of all, the now popular word "appendicitis." This barbarous word is significant of the puerile manner in which new words are formed and does not at all constitute an honor to medical literature. Perityphlitis, as the affection of the vermiform appendix was called by our grandfathers, is an excellent, anatomically correct designation. Acne is a word which does not exist in any language outside of medical slang; the Greeks call that particular affection acnai. Conjunctivitis is another misnomer. Berlin lexicographers have complained of this hermaphrodism, regretting their inability to find a true Greek appellation. Of the figurative names some are without significance, like pia mater (the pious mother). Professor Triepel, of the University of Breslau, suggests *meninx vasculosa*. Lupus erythematosus is an example of a nonsensical combination. Anæmia is unscientific whenever oligæmia is intended. Asystolia is incorrect when dyssystolia is meant. Atonia means absolutely nothing else but relaxation; it does not mean weakness. Judging bronchorrhœa by the word one would think the bronchus would run away. That is the literal interpretation!

The genitive of genu is not genu, but genus; of cornu, not often cornu, but generally cornus. These nouns belong to the fourth Latin declension. Glomerulus is given as the diminutive of glomus (a neuter); it should be glomerulum. Some names are wrongly interpreted and give rise to ridiculous combinations like vasa lymphatica—hydrophobic vessels; arteria pudenda—an artery of which we have to be ashamed; ligamenta cruciata—tortured ligaments. Professor Triepel suggests vasa lympharia, arteria pudendorum, ligamenta cruciformia, and many more. He points out terms which have been formed arbitrarily without philological basis, like hallux and tendo (halex and tenon are correct). Some have no meaning, like hilus, ileum, synovia.

Dr. Rose says that much confusion has been occasioned by philological pretenders who concoct new word formations by the aid of school dictionaries. Edebohls, for instance, fabricated by this means the word nephrokapsektomy; now, the renal capsule is epinephridon! Oophorectomy, literally translated, means castration of an oviparous animal. Professor Triepel is of the opinion that linguistic reform of the medical nomenclature will be less difficult to accomplish than that of the anatomical; correct names, like perityphlitis, he says, will gain ground more and more in due time.

Reform of medical nomenclature should concern every educated physician and should be an endeavor to erect the superstructure of medical onomatology on a more sound philological basis so that it shall stand as firm and indestructible in medical science as the vocabularies of chemistry and other exact sciences.

The fact of our having an unscientific medical language is to a large extent the fault of investigators and discoverers, who, not having a thorough philological education, constructed new words without paying the slightest attention to grammatical requirements; they drifted into the conventional or routine habit of consulting Latin and Greek dictionaries, and splicing two or three single words, quite regardless of whether the new formations actually obeyed philological rules or expressed the correct meaning. Now, all this could have been obviated if only true Greek words had been used in forming words of Greek origin and likewise only Latin words in constructing a new technical term of Latin derivation, thus at once and at a glance showing the true, unadulterated philological source of the word. There has always been a kind of confusion in consequence of incorrect word combinations. The writer remembers well, in his sixteenth year, studying the etymology of the word spectroscope, which is derived from the Latin word spectrum and the Greek word σκοπεῖν. Among the many objectionable philological conglomerations is the word terminology, which is fabricated, so to speak, from the Latin word terminus and the Greek word λόγος, two words of two languages being welded together, contrary to every linguistic precept. Evidently these and many similar hybrid words were concocted by individuals who had acquired a superficial knowledge of Latin and Greek. The damage has been done, notwithstanding, and it is now exceedingly difficult and too late to repair it once and for all. Even that which is incorrect and puerile is unwillingly abandoned when it has obtained a certain prestige or veneration by long usage. There has always been a class of reactionaries who are opposed to all new ideas, to improvements and innovations, and who, by a vulgar kind of optimistic literature, endeavor to seek a justification and a perpetuation of antiquated ideas and methods. Every discoverer of a new truth is looked upon as a disturber of the peace, as he excites to action from a state of rest the intellectually lethargic world.

The writer of these lines realizes more and more that without a knowledge of Greek and Latin (as is too often the case in this country) a physician is wholly incapable of understanding the etymology of technical terms or phrases used in medicine. It is indeed a serious fact that there are many physicians who employ terms without knowing what these terms really mean. Let it be emphatically understood, it is not the masses who need a knowledge of Latin and Greek, but the men of education belonging to the three great professions. Without such a knowledge the physician actually suffers from an etymological word blindness, his mind along the line of word construction being a complete *tabula rasa* (using a phrase of the older philosophers). It is, therefore, the indisputable

duty of every physician (let it be understood that we are by no means all medical mechanics or "medicine men"!) to acquire a knowledge of these two languages. In addition to these fundamental languages an education is actually insufficient without German and French. Why should medical education be so easy—of a kindergarten kind—and accessible to those without a fundamental education? Every physician should be somewhat of a polyglot. Such an attainment will aid him in many ways in his intercourse with the different nationalities and open to him the realm of a higher literature that is incomprehensible to the common masses. It is a common observation that among physicians trained in poor schools in this country there is a pronounced bias or antagonism, a kind of a "glossophobia," against the study of languages, excepting the English. The root of this evil is to be found in our one sided system of education in our so called public schools. It really fosters the glorification of English traditions and the perpetuation of the English language. This is the effect of the racial egotism and the monopolizing hegemony of one language seeking supremacy. Why should this be so, as but a very small part of our country was originally possessed by the English, but was actually settled by other nationalities, our population being not largely of English, but really of foreign descent, one fourth of the latter being of German origin? Our antiquated school system, which is by no means omnipotent, fosters a herding process of the most superficial kind of education or sham enlightenment. Think of those benighted iconoclasts who are continually advocating that all prescriptions should be written in English, instead of Latin, in their mad desire to popularize and vulgarize medicine, that the names of drugs should no longer be labeled in Latin, but in English, and, last but not least, that no technical language at all should be employed in medical and pharmaceutical textbooks, but only the most simple words in common usage! The realization of such an anarchistic plan would be the rankest plebification of medicine. Pharmacy has suffered a complete decadence—it has degenerated to a mere trade!

Schopenhauer, the great philosopher, says: "If a man does not know any Latin he belongs to the vulgar, even though he be a great virtuoso on the electrical machine and have the base of hydrofluoric acid in his crucible. There is no better recreation for the mind than the study of the ancient classics. Take any one of them in your hand for only half an hour, and you will feel yourself refreshed, relieved, ennobled, strengthened; just as though you had quenched your thirst at some pure spring. Is this the effect of the old language and its perfect expression, or is it the greatness of the minds whose works remain unharmed and unweakened by the lapse of a thousand years? If the threatened calamity should ever come and the ancient languages cease to be taught, a new literature will arise, of such barbarous, shallow, and worthless stuff as never was seen before."

Every physician should possess a classical education, which is so helpful to the study of medicine. One whose education is wholly limited to the rudiments of an English education is at an immense disadvantage and forever barred from participating in the blessings of classical and philosophical studies. He is, philologically speaking, a monoglossal fixture. This aversion to the study of languages is not confined to this country; it flourishes in China and also in England. In the *Vicar of Wakefield* one of the characters is made to say: "You see me, young man, I have never learned Greek, and I don't find that I have ever missed it. I have had a doctor's cap and gown without Greek. I have ten thousand florins a year without Greek. I eat heartily without Greek. I do not believe there is any good in it." What did he really know? The writer, uninfluenced by the crass, ochlocratic spirit of the age, believes and finds consolation in philosophical abstractions and speculations, not forgetting thereby the material necessities of life. Intangible values are incomprehensible to the masses. The masses, therefore, pay homage to individuals and not to ideas. They are not concerned about the invisible world nor do they care about abstractions. The exclusively realistic tendency of our times will awaken, sooner or later, as the result of historical experience, the contrary spirit! It is coming! Away with this so called liberal education—the makeshift of pedagogical fakirs—the conventional sham enlightenment of our profession in this country, which is responsible for the many wrongs and abnormal sociological conditions that prevail in our medical body politic, of the shameful overcrowding of the medical profession, whose rank and file have been recruited in recent years from the laboring classes, and of the fake medical education by the proprietary medical colleges! This wholly inadequate and pernicious one sided system of education has made the physician helpless as an intellectual factor and has unfitted him for the higher spheres of thought. It is high time that the members of the medical profession come to their senses and return to first principles. We must educate! Education is the only real salvation of the medical profession! Our next great emancipation from the thraldom and chaos of medical anarchism will be a process of complete leveling down and a weeding out of the ochlocratic material which is responsible for the present degradation of the medical body politic.

There is a deep rooted inclination of mankind to combat new ideas. The opposition to any improvements in our medical nomenclature or onomatology comes from a class whose educational opportunities have not been the very best and from individuals belonging to a past generation and of a kind that does not support progress. In Boswell's *Life of Johnson* one is made aware of the fact that among the immense majority of people everything pertaining to educational advancement and qualities of a high intellectual order excite envy, hatred, and resentment!

In a recent editorial in the *Medical Review of Reviews*, November, 1910, written by the editor, Dr. William J. Robinson, under the title of The Enormous Production of Medical Literature, doubts are expressed whether the enormous, formidable list of articles, mostly of a transcriptional nature, is really a healthful phenomenon. He says that this is open to grave question and believes that the

greater part of the material of articles, journals, books, etc., is trash. The writer has carefully reviewed our medical literature in this country for a number of decades and has searched earnestly for literary articles on the subject of medical nomenclature, but has been sadly disappointed by reason of their extreme paucity. Writers prefer to engage in something of an easy going nature that does not tax the mental faculties to a great extent. Society is largely based upon imitation and that is the reason why one follows another in pursuing the same conventional mode of thought. When one writes on "appendicitis" and on salvarsan or "606" a legion of writers will imitate him at once, but when it comes to downright hard, abstract thinking, as in the preparation of a literary or really scientific article, very few will have the inclination to engage in the same line of mental labor. There are not very many writers who have advocated a more modernized medical nomenclature, because it is a subject that deals with abstractions, which require a comprehensive knowledge of languages, which do not deal with tangible values like the grasping of an instrument by the medical mechanic in the performance of an operation, which requires only a kind of manual dexterity that can be acquired by almost any one. It is no wonder that so many take to surgery and the specialities!

The subject of tuberculosis is engaging world-wide attention. To many readers it would be interesting to know the real etymological meaning of the word. According to Gould's *Illustrated Dictionary of Medicine* (1901) the word tuberculosis is derived from the Latin word tuberculum, a tubercle. This is only partly true. Tuberculosis is hybrid, being composed of the Latin word tuberculum and the Greek suffix *ωσις*, meaning a diseased action or condition. In English we say "tuberculosis," in German "Tuberculose." There is no apparent reason why Germans write it that way.

Professor Triepel, of the University of Breslau, read a paper recently before a medical society of that city in which he called attention to many errors in anatomical nomenclature. Among these errors he mentions musculus abductor pollicis brevis, which muscle does not abduct the thumb at all, and he suggests the name of apponens pollicis superficialis. The rectum, he remarks, is not rectum, since it has two flexures, and he suggests the name of intestinum terminale. Does the suffix *itis* really mean inflammation?!

Single handed efforts of a few individuals in regard to reformatory improvements in our medical and anatomical nomenclature will never accomplish anything. Only concerted action in the form of a congress of educated physicians and surgeons, a kind of an anatomical and medical *Accademia della Crusca*, would give our science an accurate scientific language. The historical and etymological study of the old anatomical designations (also those humorous appellations, *oblectamenti causa*) are of unquestionable value to the philologist, to whom they will always offer an attractive incentive for continued studies. Apparently, for the present, things will go on just as they were until perchance conditions adjust themselves of their own accord.

There should be a lively enthusiasm for a more accurate and modern scientific medical nomenclature! True science does not consist in ignoring or despising the humanities—Latin and Greek—and philosophy!

606 Main Street

MEDICOZOOLOGICAL NOMENCLATURE; THE CORRECT NAME OF THE PROTOZOON OF SYPHILIS.

By Charles A. Pfender, M. D.,
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Those who have shared the blessed privilege of school attendance in the little village school house on the hill in some rural district, quite charming or otherwise, will readily recall how valiantly the magister tried to impress upon our vapid intellect the importance of that time worn maxim "Order is the first rule of Heaven." Alas, subsequent events have proved one of two things, namely, that some of us either did not share in this blessed privilege or failed utterly to succumb to the attempted impression.

The rank perversity manifested by some writers who virtually fly in the face of Providence in the hasty presentation of their discoveries would be less exasperating were the results of their ill directed enthusiasm less ruinous to the established order which they so cheerfully fail to recognize. It is a source of deep regret and chagrin that so often men engaged in the preparation of new material do not seem to realize that they are in duty bound to use all means that might aid in a clear and correct presentation of their subject. Were they fully appreciative of this obligation to avoid confusion the literature would be less redolent with errors of commission, and omission as well, and consequently enhanced in value.

This vital factor has been a matter of great importance in the medicozoological field since the time of Linnæus, and it merits far more consideration at the present day than the average practitioner and even the zoologist sees fit to bestow upon it. In the case of the practician it is due, probably, to the fact that he is not fully alive to the vast importance of this point, while in the case of the zoologist it is attributable, perhaps, to undue haste in his desire to publish, consequent negligence, and, what is not altogether unlikely, to insufficiency of the present rules governing the mode of procedure employed in proposing new scientific names. It is unjust to inflict an incorrect name upon the zoological and medical world—we can hardly cope with the vast number of correct ones—and nomenclatural errors in medical zoology seem to harbor an innate tendency as trouble makers that might well be avoided did the authors revise their subject more carefully before allowing the matter to appear in print. If, *per contra*, the material has been judiciously criticised and the name or names carefully selected the nomenclatural future will be much simplified.

It is well to remember at this point that under the present régime zoologists recognize no name in nomenclature until it is published, and that, when

published, it becomes subject to the International Code of Zoological Nomenclature, no matter who proposed the name. While chafing, however, under the merciless tirade of the ultrascientific we might with equal propriety recall that zoologists themselves have been just as prone to err in the designation of new species as other mortals, and one would be inclined to think that the veil of charity and brotherly love might be allowed to cloak, in some measure at least, the faults of the medical practitioner who makes no pretence to specialism. On the other hand, let no one for a moment construe this to indicate that he is therefore licensed to outrage every postulate of nomenclatural precepts should the opportunity for doing so be presented.

By way of illustration it might be well to cite an instance which transpired recently, where the first error and also the second one was made by a zoologist. The first error was later corrected, but is still persisted in by a large number of medical and other scientific men.

In the year 1905, the late lamented Professor Fritz Schaudinn, of Berlin, reported the discovery of an animal organism which he believed to be the true cause of syphilis. He formulated the opinion that the protozoon he had under observation belonged to the same genus as the organism described by Ehrenberg in 1834, and named *Spirochæta plicatilis,* and then, apparently without further investigation, he proposed for it the generic name *Spirochæta,* with *Spirochæte pallida* as the name of the species. Subsequent investigation has proved that this was the first error in the nomenclatural history of this organism. It is a well known fact now that the animal described by Ehrenberg is quite a different organism from the one observed by Schaudinn, so different in fact that it cannot be properly classified in the same genus.

It will also be remembered that about this time Professor Charles Wardell Stiles, in a short criticism, called attention to the fact that Cohn, in 1872, had emended the spelling of *Spirochæta* to *Spirochæte* for no specific reason and without authority, hence the correct spelling was *Spirochæta,* as proposed by Ehrenberg.

We now arrive at an interesting point in our discussion. The French scientist, Paul Vuillemin, undertook a study of the protozoon discovered by his German colleague Schaudinn, and arrived at the conclusion that this organism did not belong to the genus *Spirochæta* at all. Thus far he was correct. Now, without further investigation it seems, he recklessly proposed the generic name *Spironema.* This was the second error in the nomenclatural history of the organism. Moreover, after further study of the protozoon, Schaudinn himself was convinced that Vuillemin was right, that *Spirochæta pallida* differed not only from the types of the genera *Spirochæta* and *Spirillum,* but differed also from all other known members of these genera, and consequently he accepted the change in classification proposed by Vuillemin, without essaying to confirm its validity.

We have no fault to find with Vuillemin's attempt to give the organism a new name for this was both ethical and justifiable. One man may discover an organism and another may name it under the present rules of nomenclature, but had our French colleague taken the trouble to engage in a little more detailed research he would have found that the generic name *Spironema* was preoccupied in zoology. It had been used by Meek, in 1864, for a genus of molluscs, and also, erroneously, by Klebs, in 1892, for a genus of flagellates. According to the zoological code of nomenclature, a name which has once been used in the animal kingdom for one genus cannot be used for any other genus of animals, and when an error of this kind does occur, the proposed name is to be rejected as a homonym and a proper designation substituted. It is evident, therefore, that the name *Spironema* was not available for the protozoon of syphilis or for any other animal organism, for that matter, and should not have been proposed by Vuillemin nor accepted by Schaudinn.

While engaged in the study of the organism, Dr. Stiles and I elicited the facts contained in the preceding paragraph, and, recognizing that technically the organism was still unnamed, we proposed the name *Microspironema* as substitute, with *Microspironema pallidum* (Schaudinn, 1905). Stiles and Pfender, 1905, as type species, in conformity with Article 34 of the International Code of Zoological Nomenclature, which reads, "A generic name is to be rejected as a homonym when it has previously been used for some other genus of animals."

In the meantime Schaudinn was apprised of the fact that *Spironema* had already been used in zoology for the designation of another animal organism, and in a communication to the editor of the *Deutsche medizinische Wochenschrift,* October 10, 1905, he proposed the generic name *Treponema* for the organism of syphilis. This letter was published October 26, 1905, in advance of the name proposed by Stiles and Pfender, which appeared in print December 2, 1905, and, according to the law of priority, which is the "keystone of nomenclature," the correct generic name of the protozoon which produces syphilis is *Treponema,* with *Treponema pallidum* as type species, and not *Spirochæta* which has become popularized.

Those not thoroughly conversant with the nomenclatural record of this organism will no doubt be interested in the correct nomenclatural status of the protozoon of syphilis which appears below.

Genus *Treponema* Schaudinn, October 26, 1905.

Synonyms.

1905: *Spironema* Vuillemin, June 5, 1905; type *Spirochæte pallida* Schaudinn. *Spironema* Vuillemin is a homonym of *Spironema* Meek, 1864, mollusc, and *Spironema* Klebs, 1892, protozoon, hence invalid.

1905: *Treponema* Schaudinn, October 26, 1905; type *Spirochæte pallida* Schaudinn, 1905.

1905: *Microspironema* Stiles and Pfender, December 2, 1905; type *Spirochæte pallida* Schaudinn, 1905; invalid because antedated by *Treponema.*

Species *Treponema pallidum* (Schaudinn, 1905), Schaudinn, 1905.

Synonyms.

1905: *Spirochæte pallida* Schaudinn, [May ?] 1905.

1905: *Spironema* [*pallidum*] Vuillemin, June 5, 1905.

1905: *Spirochæta pallida* (Schaudinn, 1905), Stiles, July, 1905.

1905: *Treponema pallidum* Schaudinn, October 26, 1905.

[illegible] *pallidum.* (Schaudinn, 1905) Stiles and Pfender, December 2, 1905.

The following seem to me the only rational conclusions:

1. In reporting the discovery of a new organism in the animal kingdom it is expedient, in fact mandatory, not to designate the name for this organism without first carefully determining its proper classification. With modern laboratory methods and appliances at hand this is not so very difficult. If for any reason these are not obtainable, it is suggested that the organism be submitted for determination to recognized authorities in this field before publishing a new name for it. There can be no objection to a report of the discovery, in fact this is rather to be encouraged.

2. Before proposing a generic name for an animal organism every possible effort should be made to ascertain whether the name about to be proposed has been used before for another genus of animals. If the means at hand are insufficient for the carrying out of a proper research, recourse may be had to central libraries or to the individual libraries of men who specialize in zoology, as these usually possess the works dealing with this branch of science. Zoologists, as a rule, are quite willing to lend a hand in any effort to procure a proper name for an organism.

3. When nomenclatural errors have crept in it is the duty of every medical man or other scientist to avoid their repetition. The correct name of an organism should be ascertained, if any doubt exists, and none other employed. The fact that a name is *popular* does not make it *correct*, and the truly scientific student endeavors to employ a correct terminology always.

4. The total inadequacy of the present methods for coping with this condition and the apparent insufficiency of the rules governing medicozoological nomenclature would indicate the necessity of some method of reform. A probable solution of the difficulty may lie in the appointment of a tribunal composed of recognized authorities in this branch of science from different parts of the world, to whom all names proposed must first be submitted for approval; the disposition of such a name or names by this tribunal to be considered a final decree.

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LACTIC FERMENTS IN GENITOURINARY WORK.*

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In bringing before this association the application of lactic ferments to genitourinary work, I do not ignore the fact that Dr. De Santos Saxe, Dr. Graeser, and others have already attempted to utilize them for this purpose. This paper, moreover, should be considered merely as a preliminary and tentative statement, suggestive of a new and practical line of treatment. My personal observations have been few, and I rely chiefly on those of my colleagues who have had better opportunities for investigation.

It is unnecessary to make more than a passing reference to the value of lactic ferments in intestinal autointoxication, for much has already been published on this subject. However, I might state briefly that their value is based on the theory that certain strongly acid forming bacteria, especially those found in the sour milk foods of Bulgaria and Eastern Europe, are able to proliferate within the intestines and thus create, *in situ,* lactic acidity, by which means the overproduction of the cólon bacillus and of pathogenic organisms, which thrive in alkaline media, can be controlled.

While clinical evidence is very favorable to the use of dry ferments or milk cultures made from them, many experimenters have been disappointed with their results.

Nevertheless, I am of the opinion that when we relieve constipation and when proper instructions for making sour milk with the lactic ferments are given and followed out by the patient, much can be done to correct intestinal autointoxication, and if lactic ferments have lost rather than gained in popularity within the last few months, this should be attributed rather to the difficulty experienced by the public, by nurses, and even by physicians in obtaining even comparatively pure cultures of the best and strongest lactic ferments (*Bacillus paralacticus, Streptobacillus lebenis,* or the so called Bulgarian bacillus, and *Streptococcus lebenis*).

The same theory in virtue of their action; namely, the production of lactic acidity, in which pathogens will not develop, may be used in the treatment of many local infections, since it has been positively proved in the laboratory that lactic ferments, when cultivated under proper conditions in

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the presence of the Klebs-Loeffler bacillus, the enterococcus of Thiercelin, the spirillum of cholera, the *Bacillus typhosus*, etc., inhibit the growth of these pathogens, so that at the end of from twenty-four to forty-eight hours, the microscope shows only the presence of the lactic ferments in the culture. (See communications recently made to the *Société de biologie*, Paris, February 26, 1910, and the *Société de thérapeutique*, Paris, 1910.) These experiments have been confirmed by others, including myself, and I am led to believe that the inhibitory power of these ferments is so great that we might possibly use milk contaminated by saprophytes and pathogenic organisms if the milk is previously fermented with such strong lactic ferments as the *Streptobacillus lebenis* and the *Streptococcus* [illegible]*is*.

The value of lactic ferments for internal use, however, is not the subject of this communication, and it has been so fully discussed by the authorities to whom reference is made at the conclusion of this paper, that criticism on my part would be entirely out of place. In the *Lancet*, September 26, 1908, I reviewed the work of the early experimenters and more recently in the *New York Medical Journal*, January 14, 1911, I gave the correct technique for making milk cultures of the lactic ferments. We must understand that the lactic ferments themselves are not in any way inhibitory to the development of other organisms when administered internally or otherwise, but they so modify the pabulum, or culture medium, at body temperature, by production of lactic acid (as the result of their own metabolic life processes), that pathogenetic and undesirable bacteria are unable to proliferate.

While innumerable bacteria are productive of small amounts of lactic, succinic, formic, and other organic acids, the Bulgarian bacillus (*Streptobacillus lebenis*) is the one which produces the largest amount of lactic acid and is able to resist a temperature which is lethal to most bacteria. In passing, it may be said that in practice it is found undesirable to use the Bulgarian bacillus alone for internal or external use and preference is given to the dual action of the *Streptococcus lebenis* together with the *Streptobacillus lebenis*, both of which flourish best at temperatures between 50° and 57°C. These organisms, in a suitable culture medium, such as their natural element, milk, resist not only high temperatures, but also the action of lactic acid even when it reaches as much as two per cent. While the common *Bacillus lactis* and other lactic acid forming bacteria found in the neighborhood of all dairies, will sour milk, they will not grow at a temperature much above 40°C, so that it is preferable to use the stronger ferments referred to. Occasional references have been made in the medical journals as to the application of lactic ferments locally, but no very detailed or definite reports have yet appeared to my knowledge save that of Dr. Charles North. McLaughlin (*Medical Record*, March 27, 1909, and December 11, 1909) reports having used skimmed milk cultures of the lactic ferments in the treatment of suppurating wounds, and I have found similar cultures assist in the rapid improvement of tuberculous bubos which it was found necessary to open and drain. Suspensions of lactic acid in bouillon have also been used successfully by such authorities as Holbrook Curtis and Otto Glau in the treatment of chronic catarrh, chronic suppurating otitis media, atrophic rhinitis, suppurating ethmoiditis, infections of the frontal sinuses, the antrum, and other annexa. Personally I have treated two cases of suppurating discharge from the ear which did not yield to ordinary treatment. In these cases, however, I used the dry ferments, powdered and diluted with fifty per cent. of sugar of milk. This powder was placed within the external meatus after a thorough preliminary cleansing and in both cases the results were particularly pleasing. In one case, the discharge, which had been going on for several weeks, ceased in six hours, and the case cleared up entirely within three days, without recurrence.

In the *British Medical Journal*, January 22, 1910, Dr. D. Watson, of Edinburgh, reported his results in the treatment of gonorrhœa with a serum of skimmed milk cultures of the lactic ferments. This was injected into the urethra of males and into the vagina and cervix of females. Dr. Watson's experience, however, seems to have been chiefly with women suffering from gonorrhœal infection of the uterus.

Through the courtesy of Dr. Victor Pedersen, of the genitourinary clinic of the House of Relief, New York Hospital, a series of trials were made with milk cultures on males, using the entire product thickened with a little tragacanth and colored with chlorophyl (Injection viridi), and these experiments were made on some hundred patients covering several months. The results were somewhat conflicting and could not be considered superior to routine treatment with balsams, alkalies, and irrigations. This, however, can be attributed in a large measure to the difficulty of procuring sufficiently pure cultures, to the very short time which such an injection can necessarily be contained within the canal, and especially to the indifferent way with which this class of patients carry out the printed instructions given them. Many patients appeared to do well, but on the whole, we were unable to confirm the favorable report of Dr. Watson on males.

When in Paris last year I visited Dr. Catelin's hospital for genitourinary diseases, and in talking over with him our experience at the House of Relief, I suggested that we would perhaps obtain better results if crayons of the dry lactic ferments were placed within the urethra so that they might remain there long enough to allow the lactic ferments to develop and penetrate the pockets in which the gonococci had become lodged. I did not have an opportunity of trying the crayons there on males, but was able to make some trials on females suffering from gonorrhœal endocervicitis. My stay in Paris was too short, however, to allow a thorough demonstration of their utility, but on my return to New York, I made crayons, as I am about to describe, and similar crayons have been used in gonorrhœa at the House of Relief and in private practice by members of the staff.

Tablets of lactic ferments, known to be made from authentic cultures of the two ferments

Staphylococcus albus and *Streptococcus lebenis*, are crushed, mixed with equal parts of sugar of milk, and made into a soft paste with glycerin containing one per cent. of tragacanth. This paste is then rolled into crayons from seven to eight centimetres long and two millimetres in diameter. Or, they can be made directly with milk cultures by taking milk, freed from fat (by centrifugal process), which is then sterilized at 120°C. for twenty minutes, cooled to 60°C., and then inoculated with tablets containing the *Streptococcus* and the *Streptobacillus lebenis*. These two ferments were selected because it was thought that if the Bulgarian bacillus was used alone, it might give rise to so much lactic acid as to be irritating to the mucous membrane of the urethra.

The milk is now placed in an incubator and the temperature maintained between 50 and 57°C. for eight to ten hours until fermentation has coagulated the milk. These rich cultures are then partially dried at a temperature not exceeding 60°C., precautions being taken to prevent their contamination, and then made up into a thick paste in the same way as the dry powdered tablets, with glycerin, sugar of milk, and tragacanth, for making the pencils or crayons. Care should be taken to see that they are not too hard, for they appear to harden rapidly, and they should be made extra soft, otherwise they may be too irritating to the urethra. The ends of the crayons should be pointed to facilitate their entry into the urethra or canal.

I may state here that the commercial ferments found on the market in tablet form are reputed not to preserve their activity for long periods. This, however, is not true of all brands, as I have in my office tablets imported from France which are now three and one half years old, and on the table I have cultures made from these tablets which show the presence of both the coccus and bacillus. It is true, however, that the dry ferments become somewhat lethargic with age and require from ten to even twenty hours to regain their activity. It is therefore advisable to make a *repiquage*, and by doing this three or four times, they not only regain their activity, but proliferate quickly, which is very desirable for the purpose for which they are intended. I have in this manner obtained ferments which will grow so fast that within six hours they produce sufficient lactic acid to coagulate milk.

In this connection, it may be stated that the object sought is not to produce lactic acid in the crayons, but merely to bring in direct contact with the urethra, rich cultures which will continue to proliferate and produce lactic acid locally, the secretions of the urethra serving as a pabulum or culture medium for their further development.

These crayons will keep probably an indefinite length of time, like the dry commercial tablets, for I have been able to make new milk cultures from these same crayons when four months old.

Such crayons were used for several months at the House of Relief in place of the sour milk injections. Although the crayons were made very soft so as not to produce any traumatism, it was found in practice, that patients could not always tolerate their introduction into the canal in the very acute stage of gonorrhœa, and in such cases it was found necessary to give sodium bicarbonate tablets or santalol lactate capsules for a few days until the more acute inflammatory symptoms had subsided. Patients were given printed instructions with the crayons, explaining that a new crayon should be inserted in the canal every time after urination and always on going to bed. The glans penis should be cleansed thoroughly each time and the crayon retained from slipping out by a gauze cap. The crayons soon soften and melt in the urethra, but sufficient of the ferments are retained in the canal for practical purposes. We did not recommend their insertion beyond the bulbous portion of the urethra because it was found that in some subacute cases and those with posterior involvement, that epididymitis followed, but whether this was really due to the use of the crayons was not determined. It should be stated that our investigations were confined to acute cases of anterior urethritis and in the great majority, after from three to ten days, the microscope failed to reveal the presence of the gonococcus, although the discharge in many instances did not appear to be much decreased. Astringent injections, however, usually improved this condition and allowed the transfer of the patients from the acute to the chronic ward. While, therefore, the results were on the whole more satisfactory than routine treatment of acute gonorrhœa, I think that it would be unfair to base any opinion on these cases, for the outdoor patients attending these clinics are usually very uncleanly, have no faculty for following out instructions, are careless, and belong to an ill fed and shiftless class. They often fail to report themselves regularly and rarely present themselves for further treatment as soon as acute or painful symptoms are relieved.

I have therefore preferred to rely more on the records of physicians who have treated patients in their private practice with the lactic ferment crayons. Dr. Herbert B. Reece, of the House of Relief staff, has furnished me with some excellent records of his cases.

Dr. V. Pedersen and Dr. A. C. Dupont have, I believe, also had good results. I should like to say a few words on gonorrhœa and septic infection in the female, for my own experience, outside of the House of Relief clinic, is confined to a few cases of women treated privately.

It is well known that the vagina normally contains a bacterial flora which renders the secretions acid and thus protects women in a great measure, from infection by dust or even such organisms as the gonococci, for it is only when this acidity is neutralized by a profuse alkaline leucorrhœa, due to uterine displacements, or other causes producing congestion, that infecting organisms can obtain a foothold. This fact has suggested to Cukor the use of douches containing lactic acid. In the *Klinische therapeutische Wochenschrift*, he says:

"Lactic acid should be used in vaginal douches in place of lysol, bichloride, or alkalies, which are all more or less irritating. The proper concentration is 0.3 to 0.5 per cent. Such douches are indicated for daily use in healthy women, to replace the loss of lactic acid after baths, etc. They will also hasten the return to normal conditions after menstruation, and should be employed where there is much dis-

charge from the uterus or cervix. They will materially hasten the cure of erosions of the cervix and of catarrhal conditions of the vagina, cervix, and uterus, and can effectually replace all other antiseptic solutions."

Such douching with lactic acid, however, can only have a temporary effect and does not compare with the action of lactic ferments, which constantly produce nascent lactic acid, the ferments neutralizing the alkaline leucorrhœal discharges as poured out from the os, and penetrating infected areas where douches cannot reach, thus preventing, by the acidity, further proliferation of infecting organisms. The therapy of their action, therefore, is reasonable.

Like Dr. Watson, of Edinburgh, I have been particularly satisfied with the use of lactic ferments, in gonorrhœal infection of the uterus, as crayons, dry powdered ferments, moist ferments, or as the natural milk cultures of the lactic ferments.

In women, I have not tried the crayons of lactic ferments in gonorrhœal urethritis, for there are so many difficulties in the way of their application that it does not appear to be practicable. When, however, the gonococcus is confined to the vaginal and cervical secretions, the lactic ferments have a wide field of usefulness.

Unless the normal pavement epithelium of the mucous membrane has undergone such changes as to modify its protective influences, vaginal gonorrhœa is rare, but where a microscopic examination of the secretion of the cervical canal reveals the presence of the gonococcus and the uterine mucosa is invaded, the crayons or some other form of lactic ferment therapy can be employed with even greater prospects of success than in treatment of the male urethra.

Of course where the inflammation has reached the annexa, it is hardly to be expected that much good can be done, but as a rule the gonococcus does not extend deeply into the uterine mucosa, neither does it penetrate the deeper structures on the surface. In gonorrhœal endocervicitis, as well as where there is a purulent cervical discharge, uncomplicated with the specific organism, I have had good success in all of the few cases which I have treated with the ferments. Patients with acute gonorrhœal salpingitis should be treated conservatively and where the Falloppian tubes are not seriously affected and there is no pelvic inflammation requiring surgical interference, I would suggest a trial of the ferments before even attempting curretage. The os is usually patent in such patients and larger crayons are necessary than for insertion into the male urethra, or it may be better to inject the milk cultures into the os.

TECHNIQUE FOR USING THE LACTIC FERMENTS IN ENDOMETRITIS [illegible] WITHOUT GONORRHŒAL INFECTION AND NOT PRIMARILY DUE TO UTERINE [illegible]

Where there is a profuse cervical secretion following or responsible for an endometritis, the toilet of the vagina, posterior and anterior culs de sac must first be thoroughly attended to, swabbed out with hydrogen peroxide, and dried with absorbent cotton. A crayon is now inserted into the os about one inch or more if the inflammatory process has reached far up the endometrium, the os is covered thickly with a powder composed of the milk ferments diluted with fifty per cent. of sugar of milk, which provides material for abundant proliferation of the ferments, and the vagina is then packed with absorbent cotton to retain the crayon and powder in position. The dressing should be repeated in every detail daily and an examination of the vaginal and cervical secretions made each time. Such smears will show the presence of the *Streptococcus* and *Streptobacillus lebenis*, but their morphology and differential staining prevent their being confounded with gonococci. Usually the pus cells will decrease in numbers after the second day, but the treatment should be maintained for some time to insure a permanent cure. Where the os gapes so widely that insertion of a crayon is difficult or retention impossible, I have adapted the following modification of treatment, with excellent results. Pure rich milk cultures in test tubes containing about 10 cubic centimetres are prepared and opened only when about to be used. Shake the tube so as to mix the coagulum and serum, making a thick fluid, which, however, can enter a glass syringe and be injected directly into the os. This is supplemented as before, with the dry ferments and sugar of milk.

I have given the crayons and cultures of lactic ferments in these tubes to several of my colleagues, but at the time of writing, had not received any clinical reports, although several have told me verbally that they had been very pleased with their results.

My own experience is confined to three cases of gonorrhœal endocervicitis in which I used the crayons in two cases, but in one, the os was too dilated for their retention and they were replaced by semiliquid cultures injected as described. All three patients were much improved in three weeks and remained so, with the exception of Mrs. S. whose husband had a persistent discharge containing gonococci and is again under treatment. In another patient (Mrs. W.), there was a very profuse typical leucorrhœal discharge from the cervix, but without gonococcic infection. The os had been very severely torn as a result of precipitate delivery eight months previously and was everted so widely that the middle finger could be inserted. There was practically no displacement of the uterus, but the os was so severely hypertrophied, hyperæmic, indurated, eroded, and ulcerated, that I doubted whether the ferments would be, of much service. The patient, however, objected to surgical interference, and wished me to try the ferments. There were immense numbers of bacteria and pus cells present in the cervical secretions and the discharge was somewhat foul smelling, although the woman was using antiseptic douches three times a day. After the second and third days, the discharge was much reduced, there were very few pus cells and within a week, the cervix was much reduced in size; the ulceration and hyperæmia disappeared, there was practically no secretion, few bacteria other than those contained in the ferments used, and the patient felt and looked in perfect health. Treatment was stopped in anticipation of menstruation. A week later the woman returned for examination and the improved condition was found to be maintained.

In conclusion, I trust that these preliminary suggestions will be found of sufficient practical interest

to induce others to give the lactic ferments a more thorough trial in genitourinary work.

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Hoffi Brevoort.

METHYL ALCOHOL AMBLYOPIA.*

By T. B. Holloway, M. D.,
Philadelphia.

In recent years the literature has shown an increasing number of reports of cases of methyl alcohol intoxication, and Wood and Buller's contribution to this subject in 1904 has shown how frequent is this type of poisoning in the United States compared with Canada and the European countries. As is well known, the majority of these cases have developed after the ingestion of the alcohol, either in the form of adulterated whiskey or colonial spirits, or in the form of bay rum or flavoring extracts that have been made up with wood alcohol. Many have also been poisoned by the inhalation of the fumes, as occurs in shellacking the interior of beer vats or small rooms without sufficient ventilation. The literature also gives evidence to show that the external application and the burning of methyl alcohol in lamps may be regarded as causal factors in the production of poisoning by this substance. The following case came under observation at the University Hospital during the past year:

A. J. M., decorator in oils, aged fifty-eight years, was admitted to the hospital under the care of Dr. J. B. Carnett, March 19, 1910, complaining of pain in the loins, radiating downward to the scrotum, associated with some tenderness in the suprapubic region. His father died as the result of paralysis, while his mother was living and a victim of diabetes. He had had frequent attacks of muscular rheumatism, and in the past had used alcohol and tobacco to excess, but denied venereal disease. About twenty-five years ago he had a slight attack of lead colic. An examination of the patient's heart, lungs, and abdominal organs was negative. There was a superficial arteriosclerosis. An examination of the urine failed to reveal any albumin or sugar, but showed numerous calcium oxalate crystals, and on one occasion a few hyaline casts and a few cylindroids. A blood examination showed 4,790,000 red cells, 6,300 white cells, and sixty-six per cent. of hæmoglobin. An x ray examination failed to determine the presence of stone in the kidney, ureters, or bladder. There was present a congenital malformation of the left forearm and hand, and a bilateral congenital luxation of the femurs, associated with relaxation of the sacroiliac joints. An examination at the nervous dispensary determined the existence of a neuritis, probably dependent upon alcohol. At the time he came under observation at the eye dispensary he stated that in May, 1909, he drank a pint of methyl alcohol in three draughts during a period of three hours, and this was shortly followed by nausea and vomiting, but he did not become unconscious. He stated that a distinct reduction in vision was noted within two hours after the ingestion of the alcohol. He was under treatment for several months at another hospital, during which time his vision slightly improved, but since then it has remained stationary. The vision was, O. D.= 1/22, eccentric; O. S.=6/12. There was no impairment in the extraocular rotations, the pupils were equal, round, and responded to both direct and indirect light, although the response to direct light was less pronounced in the right eye. Both reacted upon attempts to accommodate and converge. The right disc revealed an advanced atrophy and was greenish white in color, with a cup shelving outward, but no distinct markings of the lamina cribosa could be seen. To the temporal side there was a narrow crescent, and a circumvascular inflammation of the retinal vessels could be noted in the neighborhood of the disc. Both sets of retinal vessels were somewhat reduced in calibre. In the left eye the temporal half of the disc was distinctly gray in color, but there was no pronounced cup. In other respects it was similar to the fellow eye. The fields of the right eye were almost obliterated in the temporal half, while in the nasal half there was a distinct contraction for form and colors; a central scotoma was present. The fields of the left eye revealed slight contraction for form and colors, but no scotoma was found.

While I have no intention of making a complete review of the recent cases of methyl alcohol intoxication, some of the more interesting ones may well be referred to.

In 1906, Boque (2) cited the histories of six males and one female, who drank quantities varying from one ounce to a pint of what was supposed to be ordinary alcohol

* [illegible] before the Section of the College of Physicians in 1910.

Three of these patients died within twenty-four hours, while those surviving all showed some impairment of vision. One of these drank before breakfast an ounce mixed with cider, and within six hours was totally blind. After ten days there was partial restoration of vision, and at the time of the report he could distinguish objects as dark shadows. One of the men, who was credited with drinking a pint, manifested but slight symptoms, which Boque attributed to his profuse vomiting and the fact that he had heard of the other cases and had taken a large dose of salts, with the desired results. Another of the patients became almost blind, but vision was partially restored and was improving when the patient was last seen. The remaining patient that survived made a complete recovery.

In 1907, H. E. Odell, (3) referred to three sailors who drank a quart of a mixture of bay rum and water, the former having been made up with wood alcohol. All of these died within thirty-six hours.

In 1909, R. A. Bachman, (4) published the details of the poisoning of thirteen enlisted men that resulted in three deaths. Five of these had obtained a can of rubber cement that was being used by workmen, and, precipitating the rubber, drank the clear fluid after mixing it with sugar and milk. Three of these men died; another was discharged after seven days with complete restoration of vision, while the fifth at the time of his discharge, twelve days after the ingestion of the mixture, could distinguish fingers held before the eyes at a distance of eighteen inches. All of the remaining men, who had probably partaken of but small amounts of the mixture, made a complete recovery.

In the same year Pierce (5) reported the histories of two cases that proved fatal after drinking colonial spirits. One of them became totally blind before death ensued.

Last year, at the meeting of the American Ophthalmological Society, Fridenberg (6) expressed the opinion that in the atrophic stage methyl alcohol produces certain characteristic changes in the disc. He believes these changes to consist of a deep excavation of the nerve head that at times may simulate glaucoma, but the color is pure white and never gray green, as seen in the latter condition. The markings of the lamina cribrosa are distinct and generally there is no connective tissue in the depth of the cup; further, there is always evidence of some previous neuroretinitis as manifested by delicate circumvascular striæ, irregular accumulations of pigment adjoining the chorioid ring, and at times an atrophic ring or crescent.

A reference to the case history cited will show that the clinical findings in my case do not conform to Fridenberg's interesting observations, but, owing to the patient's past history, this case cannot justly be regarded as even an exception to the deductions that his careful study has prompted, as doubtless his conclusions were made from the study of cases where the previous habits of the patients were above suspicion. The patient whose history is here cited had been given to excesses for a number of years, and I have been told that in the past he had taken advantage of his physical infirmities to secure hospital treatment. He then secured some work about the hospital as a painter, and when the opportunity offered, he proceeded to consume all the available liquor he could find. Further than that, as a consequence of his occupation, he was exposed to the effects of lead, although he had had but one attack of colic and no blue line was present on the gums at the time he was seen by me. Under these circumstances this case cannot be regarded as a strictly pure case, but I doubt whether many will question that the methyl alcohol as the direct ætiological factor in the production of his amblyopia, especially in view of the customary prompt general symptoms following its ingestion and the absence of any previously recognized impairment of vision, although I grant that in many cases of toxic amblyopia the onset of visual disturbances is most insidious and frequently not recognized by the patient. However, his occupation and previous habits may have had some influence in determining the prompt onset of his amblyopia, which in this case developed more promptly than is customary. That he did not become totally blind is probably due to the fact that he vomited before drinking all of the alcohol and, about one hour after finishing it, he was taken to a hospital where his stomach was washed out. The complete elimination of ethyl alcohol in many of these cases, as an ætiological factor, is well nigh impossible, and the willingness of many of the victims to drink any kind of a decoction is ample evidence of their previous habits.

In the discussion of Fridenberg's paper, E. V. L. Brown referred to an interesting case of amblyopia that resulted from a workman spilling a gallon or so of methyl alcohol down his leg, which soaked his clothing and filled his shoe, but continuing to work without changing his clothing. In 1906, Phillips (7) referred to the same case, and it was then observed immediately after the accident.

Owing to the variable fundus conditions that have been observed in the early stages of methyl alcohol poisoning, the pathogenesis is still somewhat in dispute. As is well known, Holden, in 1899, and Birsch-Hirschfeld, two years later, expressed the opinion that the primary changes occur in the ganglion cells of the retina. On the other hand, Gifford and Hotz regard the optic nerve changes as primary. In 1902, de Schweinitz (8) stated that there was not the slightest doubt that in animals methyl alcohol, like quinine and several other toxic agents, acts primarily upon the ganglion cells of the retina and that the optic nerve changes are secondary, but whether in human beings this holds true is not positively proved, although it is likely. He further adds that, perhaps as Gifford suggests, there may be a simultaneous action upon the ganglion cells and optic nerve tissue. Wood and Buller state that it seems probable that the ocular changes are mainly a peripheral neuritis, affecting in some cases the nerve trunk only, sometimes the retinal fibres, and sometimes both of these tissues. Finally, Fridenberg believes that wood alcohol amaurosis is due to an intense œdema with some neuritis, which is rapidly followed by atrophy of the nerve and that it is due to formaldehyde solution or formic acid circulating in the blood as the result of incomplete combustion of the methyl alcohol ingested, or otherwise introduced into the body. This conclusion of Fridenberg's suggests the patient whose history has been reported by Gifford (9), in which he regarded the formaldehyde generated by burning a methyl alcohol lamp as a factor in the development of the amblyopia.

Jelliffe (10) has called attention to the rarity of the association of multiple neuritis with methyl alcohol poisoning, and cites the histories of two patients who manifested this condition. He believes that in these cases death occurs so quickly that

there is not sufficient time for a neuritis of the peripheral nerves to develop, or because of a greater susceptibility of the ganglion cells of the retina, amblyopia appears so promptly that the methyl alcohol is discontinued. In this connection Gifford (11) has since cited the history of Spalding's patient, who used methyl alcohol for cleansing brass plates. This patient developed a paralysis of the arms and legs as well as an amblyopia, and died after a period of three months. The neuritis associated with the patient I have referred to may also be mentioned, but other ætiological factors cannot be definitely excluded.

Further to emphasize the dangers of methyl alcohol it may be recalled that Wood (12), in 1905, stated that there were on record 314 serious examples of methyl alcohol intoxication, which included 158 cases of blindness and 156 deaths.

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1819 Chestnut Street.

THE X RAY A DUTY IN CANCER.*

By Sinclair Tousey, A.M., M.D.
New York.

I have the very strongest feeling that it is the physician's duty to give the cancer patient the benefit of x ray treatment from the beginning, instead of waiting until after a number of operations and the case has become inoperable and hopeless. I hope that some of us here to-night may live to see the cause of cancer discovered and with this a knowledge of how to eradicate it from the system, perhaps by prophylactic means, when there is a strong hereditary taint; and by active measures at the earliest intimation of trouble. We are groping in the dark at present, and the most that operative surgery can offer is the more or less complete removal of the tissue in which a local manifestation of this constitutional tendency has taken place. The fact that there are half as many deaths from cancer as from tuberculosis is one reason for believing surgery to be unsuccessful as to the constitutional disease. Another reason is found in the number of patients who seek the x ray specialist after several operations.

I believe that a surgical removal of the growth should be performed as soon as possible and that the x ray should be employed to prevent recurrence. Suitable x ray treatment before an operation has a strong prophylactic effect in converting lymphatics and glands into fibrous cords and nodules in which the cancerous elements have been destroyed and which will not act as channels for absorption during the operative manipulations.

It makes one's blood boil and then run cold to have a case of cancer of the breast brought in with a story of a number of operations and recurrences covering a period of two years or more and now inoperable and hopeless. Such a case, with inoperable fungating tumor of the mammary region, measuring two by three inches and projecting one inch from the surface of the ribs, was subjected to x ray treatment, which caused the flattening out and disappearance of the tumor in a month, and left an ulcer which is now only half an inch in diameter. Can any one doubt that this patient's chances for life are less than if the same x ray treatment had been applied at the earliest stage? Even at this stage x ray treatment is far from being a mere placebo. In many similar cases referred by Dr. Clement Cleveland, Dr. T. M. Lloyd, and others, the result of x ray treatment has been to cause healing and disappearance of the local lesion, improvement in health and strength, and restoration to social duties. For a time it has seemed as if the case had lost its malignant character, and more than one surgeon has remarked that the case under his observation had revolutionized his ideas of cancer. After some years, however, such a patient loses strength and dies of internal involvement without the pain, discharge, odor, cachexia which used to make a death from cancer so terrible to the patient and those who loved her. Beginning at this late stage we can hardly even hope for a permanent cure.

A case under my own control when I was attending surgeon at St. Bartholomew's Clinic was referred to me by Dr. R. W. Hall, and was operated in for carcinoma of the breast. The patient was a man, and the diagnosis was confirmed by the pathologist. There was rather prompt recurrence at the original site and also in the other breast. No further operation was attempted, but x ray applications were begun at once. During the first nine months the growths remained stationary, and then in three months more they disappeared completely and permanently. The man is well to-day, seven years after the last x ray treatment.

Many different observations lead to the belief that the x ray produces a molecular disintegration in cancer tissue and systematic absorption of some substance which has a curative effect far beyond those cells which can be reached by x radiance in sufficient strength to produce a destructive effect.

Physicians ought to know and ought to let their patients know that the x ray has a curative effect in cancer and that permanent success is very much more likely if the treatment is begun at an early stage. Another very important thing is to let patients know that they need no longer conceal a growth because of a feeling that the only treatment lies in operation. If they are not able or willing to undergo an operation immediately on their discovery that there is something wrong, they may have x ray treatment. Improved means of accurate measurement have made this safer and more effective than ever before. It is not even necessary to wait for the growth to show unmistakable evidence of malignancy. It is better for the patient to be cured of a growth without knowing positive-

*Read before the Westchester County Dental Society, April 18, 1911; members of the Westchester County Medical Society present [illegible]

ly whether it would ever have developed into a cancer than to wait for positive evidence with its certainty of systemic involvement.

Give the patient the best chance you can. Do not depend entirely on operative treatment until it is too late for the x ray to produce a permanent cure. Do not depend on the x ray alone when surgical removal is practicable.

The x ray and high frequency currents from ultraviolet ray vacuum bulbs are very successful in treating pyorrhœa alveolaris. The applications are mild and the only effect the patient says he notices is that the pain has disappeared. It is not to be employed as a substitute for the mechanical and chemical measures of the dentist, but this treatment enables us to cure these cases after regular dental treatment has failed. It is the author's practice to make radiographs of the affected regions. These show the extent of pocketing from absorption of the alveolar process and serve for comparison when the case is cured. They are of the greatest assistance in some cases by revealing the cause of the trouble in an unerupted supernumerary tooth or in a retained fragment of a root or in an instrument or filling protruding from the root canal.

140 West Fifty-seventh Street.

A PLEA FOR THE EARLY DIAGNOSIS AND EARLY SURGICAL TREATMENT OF MAMMARY CANCER WITH SPECIAL REFERENCE TO OBTAINING BETTER RESULTS.*

By John H. Gleason, M. D.,
Manchester, N. H.,
Surgeon to the Beacon Hill Hospital.

Surgery of the breast and axilla as practised today, is a creditable demonstration of surgical ingenuity and application of methods endeavoring to combat the extension of malignant growths. However, far reaching as the operative procedures may be, there still remains a percentage of recurrences, even in selected cases, especially in the young. Most physicians will admit that there is yet much to be desired in the general results, and will recall instances in which their best services have been but poor efforts to relieve suffering, which negative results were due nearly always to delayed diagnoses.

Tumors of the breast may be one of the following: A cyst, an abscess, fibroadenoma, an enlargement of inflammatory origin, or a malignant neoplasm. The importance of a prompt diagnosis is exceedingly great. The experience of the last fifteen years has shown conclusively that if cases of cancer of the breast are to be saved, they must be treated early surgically in the most radical manner; that practical fact is established and should be self evident. Contrary to customary advice and most emphatically would I say that tumors of the breast should never be kept merely under observation until evidence of malignancy appears. In other words, many of the cases that come to operation too late, do so because they are being watched by their home physician. In waiting to prove our diagnosis by retraction of the nipple, skin attachment, and glandular involvement we make it impossible to cure over twenty-five per cent. of the patients, while if we operate during the first stage of the condition, we may cure approximately eighty-five per cent. of the malignant cases.

Eighty per cent. of all the tumors of the female breast are, or will eventually become, malignant. No person has developed a keen enough sense of touch positively to state from palpation that a tumor of the breast is *not* malignant. All tumors must be regarded as suspicious until proved benign. Precancerous predispositions exist in many instances in breast neoplasms. We frequently obtain the history of a simple tumor which had been observed for a number of years, which suddenly began to grow until there was no question as to its malignancy. The most reasonable contention is that such a tumor was benign early, but that it existed all the time as a precancerous irritation. It must be conceded, therefore, that in order to get malignant cases early, we must necessarily remove all tumors as soon as they are discovered, as many of the doubtful, and some of the suposedly benign cases, will eventually prove to be malignant. Never cut a tumor of the breast *in situ* for diagnostic purposes, as this act allows the implantation of cancer cells.

In doubtful cases the entire tumor should be removed, and a few loose stitches placed in position without tying. The cavity should be packed with gauze saturated in a mild antiseptic solution. A prompt report should then be obtained from a trustworthy laboratory. If the growth is reported benign, the gauze packing is to be at once removed and the stitches tied. If, however, it should be malignant, the radical operation should be done as soon as possible. I would emphasize the fact again that the only treatment of cancer of the breast which gives any real hope of permanent cure, is very thorough removal.

Cancer of the breast should never be subjected to any other treatment because of the loss of valuable time. Pathetic instances are frequently met of individuals who have been treated by means of the x rays for a long period of time. These poor women have always passed from early operability to absolute hopelessness. All nonoperative methods should be strictly confined to the inoperable cases, and every tumor of the breast should be removed in the most complete manner if a reasonable suspicion exists as to its malignancy.

THE CHOICE OF METHOD OF OPERATING.

Much has been learned about the operative treatment of cancer of the breast since 1894. It was not until then that we attained satisfactory results in our treatment. By a coincidence the technique of the modern radical operation was published by independent workers at about the same time.

William Halstead described his operation in the *Annals of Surgery*, October, 1894, and Willy Meyer published his monograph descriptive of his method in the *Medical Record*, December, of the same year. The operations differ chiefly as to the direction of the removal of the tissues. Halstead excises the tissues from the chest toward the shoulder. On the other hand, Willy Meyer removes the tissues from the shoulder toward the chest, dividing the pectoral muscles first, next the blood vessels leading to and

*President's address delivered at the annual meeting of the Hillsborough County Medical Society, held at Nashua, N. H., April 4, 1905.

from the breast, and then the axillary fat, glands, and breast are removed in their order towards the sternum.

This operation is certainly a classical, anatomical removal of all the affected parts. The early control of hæmorrhage also is of importance; it is practically a bloodless operation. It has the particular advantage also of removing the tissues against the direction of the flow of the lymph and the blood in the venous channels. Thus in working toward the tumor and not from it, the danger of cancer cell implantation is very materially diminished.

There have been many modifications of the Meyer and Halstead methods. Of all the incisions devised, the dermatoplastic modification of the Meyer operation by Jackson of Kansas City is the most ingenious. Jackson (1) first published his operation March 3, 1906. The method is gradually being more and more used by surgeons throughout the country and merits general adoption on account of its distinct advantages. The skin incision enables

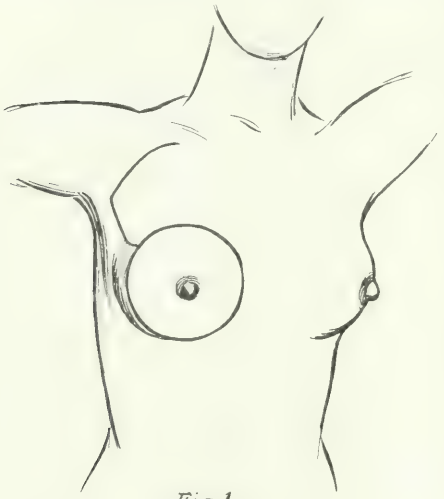


Fig 1

Fig. 1.—Outlining the skin incision.

one to remove the skin wide of the breast and further allows one to close the incision without the necessity of skin grafting. It also does away with relieving or undercutting incisions and there is no tension in suturing and consequently no pain. I have used for some time the Jackson technique in operating, and can recommend it most highly.

THE OPERATION.

Jackson advises a slight scratch stroke of the knife to outline the plan of the skin incision. (Fig. 1.) The incision should be well beyond the bounds of the breast itself and is begun at a point about one and a half inch below the middle of the clavicle. From this point it is carried downward and outward over the edge of the deltoid muscle, to the outer edge of the lower border of the pectoral fold. The incision is then curved around the outer edge of the pectoral fold and carried thence to the chest wall, where it meets the outer circumference of the breast. The remaining portion of the incision is made in the form of an ellipse about the breast. The ascending portion only of the ellipse should be made at the beginning of the operation. The quadrilateral flap, thus outlined above the breast, is now dissected upwards from below, and above its base the skin is undermined up to the clavicle. The flap is then rolled up in a large, moist, hot gauze pad and turned back to rest on the sternum. The converging fibres of the pectoralis major muscle are exposed and the index finger of one hand is now pushed up underneath the muscle tendon and clavicular portion. With the muscular tissue well elevated it is now divided very close to its insertion.

The muscle at once retracts toward the chest and the pectoralis minor muscle is in turn exposed, isolated, and divided in the same manner. This gives a wide exposure of the axillary space. The fascia and fat of the axilla are now removed from above downward and inward toward the chest, which



Fig. 2

Fig. 2. [illegible] the cavity of the wound.

mass of fat and fascia should include the glands intact. The vessels as they appear are double clamped and ligated between the hæmostats. This dissection should clear the subscapular and serratus magnus muscles of all visible fat and connective tissue.

The pectoralis minor and major muscles are now separated from underneath, flush with the ribs and the costal muscles. While this is being done the breast is forcibly pulled back so as to expose the cavity of the wound (Fig. 2). The perforating branches of the internal mammary artery are cut and clamped. After the pectoralis muscle has been divided from beneath, the breast is returned to its normal position and the skin incision, as at first outlined, is completed. Owing to the fact that all vessels are ligated as trunks at their points of origin, the skin incision practically does not bleed at all. This avoidance of dealing with a large number of periph-

eral branches of bloodvessels, in itself is a great saver of time.

On completing the lower part of the skin incision, the breast, skin, attached muscles, fascia, axillary fat, and glands are removed in one mass. The wound is then examined, bleeding points are secured, and the surfaces thoroughly dried. The quadrilateral flap of skin and fascia which was rolled up in gauze is now stretched out and transferred inwards to cover the defect of the chest wall. This flap always contracts after it has been loosened, and will look to be of doubtful service. It will, however, spread out with a little traction until it covers a large amount of space. A stab puncture in the lower skin fold allows oportunity for drainage. The flap is now drawn over the wound and temporarily approximated with tenaculum forceps.

At these points, figure of eight approximation silkworm gut sutures are introduced (Fig. 3). The remaining sutures may be either interrupted, continuous, or subcuticular as desired. It is most surprising how little tension there is on the suture line.



Fig. 3

The wound gives very little subsequent pain and usually heals readily. In a recent case I lost about one half inch of the lower skin margin of the flap by superficial gangrene. The patient was seventy-four years old, with advanced arteriosclerosis. The skin only became gangrenous, the subcuticular fascia not being involved. This fascial surface rapidly granulated and did not appreciably delay convalescence.

Should the tumor be situated high on the upper margin of the breast, the quadrilateral flap should be fashioned from the skin higher up. Such a flap could be taken even from the deltoid region and yet the closure could be effected with practically no tension.

At the termination of the operation the wound is irrigated and dressed with a snugly fitting gauze dressing. The free use of the arm is allowed and encouraged.

Not so very long ago it was the custom to encourage a slow convalescence by binding the arm in a painful position and strapping it to the chest with plaster. The dressings should be so arranged as to permit free mobility of the arm unrestrained by fixation to the chest. Such patients are often out of bed the second or third day. Occasionally we see slight swelling of the arm, which may appear early or late. It is probably due to the thorough removal of the lymphatics, which disturbs the lymphatic drainage of the arm, instead of being due to pressure upon the vein. This condition is relieved and frequently entirely overcome by early and persistent use of the arm. In this operation the drawing of the skin from the floor of the axilla up to the arm does away with the axillary fossa. This is important, as in other techniques the empty axillary space is difficult to drain and is usually obliterated by the formation of extensive fibrous tissue growth. Furthermore, this dermatoplastic incision safeguards against the possibility of any contraction of the skin which would fix the arm to the chest, and the early and complete restoration of the function of the arm is marked.

This technique also entirely obviates the necessity of skin grafting, a procedure so necessary and so common after many operations. This method gives absolute freedom from pain during convalescence in the line of the sutures, which immunity is due to absence of tension, and to cleanly incised and not undercut skin margins. There is also no pain in the distribution of the axillary nerves. This operation should be performed easily by one of experience within an hour, and should not be attended with the least shock. This manner of operating does away with a long exposure of an enormous area of raw chest surface. Although it is one of the largest operations in the domain of surgery yet there should be practically no mortality.

Judd (2) states that "the most important means in determining the prognosis in cases of cancer of the breast is the length of time that the tumor has been growing. Knowing that over three fourths of these lesions are malignant in the beginning, and that at least one half of the remainder will become so, we believe that the tumor cannot be removed too soon. The second most important factor in the diagnosis is the extent of the involvement. Along the lines of present day practice, implication of the lymphatics no longer militates against a cure. The radical operation performed before the pathologist can demonstrate any involvement of the glands will give about eighty-five per cent. of cures, although as soon as we are able to show that one axillary lymph node is involved, the percentage of cures drops at once to twenty-five per cent., and if the secondary lymphatics (supraclavicular) are involved, we will be able to effect very few if any cures."

On account of the great activity of the lymphatics in the young the age of the patient is also of importance in prognosis. More hope can be promised to a woman of sixty years who has had cancer for a year than to a woman but thirty years old who has

suffered malignant disease of the breast only a few weeks.

CONCLUSIONS.

1. Surgery, at the present time, presents the only means to cure cancer of the breast.

2. The diagnosis of cancer must be made early, and the medical profession must insist upon an early operation.

3. The earlier a cancer is operated on the greater the chance of cure.

4. The laity must be taught that cancer in its early stages is a painless disease, and that every delay in submitting to operation lessens the chance of recovery.

5. The dissection of Willy Meyer is the most scientific, the most radical and thorough, and presents a minimum opportunity only for the dissemination and implantation of cancer cells.

6. The dermatoplastic modification of this operation by Jackson provides an ideal technique, free from many of the faults incident to the old curved and linear incisions. It also makes possible an early painless convalescence with little or no limitation in the functionating power of the arm.

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967 ELM STREET.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CX.—How do you treat flatulence? (Closed May 15, 1911.)

CXI.—How do you treat acute infantile anterior poliomyelitis? (Answers due not later than June 15, 1911.)

CXII.—How do you treat psoriasis? (Answers due not later than July 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED) *that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to Question CIX has been awarded to Dr. George A. Graham, of Kansas City, Mo., whose article appears below.

PRIZE QUESTION CIX.

WHAT ARE THE BEST MEANS OF REDUCING INFANT MORTALITY?

BY GEORGE A. GRAHAM, M.D.,
Kansas City, Mo.

Statistics show that the rate of mortality among infants less than one year old, and that of persons who have reached the age of eighty-five years, are about equal; that a newly born babe has the same chance as a person of eighty-five years to survive one year; also that of the total number of children born, one half die before reaching the age of six.

There are two great causes of this excessive infant mortality—begetting unhealthy weaklings and improper care of children after their birth. The first of these—the birth of children subject to disease, or with an hereditary tendency to disease—is at present the subject of much thought and discussion, and the remedial measures are as yet in the formative period and will require time and evolution for their proper working out.

Legislation on the subject of improper marriages is often suggested, but it is questionable whether by restrictive legislation one evil would not be substituted for another and unhealthy illegitimate children, instead of unhealthy legitimate children, would be born; and the death rate of illegitimate children is more than double that of legitimate children.

Education of the masses and a more sober realization by the preachers of their obligations to the public in performing a marriage service would help mitigate the evil. Preachers are too prone to aid, not only in public, stage, and spectacular weddings, but also in weddings of children, of age to youth, of vice to innocence, of disease to health, even of disease to disease; all of which evils have their effect on the offspring of such marriages. "The proper study of mankind is man," here as elsewhere; and when youth is taught sufficient sexual hygiene to know and realize what such marriages entail, then only can we expect conditions to be bettered.

With tuberculosis a leader in the death rate columns, with a large percentage of all adults luetic, there is surely great need of some means being devised for the prevention of the union of persons suffering from these diseases, for the sake both of their victims and their degenerate offspring. Let us first devise means for breeding a healthy race before we specialize in the breeding of a race of artists, a race of musicians, of poets, of orators, etc., as has been proposed.

The second great division of the causes of excessive infant mortality—the lack of proper care of children after birth—is especially our care as physicians, as we alone can reach and endeavor to teach all classes. The principal subdivisions of this great cause are:

A, Improper food; B, bad sanitation; C, exposure from lack of proper protection; and, D, want of knowledge and care on the art of parents in preventing the spread of contagion.

A. As to improper food—here legislation of the strictest kind would be a boon. All so called baby foods should, by law, be labeled "food for invalids, *unfit* for babies." The manufacture of nipples for nursing bottles should be regulated so that a mother could not provide her baby with a death trap in the shape of a nipple composed of glass tubes, bone, and rubber, which is still sold with nursing bottles. A nursing bottle should be of equal width throughout its entire length, with no constriction at its mouth, graduated into ounces, and provided with a rubber cap or cover the centre of which is formed

into a nipple, and which can be easily turned inside out.

The best food for an infant is mother's milk, and all mothers should be encouraged to suckle their children, and to resort to artificial feeding only when all efforts to provide a sufficient supply of mother's milk have failed; and, when possible, merely to supplement an insufficient supply of mother's milk with a certain amount of artificial feeding. Next to mother's milk, the only food fit for infants is cow's milk, pure and clean, free from germs, modified to meet the requirements of each case, and, in the beginning and in cases of weak digestion, partly peptonized, both as an aid to digestion and to prevent the formation in the stomach of a mass of curd.

Up to the age of eight months, milk should be the *only* food for an infant. The pernicious habit of feeding a nursing infant anything and everything is responsible for many infant deaths. After eight months, a small amount of starchy food may be added, best in the form of crackers or wafers, on which the child can exercise its new and coming teeth. After eight months a small amount of egg, clear broth, and white bread, added to its daily allowance of milk, should be absolutely all that a baby should receive until the age for weaning is reached, when good cow's milk should be substituted for mother's milk, and cereals, potatoes, rice, and other foods suitable for children may be added as the child's age increases. No meat should be given, except scraped beef and very little of that, until a child is old enough to be taught properly to chew his food. No beans, either navy or green, no tomatoes, corn, olives, pickles, peanuts or nuts of any kind, no popcorn, grapes, figs, raisins, orange pulp, or rolled oats should ever be fed to a child. Gastrointestinal diseases cause one third the deaths among infants under one year old, and gastrointestinal disease means always an error in the diet.

Pure milk stations and visiting nurses, established in large cities by boards of health, have done much good, but only with the poorer classes. Rigid dairy and milk inspection, testing the cows for disease, destroying all cattle found diseased, and making absolute cleanliness essential in handling milk in its progress from the cow to the consumer, compelling its distribution in original sealed packages only, would greatly help reduce the death rate among infants of all classes.

The system of rating dairies by merit or demerit marking, and allowing all of them to dispose of their milk, no matter how low their rating, is a farce and a matter in need of stringent legislation.

Restrict the sale of "milk from one cow" by an obliging neighbor. Often these solitary cows are fed on garbage or distillery slops, and give milk which is absolutely unfit to be fed to infants. *Make all milk pure milk in country, village, and city alike.*

B. Bad sanitation can be remedied only by legislation, aided by boards of health. Many children in the poorer districts are crowded into one room, which is often over heated, always ill ventilated, unscreened from flies and mosquitoes, badly smelling, sometimes underground; a germ laden place, which is a large factor in the production of gastrointestinal, respiratory, contagious, and filth diseases. These places should be legislated out of existence.

C. Exposure from lack of proper protection requires that mothers should be taught to keep their children warm; some babies, especially premature ones, are chilled to death soon after birth. Many infants contract bronchitis and pneumonia from lack of proper clothing. The children of the middle and lower classes can often be found clothed warmly about the chest, but with the belly, legs, and buttocks bare and cold. Allowing children to sit, play, and fall asleep on the floor furnishes ideal conditions for the contraction of pneumonia and influenza through the chilling of the surface of the body and the proximity to the source of germs. Rompers, which cover the body from ankle to neck, protect alike the clothes from dirt and the child from cold and draughts, and their universal use would lessen infant mortality from diseases of the respiratory passages.

D. The lack of knowledge how, or desire to combat the spread of contagion yields many victims. Monetary considerations usually figure largely. Fathers or brothers of one suffering from contagious disease fear loss of employment. A grocery, dairy, or fruit stand is often, through concealment, a source of contagion. Another matter ignored by many health boards, is the occupation of people living in infected houses, and the probability of the spread of contagion through them. A health officer should enter the house and *see* that the person suffering from contagious disease is properly isolated, and *see* that he remains so.

A case of infantile paralysis was reported; a health officer tacked up a card and went away. The father of the child peddled fruit in a wagon; the unsold fruit was stored in the house overnight; in his leisure moments he would hold the sick baby in his arms. Yet some wonder how this disease spreads!

Proper care should be taken of toys, teething rings, and articles used as toys by children, sterilizing them by boiling where possible, seeing that they do not fall on the floor, become coated with dust, and then enter the baby's mouth.

The spread of Christian science and various other pathies and fads has resulted in there being a large percentage of children unvaccinated, which has become such a source of danger that smallpox recently appeared in one of our schools.

The legislature should pass a law making compulsory the vaccination of all children over six months old, and fixing a punishment on those cranks and faddists who allow the wisdom of their ignorance to override the indisputable evidence of an overwhelming mass of scientific facts, and thus endanger not only themselves but whole communities.

There should be appointed in each State one or more thoroughly competent State pathologists whose duty should be personally to investigate all epidemics occurring in the country villages and towns, everywhere, except in large cities, ascertain the cause and see that it is no longer acting or liable to be renewed. Rural epidemics are especially fatal.

It should be made a punishable offense for a

physician to treat a case of diphtheria without administering antitoxine at the earliest possible moment. Of late a doubt has arisen as to whether or not it is wise to administer small prophylactic doses of antitoxines. There is a danger, should occasion arise for the subsequent use of a large curative dose, lest a condition of anaphylaxis be set up, and the patient die suddenly of toxæmia. It would be safer to use a moderate curative dose for immunizing purposes.

The question of the prevention of excessive infant mortality calls, therefore, for legislation and education and the result depends on the physicians, as they must not only educate the masses but educate the legislators so that they will be impelled to enact proper restrictive and preventive legislation. When the laws are passed, physicians must see that they are rigidly enforced.

Meantime, we must rely on teaching and moral suasion, not waiting until a child becomes ill before warning the mother, but condemning wrong and dangerous practices where and when we find them, and taking every opportunity to teach and show the correct way of caring for an infant.

1101 East Eighth Street.

Dr. Hyman Goldstein, of New York, writes:

The present high rate of infant mortality is not entirely due to deficiency in the science and art of medicine, but also to faulty legislation and the unintelligent class who, in a great measure, are responsible. The physician must act as pilot to guide the wheel of prophylaxis and be assisted by proper legislation and an intelligent public to gain in this great battle between life and death in the infant. Our failure should be adjusted by studying and remedying conditions, not when the infant is born, but before. In other words, guard the health of the parents. From another viewpoint, the solution lies in prophylaxis. We need the assistance of proper legislation. I will suggest that more attention be given to the "Child Labor Law." Improved sanitary conditions should exist in all factories, no sweat shops permitted and, most important, a full hour for luncheon should be allowed. It is not so vital a question as to how many hours daily one works, as the harm is done when the child hurries her meal and bolts the cheap, dry and cold, stale delicatessen foodstuffs. A law should be enforced whereby every person who wishes to receive a marriage license should be compelled, without exception, to present a certificate from a licensed medical practitioner, stating results of a thorough oral and physical examination made, and whether he or she of the said parties concerned is in fit physical and mental condition to be married. Another invaluable suggestion is to divide equally each county into districts and subdivide the latter into so called family districts. Each physician should care for a certain number of families, keep a full account of their pedigrees as regards health, and study the idiosyncrasies and resistance of each member of the family, examining all at least once a week. Should any one of the family move from the district, a copy of their health record should be obtainable from the previous resident physician; compensation to be paid by each family annually in proportion to their savings. Those who are unable to pay should have their health records made by medical inspectors at the city health department. By these means of prophylaxis and including proper hygienic care for the mother during the entire period of gestation, I am certain that infant mortality will be lowered to less than one half of the present. The public should be educated to this.

Bottle fed babies furnish nine tenths of the infant mortality. Therefore I lay much stress upon the care of these babies; nursing should be imperative as the ideal infant food, and interdicted only for absolute cause, as tuberculosis of any organ, epilepsy, syphilis, nephritis, malignant disease, chorea, rapid loss of weight and cachexia, bad milk, and rapid loss of weight of the child, advent of pregnancy, and serious illness. The mother must heed the proper hygienic precautions as to emunctories, bathing, mild exercise, open air life, plenty of sleep, and good habits; avoid all exciting emotions, cease excessive alcoholic drinking and the use of drugs that affect the milk.

The bottle fed baby is most susceptible to various gastrointestinal disorders, rhachitis, scorbutus, etc., mainly because of the improper proportion of the proximate principles in bad milk mixtures, and the lack of citric acid, which is precipitated as calcium citrate in boiled milk along with other changes. Pasteurized milk mixtures prove to me more satisfactory.

It is very important properly to feed the child between the ages of one year and seven years, that is not to over or under feed them. The dreaded second summer causes many deaths due to ignorance or carelessness of the parents. It is better if the nursing child can be weaned during the winter, early spring, or autumn months. I usually add three to four ounces of cereals to the feedings at the eighth month and gradually increase them. After the first year I allow five meals.

The child should be allowed light exercises in the open air, daily bathing, care of the emunctories, and take other hygienic precautions. At the time of teething, properly fed children rarely suffer any symptoms. If present, I get great relief for them by the use of high colonic irrigation through a small sized catheter, No. 10, French, using cold soapsuds with a pinch of salt, allowing it to flow very slowly. By these means the intelligent mother will prevent undue suffering in the various gastroenteric disorders on the part of her child and prevent the placing of another tombstone.

Concluding, I firmly believe that should my suggestions as to proper legislation concerning the child labor law; to a medical certificate being necessary for those who wish to obtain a marriage license; and, if possible, to the appointment of a resident or district physician as outlined, we shall advance greatly in the matter of prophylaxis. This with the proper physical and mental care of the mother during the period of gestation, and, later, of both mother and child, I am certain, will diminish infant mortality to a minimum and make many a home happy that would otherwise be bereaved.

(*To be continued.*)

Correspondence.

LETTER FROM LONDON

Mr. Lloyd George's State Insurance Bill.

LONDON, May 1911.

The outstanding topic of general as well as medical interest at the present time is the National Insurance Scheme which Mr. Lloyd George introduced into Parliament, May 11th. I will give the main provisions for the benefit of your readers. The government scheme is to include all wage earning men, women, and young persons under the income tax paying class, that is to say, all earning less than £3 a week. But there are certain exceptions:

1, Soldiers and sailors; 2, teachers, who will be provided for under special schemes; 3, servants of the crown and the municipalities with retiring pensions; 4, commission agents employed by more than one person; 5, certain classes of the most casual sort of laborers.

Otherwise, the scheme as a whole is compulsory, and work people, employers, and the State will all contribute in their separate proportions. In addition, there will be two relatively small classes of voluntary contributors:

1, Small tradesmen and men working for themselves; 2, those who have once been employed by others, but afterward work for themselves.

For all these, compulsory and voluntary contributors alike, there will be one uniform contribution; the workman will contribute 4d a week, the workwoman 3d, the employer 3d, men and women alike, and the State will contribute 2d a week for men and women alike. In return for these contributions the scheme offers: 1. Free medical relief with no taint of charity. Moreover, the medical men belonging to the friendly societies are to be better paid, and wherever possible, i. e., wherever a chemist is available, he will do the dispensing and the doctor will only prescribe; 2, a benefit of thirty shillings in maternity cases, with the proviso that women are not to return to work for four weeks; 3, special help in cases of consumption; 4, sick allowance of ten shillings a week for three months, then five shillings a week to end of six months, and a permanent disablement allowance of five shillings a week to age of seventy years, when the patient would be transferred to the old age pension fund; 5, women to receive seven shillings and sixpence for the first three months, and thereafter on the same scale as men; 6, young persons under sixteen years will not receive sick pay allowance, but will receive medical treatment and the use of sanatoria.

This is a short summary of the chief provisions of the bill. It will be seen that medical men will be affected by it in various ways. Mr. Lloyd George, referring to the medical benefits when introducing the bill, said: "What generally happens when a workman falls ill is this: He hangs on as long as possible until he gets very much worse and then goes to a doctor and runs up a bill. When he gets well he has to do his very best to pay that among other things, but he very often fails. I have met many doctors who told me that they had hundreds of pounds of bad debts of this kind for the payment of which they could not think of pressing. What really happens now is that thousands and hundreds of thousands—I am not sure I am not right in saying millions—of men, women, and children of this class get such doctoring as they can purchase. They get it either at the expense of the food of their children or at the expense of good natured doctors. The doctor is a very great sufferer indeed. I do not think it right that we should do our charity at the expense of hard working doctors. What we propose for the 14,700,000 people affected by this bill, including all the industrial population of this country, is that when one of them falls ill he can command the services of a competent doctor with the knowledge that he can pay—not only that, but the doctor whose services he commands knows also when he goes that he will be paid. As regards the rate of payment the average the doctor at present obtains from the friendly societies is four shillings a member per annum. The doctor says he cannot do it for that, and I am inclined to agree with him. The first thing that ought to be done is to separate the drugs from the doctor, because a patient so long as he gets something which is colored and thoroughly nasty is perfectly convinced that it must be very good medicine. Therefore, there ought to be no inducement for an underpaid doctor to take it out in drugs, for I understand that no doctor can possibly afford to give the more expensive drugs and some of these drugs are positively essential to a cure in many diseases. The doctor's business should be confined to prescribing and the chemist's to dispensing. There must be a compulsory separation of the two."

Referring to the proposed State aid for consumption, Mr. Lloyd George said: "There are, I believe, in this country about 400,000 to 500,000 persons who are suffering from tuberculous disease. From the friendly society point of view it is a very serious item because of the dragging length of the illness. There are 75,000 deaths a year in Great Britain and Ireland from tuberculosis. All the resources of this country should be placed at the disposal of science to crush it out. I do not say we can do it. Doctors are confident they can, and the men who have devoted a great deal of attention to the subject are the most confident. I propose to ask the House to help them. In Germany they have done great things in this respect. They have established a chain of sanatoria throughout the country and the results are amazing in the number of cures that are effected. In this country we have practically only 2,000 beds in sanatoria which are devoted to tuberculous patients. I really think it is about time that the State should take the matter in hand. The Government's proposal is that we should first of all assist local charity and local authorities to build sanatoria throughout the country, and we propose to set aside £1,500,000 as a capital sum for that purpose."

It will be seen that this bill is likely to have very far reaching effects on the medical profession. The bill has generally been received favorably, in many quarters with enthusiasm. The actual text of the bill is not yet published and medical men will consequently defer their opinion on the medical aspects of the bill.

LETTER FROM EDINBURGH.

Consumption Crusade.—Postgraduate Courses in Glasgow.—Convalescent Home for Glasgow Poor.—A Glasgow Doctor on Invalidity Insurance.

EDINBURGH, May [illegible], 1911.

In the fifty-sixth report of the Registrar General for Scotland on births, deaths, and marriages during 1910 some interesting figures are cited. The birth rate is the lowest since 1855, the marriage rate also the lowest during that period with the exception of 1909, and the death rate the lowest on record, this being below fifteen per mille. For the first time the death rate in the town districts is lower than that in the rural districts. No serious epidemic has taken place except an outbreak of measles, the epidemic of cerebrospinal meningitis which began in 1906 having practically subsided. The death rate from phthisis in the eight principal towns shows a decrease; in Edinburgh and Leith this decrease during the last ten years amounts to over forty-five per cent. Deaths of children from infectious diseases amounted to 1.29 per mille, the greatest number being from measles, diphtheria, and whooping cough. The death rate from malignant disease was 1.07 per mille, from pneumonia 1.45, from bronchitis 1.04, from puerperal septic conditions and from diseases and accidents of pregnancy and childbirth 5.9 a thousand births. The death rate from tuberculosis (all forms) shows a marked decline in all towns except Dundee, which stands the same as in 1901.

The Registrar General's report on vaccination for 1909 has also appeared, and shows a somewhat serious state of affairs, the number of unvaccinated children being largely on the increase. The number of children for whom certificates of successful vaccination have not been produced amounts to over 33,000, or 5,568 more than in the previous year. The working of the Scotland vaccination act, 1907, which allows exemption on grounds of "conscientious objection," is responsible for adding fully 25,000 unvaccinated children to the population during 1909, and some 45,000 in the course of two years. It will be sufficient to quote the comment of one of the district examiners of registers, who says: "Too large a proportion of those who take advantage of the provisions of the act belong to a class who are not generally in other respects too solicitous regarding the health of their children, and who, on account of the indifferent housing and sanitary conditions under which many of them live, would be liable to suffer the most severely in the event of an epidemic."

The proposal to inaugurate a crusade against consumption as a memorial to the late king, Edward VII, is still warmly advocated in Glasgow, although the proposal has practically been negatived by the Edinburgh committee. Apropos of the controversy a friend of the writer, a medical man who has devoted considerable attention to pulmonary diseases, recently expressed his opinions on the question of consumption crusades in no uncertain manner. "We are spending thousands of pounds," said he, "in curing consumptives by establishing sanatoria and open air hospitals, while we are allowing the disease to grow in the midst of us and to produce six fresh cases for every one cured. Look at ——— Street (referring to a densely populated street in an Edinburgh slum district); it consists of tenements containing houses of one and two rooms. Every house in that street is producing phthisis patients faster than all our hospitals can cure them. A true consumption crusade should consist in pulling down slum tenements, not in establishing expensive hospitals."

A series of postgraduate classes has been arranged to begin shortly at the Glasgow Royal Infirmary, and a second course has been fixed for September. A very complete course has been arranged, and as the facilities for clinical teaching at the Glasgow Infirmary are exceptionally favorable, it is anticipated that the attendance will be at least as good as in previous years. Dr. Maxtone Thom is superintendent of the course, and will be glad to give full information to any of your readers who may be visiting Scotland during the summer and who might like to attend the course or any portion of it.

An interesting experiment is about to be made by the Glasgow parish council in connection with the treatment of infirm patients. A modern mansion, known as Dunclutha, near Kirn, on the Clyde, has been purchased at a cost of £3,500, and converted into a convalescent home with accommodation for 200 patients. The house stands in its own grounds, and will be used for poorhouse patients. The surroundings of this new convalescent home are very beautiful, and as the place is free from all influence of town life, it is hoped that it will prove of great benefit to those sent there.

Sir David C. McVail, at a meeting of medical men held recently in Glasgow, made reference to the effect which the proposed invalidity insurance would have on the profession. Such proposals, he said, were bound to be placed on the statute book in some form or other under any government, and they would enormously change the whole conditions of medical practice. Medical practice had been changed by the preceding governments during the last thirty years in a marvelous fashion, as for instance, it had now nothing to do with infectious cases, except to diagnosticate and certify them. Invalidity insurance was going to be a question which would revolutionize the relationship between the profession and the public, but how the profession was going to assert itself and deal with the matter when it came before Parliament he did not know.

Therapeutical Notes.

To Eradicate Pediculus Pubis.—In the recently issued work entitled *Médications générales* (J.-B. Baillière et fils, Paris), it is stated that pediculus pubis which infects both rich and poor may be exterminated, ova and all, by the application of a mixture of equal parts of compound spirit of ether and xylol. It is applied by means of absorbent cotton, and causes some pain but is said to be very efficacious.

Antidotes to Poisons.—To induce vomiting in cases of poisoning Pouchet in *Médications génér-*

does advises the use of copper sulphate mixed with starch. He takes fifteen grains of pulverized copper sulphate and mixes it with one drachm of pulverized starch and administers one fifth part at five minute intervals until copious vomiting is provoked. As a general chemical antidote, especially in arsenical poisoning and against all metallic salts he recommends the following.

I.

℞ Crystallized ferrous sulphate, ℥ii.
Distilled water, ad ℥viii
Ft. solutio.

II.

℞ Calcined magnesia, ℥ss;
Distilled water, ad ℥iii
M.

The two liquids in equal portions are mixed and agitated vigorously at the moment of administration, doses of one tablespoonful being given every five minutes.

An Emollient Cream for the Skin.—According to the *Practitioner*, quoting from *La Clinique*, the cold cream usually prescribed [in France] is generally made up as follows:

℞ Lime water, ℥i;
Rose water, ℥ss;
Petrolatum, ℥ss;
Wool fat, ℥i.
M. Ft. cremor.

Carle, of Lyons, considers that this prescription has several drawbacks. There is not enough water, it does not incorporate well, the lime water is sometimes irritating, and the proportion of wool fat is too great. He therefore proposes the following alteration so as to obtain a preparation that can be used in all irritations of the skin:

℞ Rose water, ℥ii
Wool fat, ℥ss;
Petrolatum, ℥i.
M. Ft. cremor.

This may be scented with any desired perfume, say one drop of oil of geranium, three drops of terpineol, or two grains of balsam of Peru.

The Treatment of Cough in the Consumptive.—Class, in the *Journal of the American Medical Association* for May 20, 1911, recommends the use of a bland gargle as a preliminary, giving the following formula:

℞ Boric acid, ℥i
Carbolic acid, gr. ii
Glycerin, ℥ii;
Rose water, ℥i;
Distilled water, ad ℥viii.
M. et Sig.: Use half and half with tepid water as a gargle.

To check excessive secretion in the nasopharynx he prescribes the following:

℞ Iodine, gr. ii to gr. x;
Potassium iodide, gr. xv to gr. xlv;
Glycerin, ℥ii
M. et Sig.: Paint the nasopharynx every day or every other day.

A number of methods are advocated to allay supersecretion. Foremost, probably, stands the use of the perforated inhaler, suggested early in England by Sir W. Roberts, of Manchester, and Dr. I. Burney Yeo, and long championed in this country by Dr. Beverley Robinson. This simple apparatus is worn easily by patients, and with judicious periods of rest can be kept on most of the time. At night many wear it without annoyance. There is one objection, during the colder months. The warm expired air rapidly condenses and finally drenches the face and pillow repeatedly. This is a drawback to some, disturbing their rest, and it is far better then to discard the apparatus before sleeping.

The principal drugs used in the inhaler are creosote or solution of formaldehyde in some combination, as in the following:

℞ Creosote, }
Chloroform, } equal parts of each.
Alcohol, }
M

The author notes that in Quincke's clinic, the attempt has been made to check excessive secretion by induced hyperæmia. The foot of the bed is raised from nine to twelve inches in the early morning, for two or three hours, and again at night. The patient lies flat on the back, the face turned toward the side.

In the terminal, hopeless stage, free use of morphine seems imperative. The following combination has been suggested by Dr. H. S. Patterson:

℞ Morphine sulphate, gr. 1/12;
Tincture of belladonna, ♏v;
Ammonium chloride, gr. v;
Distilled water, ad ℥i.
M. Sig.: Such a dose, if necessary, every four hours.

Or this of Dr. S. W. Lambert:

℞ Extract of opium, gr. ii,
Extract of belladonna, gr. i
Chloroform, ♏xx;
Syrup of tolu, ℥i;
Distilled water, ad ℥iv.
M. Sig.: A teaspoonful every four hours, if necessary.

For a short time heroine (from 1/8 to 1/2 grain) seems to work well; but its efficiency is short lived, and in the very advanced cases soon must give way to morphine, which at last is the sole means of comfort, scant at best.

To Overcome Iodism.—Lombard is cited in the *Journal de médecine de Paris* for April 8th, as the author of the following prescription for use in the treatment of iodism:

℞ Sulphanilic acid, gr. viiss;
Sodium bicarbonate, gr. viiss.
M. Ft. cachet No. 1.
Sig.: One cachet four times daily with meals.

Medication in Spasmodic Croup.—A prescription reproduced in the *Monthly Cyclopædia and Medical Bulletin* for March, 1911, from the *Medical Fortnightly* is as follows:

℞ Tincture of belladonna leaves, gtt. x;
Chloral hydrate, gr. vii to gr. xx;
Potassium bromide, gr. xv to ℥i;
Syrup of acacia, ℥iv;
Distilled water, q. s. ad ℥ii.
M. et Sig.: Teaspoonful in water and repeat in two or three hours if required.

To Overcome Pelvic Congestion.—Heizen (*Journal de médecine de Paris*, April 13, 1911) is cited as recommending the following prescription:

℞ Fluid extract of hydrastis canadensis, ℥iiss;
Fluid extract of cotton root bark, ℥iiss;
Tincture of witchhazel bark, ℥v.
M. et Sig.: From forty to sixty drops to be taken three or four times a day.

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MEDICAL EXPERT TESTIMONY.

For some years prior to 1908 there had been a growing sentiment of antagonism toward the existing state of medical expert testimony; but it was only as a result of flagrant public scandal during a trial in that year that public opinion became so strong as to demand measures of reform. The Hon. Joseph H. Choate, president of the New York State Bar Association, received so many letters from prominent men in all fields of endeavor, including the medical and legal professions, expressing disapproval of one or another aspect of the expert testimony in this trial that a committee was appointed to investigate the matter with a view to recommending a remedy. Judge A. Y. Clearwater was made the chairman of this committee, and it was he who addressed the Academy of Medicine on May 18th on this subject.

He spoke of the existing evils without fear or hesitation. The present methods are, in his opinion, quite unjust and do not serve the ends of justice, but rather conduce to its miscarriage. The very fact that the expert receives his compensation from one of the litigants tends to make even the most scrupulous and conscientious man partisan in his opinions. Many incompetent and even dishonest men can be found, and much unscrupulous and specious testimony is introduced. The commercializing of scientific knowledge greatly lessens its accuracy and value. The expert is selected solely to express an opinion favorable to his retainers, and opinions may be obtained to support any view. It is not an exaggeration to state that medical experts are known to have been guilty of moral perjury and their lawyers of subornation of perjury. Wealth is rendered nearly immune from just punishment because it can secure a vast preponderance of expert opinion in its favor. From the recent abundant display of the truth of all of these statements in several of the more theatrical criminal cases, the opinion of the medical expert has come to be regarded as quite or nearly valueless, on account of his presumptive bias.

Having thus ruthlessly inveighed against the medical expert, the judge mollified his invective a trifle by conceding that the bar and bench were both most unfair in their treatment of the expert witness. It is within the power of the judge to throw out the unqualified man or the charlatan; but he seldom exercises this power, either through his inability to measure qualification, through his own weakness, or through his love of glory to be gained by a theatrical display in his court. Then, too, when a calm and honest man of science comes before the bar as an expert he is confused, and tormented and angered by unnecessary, quibbling cross examination by the lawyers, and thus rendered mentally unfit to give a well weighed expression of opinion.

Finally, there is the abuse of the hypothetical question which has been so much in evidence of late. In theory and upon analysis it is the most perfect way under the common law proceedings of getting an unbiased opinion. But in practice it has become involved and perverted so as often to lead to a false opinion.

To remedy these evils, Judge Clearwater suggests the appointment of experts by and for the courts, to serve, when summoned, as aids to the judiciary in learning the truth and in the administration of justice. These experts are to be limited in number, of recognized ability, and nonpartisan by virtue of their State appointment. He would also restore the hypothetical question to its just form and would prohibit its abuse by the bar.

The judge was followed by Dr. Charles L. Dana, who made a few succinct remarks from the point of view of the honest and scientific physician and of one who has often been called as an expert.

"It is all the fault of the law," he said, "and the opprobium falls on the doctors. The courts look back and not forward, and it is they who have permitted and fostered the abuse of expert testimony. The procedure of cross examination is bewildering and the expert is not given an opportunity so to present his arguments as to render them thoroughly intelligible to a jury of laymen." He recommended virtually the same remedial measures as did Judge Clearwater.

It would seem, then, that both professions—law and medicine—are united in the opinion that mod-

ern methods of expert testimony are sorely in need of radical reform, and that both are agreed on what is to be done. Heretofore all attempts at the betterment of conditions have failed, largely on account of the opposition of the unscrupulous lawyers and physicians who saw the vast commercial value that lies in the methods now in vogue. However, we have now a body of able lawyers who are cooperating with the representative medical bodies of the State to fight for the needed reforms until the battle shall be won.

In the meanwhile it would seem to be the duty and to the best interest of the medical profession, so far as it is engaged in the giving of expert testimony, to lift itself above the righteous scorn of the public by an unflinching adherence to that spirit of absolute honesty which lies at the root of our respected calling.

MEDICAL ONOMATOLOY.

We present in this issue of the *Journal* two communications regarding medical onomatology. Dr. Theodore William Schaefer, of Kansas City, Mo., criticises the terms used in medicine somewhat severely, and, in one or two cases, it seems to us, somewhat unjustly. While it is true that there is nothing holy about the os sacrum, still it was at one time regarded with great veneration by the Jews, to whom it was known by the name of *Luz*, as the only indestructible part of the body, which was to last until the general resurrection; surely no harm is done by preserving a name fraught with so much historical interest. A similar interest attaches to the word artery, preserving the fact that the ancients thought the arteries to contain only air. Dr. Schaefer passes over cloaca without comment, although its meaning is much altered from the days when it was applied solely to the great sewer of Rome, save in one humorous instance, by Plautus, to the stomach of a drunken woman. As to acne, which Dr. Schaefer says belongs only to medical slang, it is at least perfectly good French, certified to and solemnly guaranteed by the *Académie française*. Conjunctivitis is at least excusable in view of the fact that no acceptable equivalent is derivable from the Greek, and, along with vaginitis and similar words, it should be accorded the courteous treatment due to a successful *parvenu*. If arteria pudenda is a poorly chosen name, how is arteria pudendorum an improvement—an artery of parts of which we should be ashamed? Ileum has no meaning according to Dr. Schaefer; on the contrary, it has a very significant meaning, being derived from the Greek εἰλεῖν, meaning to roll up or crowd together—an excellent descriptive term, quite distinct from ilium, the flank. As to the suffix *itis*, it really means in our day inflammation and nothing else. At first it was an adjectival suffix meaning "affecting" as in the Patristic word βλεφαρίτις, which signifies pertaining to or *affecting* the eyelid; it has undergone precisely the same change of meaning as the English word affecting, which is now generally restricted to pathological conditions.

We fear that efforts to disturb our onomatology, however faulty it may be, are doomed to failure; after all, it is not scholars but the people who create words, keep them alive, and finally reject them. Except to a highly trained classical ear, our medical words are perfectly euphonious. Even if only the history of our mistakes is bound up with our present onomatology, that is a sufficient reason for preserving it; the history of medicine is one long series of rejected theories. Only now are we apparently approaching the heights of truth; perhaps when we are at the summit our onomatology will share the perfection of our diagnostic and therapeutic methods. Meanwhile, the remarks in this issue of the *Journal* of Dr. Charles A. Pfender, of Washington, will be read with interest, particularly what he has to say regarding *Treponema pallidum;* and his counsel concerning the construction of names for new discoveries might well be heeded.

THE POISONOUS NATURE OF WOOD ALCOHOL.

The suggestion which has been made that the word alcohol be abandoned as descriptive of methyl, or wood, alcohol, and the term wood naphtha substituted, is an excellent one and should by all means be adopted. The objection to the use of the term alcohol is that the word has been so generally identified with ethyl, or grain, alcohol in the public mind that to the average layman it has no other significance. Chemically the term is generic, applying to a considerable class of organic compounds, and includes such widely diverse substances as glycerin, on the one hand, and cetyl alcohol, the chief constituent of spermaceti, on the other. To the public, however, as already stated, the word alcohol simply means ethyl hydrate, or grain alcohol, the principal property of which is to induce intoxication; consequently, indigent topers will drink anything bearing the label alcohol, in ignorance of the fact pointed out by Dr. J. B. Holloway in his communication on methyl alcohol amblyopia, on page 1030, that methyl alcohol acts as a specific poison on the optic nerve. If this dangerous substance was known and labeled as wood naphtha instead of wood alcohol, the temptation to use it

intoxicant would be much diminished, though it is quite possible that some besotted individuals would find out its intoxicating qualities and use it regardless of consequences. A change in the name would also diminish its use in the manufacture of cordials, etc., by ignorant or unscrupulous makers of cheap concoctions who now use it as a substitute for the more expensive grain alcohol, in many cases without realizing the danger involved. In the Court of Special Sessions in this city an Italian in the crowded East Side was recently fined two hundred and fifty dollars for selling anisette cordial containing a large proportion of wood alcohol, and it is highly probable that large quantities of these cordials are sold without detection. The Commissioner of Health of the City of New York has issued a special notice directing attention to the danger arising from the use of wood alcohol as a beverage, a warning which, in view of the case mentioned, is particularly timely.

Untoward results have also been observed in the use of preparations made of wood alcohol for external application. There was at one time some doubt as to the deleterious effects of this substance applied externally, but this doubt seems to have been dissipated, and it is generally conceded that wood alcohol is dangerous not only when taken internally but also as an external application. The use of the methylated spirit of Great Britain in preparations for external application has probably been responsible for the disposition to use methyl alcohol in the United States in the same way. It must be borne in mind, however, that the methylated spirit of Great Britain contains only five per cent. of commercial wood alcohol, whereas the methyl alcohol which has been used externally by some American physicians contains no grain alcohol at all. It might well follow, therefore, that untoward results would be observed from the external use of methyl alcohol preparations, though the methylated spirit preparations proved wholly innocuous for external use.

It is to be hoped that the manufacturers of and dealers in this product will come to an understanding to eschew the use of the word alcohol in describing this product and will adopt some such characteristic title as that proposed of wood naphtha.

VITAL STATISTICS MUST BE REPORTED PROMPTLY.

The New York State Commissioner of Health has made public an opinion rendered by the attorney general for the State under which it appears that physicians are required by law to report to the local board of health within thirty-six hours all births at which they are in attendance, and within twenty-four hours all deaths occurring in cases under their care. Failure to make such report is punishable by revocation of license. Should the local board of health fail to enforce this law the State board of health may remove the officials for dereliction. The attorney general urges upon the medical profession the importance of complying with this law and also intimates that any dereliction on the part of local boards of health in its enforcement will be followed by prompt removal under the section. "The State of New York," says the attorney general, "will not tolerate its system of vital statistics to be impaired by the failure of the authorities of a municipality to perform the duties they have sworn to perform." This warning is one which unfortunately is needed by many physicians who fail to realize the importance of complying with the laws of the State regarding the reporting of births and deaths.

PHYSICAL EXAMINATION BEFORE MARRIAGE.

The Ohio State Medical Association, at its meeting in Cleveland on May 18th, urged the passage of Senate Bill No. 31, which provides for the thorough physical examination of all men applying for marriage licenses. Doubtless such a measure would prevent a certain amount of syphilis and gonorrhœa insontium in women, but, to be completely effective, it should provide also for the examination of prospective brides. Vaginitis of both specific and nonspecific origin is by no means uncommon in virtuous but hygienically careless young women and may exist quite unsuspected by the innocent victim. Failure to provide for the examination of women was due very likely to a sense of chivalry. Even in its present form, the bill, if passed, will be difficult of enforcement, although common decency should be sufficient to make prospective bridegrooms certain of their freedom from infection. The man who deliberately marries when suffering from any venereal taint should thenceforward be a social pariah.

ABBREVIATIONS IN MEDICAL WRITING.

In textbooks and in essays on tuberculosis we very often find a number of abbreviations which look to the average reader, who has not studied this question thoroughly, more like Egyptian hieroglyphics than forms of medical nomenclature. Well known are O. T. for old tuberculin; T. R. for new tuberculin; P. T. R. for bovine tuberculin (*Perlsucht*). I. T. is the designation employed for the immune blood treatment of tuberculosis as recom-

mended by Spengler: B. E. means bacillus emulsion; B. F. stands for bouillon filtré; while T. P. means the pure tuberculin of Gabrilowitch. L. V. stands for lues venerea, usually the initial lesion. These and other abbreviations are not used in this *Journal*, it being our general practice to spell out words for the benefit of our busy readers, but the general practitioner who happens upon the annual reports of some society devoted to a specialty may be glad to see a translation of a few of the commoner abbreviations.

A NEW OCULOAURAL REFLEX.

Lermoyez and Hautant (*Presse médicale*, May 6, 1911; this *Journal*, page 1051) point out the existence of a reflex that will prove valuable to aurists who are confronted with obvious difficulties in diagnosticating morbid conditions in the middle ear. The French authors have found that if the auditory passage is stimulated by a current of water, either colder or warmer than the temperature of the patient, the presence of fever being taken into consideration, there immediately occurs a rapid oscillation of the eyeballs. This oscillation, or nystagmus, is in an up and down direction if the vertical semicircular canal is reached by the water, horizontal or rotary if the horizontal canal is bathed. The writers state that this reflex is as sure as the patellar, and, if absent, gives trustworthy evidence of paralysis of one or other semicircular canal.

A DANGER IN AMYGDALITIS.

A recent death in Baltimore, under ether anæsthesia, prior to a proposed amygdalectomy, will remind physicians of the always present possibility of an endocarditis with valvular incompetence in cases of persistent inflammation of the tonsils. There seems now to be little doubt that these glands act as ports of entry for articular rheumatism.

News Items.

The Virginia Hospital for Epileptics has been opened at Lynchburg, and over a hundred epileptics have been sent to it from the various State insane asylums.

Dr. Hugh C. Ross in Philadelphia.—Dr. Hugh C. Ross, of Liverpool, delivered an address before the College of Physicians of Philadelphia [illegible] results of his researches in the etiology of cancer.

The Albany, N. Y., Medical College will soon begin the erection of new buildings on the site of the county penitentiary and jail, an announcement to that effect having been made by Dr. Albert Vander Veer at the recent meeting of the alumni association of that institution.

The Commissioner of Health of Chicago.—The office of health commissioner of Chicago has not yet been filled, although many candidates have been suggested to the Mayor. It is rumored that Doctor Evans may be induced to reconsider his decision not to serve again.

Personal— [illegible] rence State Hospital, has been appointed medical inspector for the State Lunacy Commission, to succeed Dr. Robert Doran, who was recently appointed superintendent of the Long Island State Hospital in Flatbush.

The Herman Kiefer Hospital is the name selected for the new hospital for contagious diseases recently erected by the city of Detroit. The name is given in honor of Dr. Herman Kiefer, now eighty-six years old and one of the most prominent citizens and physicians of Detroit.

The New Jersey Board of Health was reorganized at the May meeting when Dr. Lehn H. Kapstick, of Montville, was elected president and Dr. Bruce S. Keator, of Asbury Park, was elected secretary. Dr. Richard Newton Cole, of Montclair, took his seat as successor to Dr. H. M. Herbert, of Bound Brook.

A Floating Tuberculosis Day Camp for Brooklyn has been provided in the ferryboat *Rutherford*, which will furnish accommodation for one hundred patients. Children may be accompanied by their mothers and a number of sewing machines have been donated for the use of such mothers as may wish to make use of their time while on board. An open air school with capacity for forty children will also be conducted on the boat.

Branch Emergency Hospitals for Cook County, Ill.—The State Senate of Illinois has passed the bill giving to the Cook County Board of Supervisors the right to use as much of the $3,000,000 voted for county hospital purposes as they deem advisable in the construction of branch emergency hospitals throughout Cook County. As the measure was passed by the House a week previously, it only awaits the Governor's signature.

The Hospital for Ruptured and Crippled Children has secured the remainder of the site running from Forty-second to Forty-third Street east of Second Avenue, which was desired for the erection of the new buildings, the design for which is being prepared by York & Sawyer. The hospital authorities intend to purchase a country place which will be used as a hospital for convalescent patients.

Meetings of Local Medical Societies to be Held During the Coming Week:

THURSDAY, *June 1st.*—Brooklyn Surgical Society; Practitioners' Club, Buffalo; Geneva Medical Society; Dansville Medical Association.

FRIDAY, *June 2d.*—Gynæcological Society, Brooklyn; Manhattan Dermatological Association; Corning Medical Association; Saratoga Springs Medical Society.

Mount Sinai Hospital Dedicated in Philadelphia.—The Mayor of Philadelphia and several prominent citizens and officials took part in the dedication of the Mount Sinai Hospital at Fifth and Dickerson Streets, Philadelphia, recently. The hospital is located in a very densely populated section; it has expended $300,000 in charity work in the six years which have elapsed since its foundation, and has erected a new building, the one dedicated, at a cost of $60,000.

Seventh International Congress of Dermatology and Syphilography.—[illegible] accepted by many foreign dermatologists who wish to take part in other scientific congresses at Rome during the latter part of September, this congress has been arranged for an earlier date and will meet from September 18th to 23d instead of 25th to 29th. We make this statement at the request of the secretary, Gaetano Ciarrocchi, 5 Piazza Grazioli, Rome.

Ohio Medical Society.—At the annual convention of the Ohio Medical Society, held in Cleveland, May 9th to 11th, the following officers were elected: President, Dr. Horace Bonner, of Dayton; first vice-president, Dr. C. B. Parker, of Cleveland; second vice-president, Dr. J. C. Larkin, of Hillsburg; third vice-president, Dr. George W. Hixson, of Cambridge; fourth vice-president, Dr. S. D. Foster, of Toledo; secretary, Dr. J. H. J. Upham, of Columbus; treasurer, Dr. Joseph A. Duncan, of Toledo; counsellor for the third district, Dr. D. O. Weeks, of Marion; counsellor for the eighth district, Dr. W. E. Wright, of Newark. Dayton was selected as the next place of meeting. Dr. E. R. Skeel, of Cleveland, the president of the association, presided over the general sessions. The meetings were held in five different sections. The annual oration in surgery was delivered by Dr. J. Chalmers Da Costa, of Philadelphia, and in medicine by Dr. Hobart Amory Hare, of Philadelphia.

The Matteawan Hospital Authorities have been cleared of the charges brought against them of cruelty to the patients. The investigation was made by experts under the direction of a commission composed of William Church Osborn and George E. Van Kennan. It was recommended that the institution be placed wholly under the care of the lunacy commission, and that no insane criminals be sent there but be sent only to the hospital for insane criminals at Dannemora.

The Illinois Legislature Opposes Tuberculin Test.—In accordance with the recommendations made by a special commission appointed during the session of 1909 to investigate the need for and results from the application of the tuberculin test for milch cows, the legislature of Illinois has passed a law prohibiting city councils from enforcing the tuberculin test on dairy herds from which the milk supply comes. The law, however, does not limit the authority of the State veterinarian or of the State Board of Live Stock Commissioners.

Sixty-five Thousand Dollars for the Study of Cancer.—On May 11th the Governor of New York signed a bill appropriating $65,000 for the establishment in Buffalo of a hospital to conduct investigations into the cause, nature, treatment, prevention, and cure of cancer and allied diseases. The management of the institution is to be vested in a board of trustees of seven members, including the State Commissioner of Health, Dr. Roswell Park, Dr. Charles Carey, Dr William H. Gratwick, and Mr. John G. Milburn, of Buffalo, Mr. Charles S. Fairchild, of New York, and Mr. Frederick C. Stevens, of Attica.

To Rebuild the Brooklyn Hospital.—The Brooklyn Hospital in De Kalb Avenue and Raymond Street, is to be entirely rebuilt at a cost of about $1,000,000. Twelve new buildings will be erected as funds become available to replace the present antiquated structure. There is also to be a new dispensary. Mr. William H. Harriman has made a gift of $100,000 to the trustees for the construction of the dispensary as a memorial to his deceased wife. Mr. Harriman, who now lives in Rome, Italy, was long a resident of Brooklyn.

Pure Milk Stations Opened.—On Monday afternoon, May 22d, the formal opening of twenty-seven babies' pure milk stations was held. The exercises took place at Seward Park, and among the speakers were the Honorable George McAneny, president of the Borough of Manhattan, the Right Reverend David H. Greer, Right Reverend Monsigneur D. J. McMahon, Dr. Ernest J. Lederle, and Rabbi Stephen Wise. These stations are all situated in the Borough of Manhattan and have been established by the Committee for Reduction of Infant Mortality of the New York Milk Committee.

The Long Island Society of Anæsthetists.—The next meeting of this society will be held at the Hahnemann Hospital, Park Avenue and Sixty-seventh Street, New York, on Wednesday evening, May 31st. The programme arranged for the meeting is as follows: Presentation of Apparatus; Review of Current Literature—English, by Dr. A. A. Butterfield, German, by Dr. G. W. Tong; a paper entitled The Clinical Features of Anæsthetic Nausea, by Dr. T. D. Buchanan; a paper entitled Nitrous Oxide Oxygen Anæsthesia, by Dr. G. F. Sammis. Dr. D. D. Roberts, gastroenterologist to the Brooklyn Hospital, will open the discussion of Dr. T. D. Buchanan's paper, and a general discussion will follow. Dr. A. F. Erdman is president and Dr. H. A. Sanders is secretary.

Bequests to Hospitals.—Under the will of Samuel Hall, of White Plains, the Presbyterian Hospital, of New York, will receive $1,000. St. Mary's Hospital and the Jamaica Hospital, Jamaica, L. I., have each been left $500 by the will of Margaret Thompson. The widow of the late Peter Fenelon Collier, the publisher, has signified her intention of erecting a hospital in his memory near his estates at Redbank, N. J., and will expend over $100,000. The Methodist Hospital of Philadelphia is to receive $5,000 under the will of the late Francis Magee. The Chillicothe Hospital, of Chillicothe, Ohio, has received $1,000 under the will of the late Elizabeth M. Carlisle. The Flushing, N. Y., Hospital has received a donation of $1,000 towards its building fund from W. H. Eubanks, of Flushing. Under the will of Mary A. Hunter, of Philadelphia, the Presbyterian Hospital of that city will receive $5,000 for the maintenance of a free bed in the name of William J. McAllister.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending May 13, 1911:

	May 6th		May 13th	
	Cases	Deaths	Cases	Deaths
Tuberculosis (pulmonary)	331	213	253	210
Diphtheria and croup	313	29	384	49
Measles	[illegible]	19	1,271	28
Scarlet fever	693	27	707	31
Smallpox	...	...	...	...
Varicella	224	...	183	...
Typhoid fever	25	2	28	4
Whooping cough	97	9	173	10
Cerebrospinal meningitis	1	1	9	6
Total	1,697	302	3,308	338

Physicians Will Be Punished for Failure to Report Vital Statistics.—The Attorney General of the State of New York has rendered an opinion to State Commissioner of Health Dr. Eugene H. Porter defining the powers and duties of local boards of health and of the State department of health in enforcing that provision of the public health law which requires prompt and complete reports of births and deaths to be filed by the attending physician. The opinion directs attention to the fact that under the Penal Code physicians may be proceeded against for the annulment of their registration and the revocation of their licenses to practise medicine. Reports of births and deaths must be filed with the local board of health thirty-six hours after their occurrence.

The New York State Board of Medical Examiners held a meeting in Albany on May 19th, for purposes of organization which was rendered necessary by the death of Dr. William Warren Potter, president of the board, and of Dr. William S. Ely, of Rochester, vice-president. Dr. Glentworth Reeve Butler, of Brooklyn, was elected president, and Dr. Henry B. Minton, also of Brooklyn, was elected vice-president. The Question Committee was reorganized as follows: Dr. Lee H. Smith, of Buffalo, chairman; Dr. Ralph H. Williams, of Rochester; Dr. A. W. Booth, of Elmira, and Dr. Henry B. Minton, of Brooklyn. In keeping with the action of the board at its last annual meeting, a resolution was adopted providing for certain changes in the number of questions in the examination groups of each topic.

Queens-Nassau Medical Society.—The annual meeting of the Queens-Nassau Medical Society will be held in the Surrogate's Court Room, Jamaica, N. Y., on Tuesday, May 31st, at 2.30 o'clock. The following papers will be read and discussed: Methods of Treating Complete Procidentia, by Dr. Ralph Waldo, of New York City; discussed by Dr. C. M. Niesley, of Manhasset; Some Principles of Dietetics, by Dr. Frank Overton, of Patchogue; discussed by Dr. George W. Faller, of Oyster Bay; Treatment of Certain Intestinal Conditions by Rectal Injections of Cultures of Bacillus Coli, by Dr. Harris A. Houghton, of Bayside. The officers of the society are: Dr. A. W. Jagger, of Flushing, president; Dr. H. M. Warner, of Hempstead, vice-president; Dr. James S. Cooley, of Mineola, secretary and treasurer.

Department of Physiology of Columbia University.—Plans for the extension of the work of the department of physiology of Columbia University are being carried out. Three additions to the staff have been made: Dr. Frank H. Pike of Chicago University, to be assistant professor, Dr. Horatio B. Williams, of Cornell, to be an associate, and Dr. Donald Gordon to be an instructor. Dr. Williams is spending the summer in Europe visiting several laboratories and arranging for the purchase of apparatus for electrocardiographic and other work. Professor Burton-Opitz will have charge of the instruction of the medical students and Professor Pike of much of the work in general physiology. A course in clinical physiology, dealing with the application of physiological methods to problems of clinical medicine has been established. Changes in the laboratories will be made during the present summer. The income of the George G. Wheelock Fund is to be devoted to the extension of the library. The chief professorship of physiology, held by Dr. Frederic S. Lee, has been entitled the Dalton Professorship, in memory of John C. Dalton, who was in point of time the first experimental physiologist of America and gave distinguished services to the Columbia School of Medicine for thirty-five years.

The Association of American Physicians.—The [illegible] ican Physicians was held in Atlantic City, N. J., on Tuesday and Wednesday, May 9th and 10th, under the presidency of Dr. F. Forchheimer, of Cincinnati. The following officers were elected to serve for the ensuing year: President, Dr. J. George Adami, of Montreal; vice-president, Dr. Llewellys F. Barker, of Baltimore; secretary, Dr. George M. Kober, of Washington, D. C.; recorder, Dr. S. Solis Cohen, of Philadelphia; treasurer, Dr. J. P. Crozer Griffith, of Philadelphia; councillor, Francis H. Williams, Esq., of Boston; representative on the Executive Committee of the Congress of American Physicians and Surgeons, Dr. W. S. Thayer, of Baltimore; alternate representative, Dr. Theodore C. Janeway, of New York.

The Advisory Council of the Phipps Institute held its second annual meeting in Philadelphia on May 8th, the proceedings closing with a banquet at the Bellevue-Stratford in the evening. Among those who attended the meeting were: Dr. Samuel G. Dixon, Health Commissioner of Philadelphia; Dr. Joseph S. Neff, Sanitary Director of the City of Philadelphia; Dr. William H. Baldwin, of Washington, D. C.; Dr. Hermann M. Biggs, of New York; Dr. Lawrence Brown, of Saranac Lake; Dr. Henry Baird Favill, of Chicago; Dr. Samuel McCune Lindsay, of Columbia University; Dr. James Alexander Miller, of New York; Dr. Joseph H. Pratt and Dr. Theobald Smith, of Boston; Dr. William H. Welch, of Johns Hopkins University; Dr. H. Gideon Wells, of Chicago, and Director Alexander Wilson, of the Phipps Institute.

Reunion of McGill Medical Graduates.—The programme arranged for this reunion, which will take place on June 5th and 6th next, is as follows: Monday, June 5th, informal luncheon by members of the teaching staff of the medical department to graduates in medicine; afternoon, convocation in Royal Victoria College; evening, opening of new medical building, conversazione given by the governors of the university. Tuesday, June 6th, morning and afternoon, clinics and demonstrations in hospitals and laboratories, private entertainments; evening, banquet tendered by the members of the teaching staff of the medical department to the graduates in medicine. There will also be class reunions and banquets at times to be arranged. Graduates may have their mail addressed to the McGill Union, which will be a headquarters for information, etc., and will be open Monday at 9 a. m. Special entertainments have been arranged by a ladies' committee for ladies that may accompany graduates. Some thirty-five medical graduates from New York alone have already signified their intention to leave for Montreal Saturday evening, the 3d instant.

The American Laryngological Association will hold its thirty-third annual congress in Philadelphia on May 29th, 30th, and 31st. The sessions will be held in the William Thomson room of the Philadelphia College of Physicians, and Dr. D. Braden Kyle will preside. The sessions will be opened on Monday morning at ten o'clock by the presentation of a gavel to the association. The president's address will follow, after which Dr. George McClellan will deliver an address on the regional anatomy of the upper air tract. The annual banquet will be held at the Bellevue-Stratford Hotel on the evening of May 30th. The programme of papers to be read is given below. Vasomotor Rhinitis Apart from Hay Fever, by Dr. E. Fletcher Ingals; Vasomotor Disturbances of the Upper Air Tract, by Dr. Charles W. Richardson; Personal Experience in the Intranasal Treatment of Accessory Sinus Disease with report of cases, by Dr. George L. Richards; Attenuated Types of Suppurative Sphenoiditis in Relation to So called postnasal Catarrh, to Headache with Mental Daze, and to Asthma, by Dr. William E. Casselberry; Foreign Bodies in the Antrum, by Dr. James E. Newcomb; Postnasal Fibromas and Their Spontaneous Disappearance, by Dr. Norval H. Pierce; A Case of Spindle Cell Sarcoma of the Larynx Treated by the Electrocautery and the Application of Radium, by Dr. J. Price Brown; Œsophagoscopy and Bronchoscopy by the Killian Method, by Dr Thomas Hubbard; Three Unusual Bronchoscopic Cases, by Dr. Emil Mayer; Multiple Smaller Bodies in the Smaller Bronchi, by Dr. Frederic E. Hop- [illegible] by Dr. Charles H. Knight; Functional Aphonia, by Dr. Richard Frothingham; Laryngeal Papilloma, by Dr. George B. Hope; Diphtheria in the Upper Air Tract, by Dr. Henry L. Wagner.

The Health of Chicago.—During the week ending May 13, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 10 cases, 4 deaths; measles, 385 cases, 0 deaths; whooping cough, 16 cases, 1 death; scarlet fever, 247 cases, 13 deaths; diphtheria, 147 cases, 16 deaths; chickenpox, 89 cases, 0 deaths; tuberculosis, 179 cases, 85 deaths; pneumonia, 54 cases, 100 deaths. There were reported 14 cases of German measles, 9 of smallpox, 3 of cerebrospinal meningitis, and 81 of contagious diseases of minor importance, making a total of 1,240 cases, as compared with 1,179 for the [illegible] responding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 44, and there were 49 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 202, of whom 133 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 696, corresponding to an annual death rate of 16.1 in a thousand of population.

A Low Death Rate in New York During the First Quarter of 1911.—Commissioner Lederle has issued the results of an examination of the vital statistics for the first three months of this year. This statement shows that the death rate was considerably lower than that of the corresponding quarter for the previous year, the rate being 17.09 in a thousand of population for 1911 and 17.45 in a thousand of population for 1910. A comparison of the death rate for the first three months of this year with the average rate for the first quarter of the preceding five years will show a considerable decrease, the average rate for the latter period being 18.33 in a thousand of population. This decrease, if applied to the present population, would mean the saving of 1,634 lives during the quarter. Of this comparative saving of life almost seventy per cent. was in the age group of children under five years of age; on the other hand, the mortality of elderly people during the quarter was considerably above the average, this increase in all probability being due to the prevalence of influenza during that time. The deaths by suicide showed a decrease from the average for the past five years. The number of births reported during the quarter was 34,506, an increase of 1,901 above the corresponding quarter of last year. The birth rate was 28.11, the highest rate ever reported for this quarter of the year. In the corresponding quarter of last year the birth rate was 27.55.

The American Association of Genitourinary Surgeons.—The twenty-fifth annual meeting of this association will be held in New York on Wednesday to Saturday, May 31st to June 3rd. The proceedings will open with an operative clinic on May 31st, at 2.30 p. m., by Dr. George E. Brewer at the Roosevelt Hospital. From 2 to 4 p. m. Dr. J. Raynor Hayden will give a demonstration on clinical methods at the Vanderbilt clinic. Dr. James Ewing will give a demonstration of specimens at the Pathological Laboratory of Cornell Medical School on Thursday, June 1st, at nine in the morning, to be followed by an address of Dr. H. J. Schwartz on The Complement Deviation Test for Gonorrhœa. At 11 o'clock Dr. C. H. Chetwood and Dr. J. Bayard Clark will hold an operative clinic in the Bellevue Hospital amphitheatre, which will be followed by a demonstration of bladder tumor cauterization by Dr. E. L. Keyes, Jr., and Dr. A. T. Osgood. Luncheon will be served at the Hotel Astor at 1 o'clock, which will be followed by a business meeting and the presentation of papers. After the president's dinner at 7.30 a business session will be held. On Friday, June 2, a demonstration of the work of the Rockefeller Institute will be given at the institute at 9.30 a. m.; at 10 o'clock an operative clinic will be held by Dr. J. B. Squier at the Postgraduate Hospital, and at the same hour Dr. George K. Swinburne will give a demonstration of clinical methods at the Good Samaritan Dispensary at 75 Essex Street, followed by an operative clinic at 308½ Broome Street. Luncheon will be served at the Hotel Astor at 1 o'clock, after which a scientific session will be held. The members will visit Coney Island in automobiles, leaving the Hotel Astor at 5.30 p. m. Friday. This will conclude the sessions of the association, but on Saturday, June 3rd, an operative clinic will be held by Dr. C. B. Gibson and Dr. Robert Abbe, at St. Luke's Hospital at 10 o'clock, and Dr. Eugene Fuller will hold an operative clinic at the City Hospital on Blackwell's Island at two in the afternoon.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

May 18, 1911

1. Meningitis in Infancy, By JOHN LOVETT MORSE.
2. Complete Rupture of the Supraspinal Tendon. Operative Treatment with Report of Two Successful Cases, By E. A. CODMAN.
3. Intussusception in Children, By JAMES HERBERT YOUNG.
4. Treatment of Intussusception in Children, By W. E. LADD.

2. Rupture of the Supraspinal Tendon.—Codman describes three total ruptures of the supraspinal tendon, which he successfully operated on. He remarks that the injury is usually confined to a partial rupture of not more than from one quarter to one half inch in breadth. Complete cases are exceptional. The smaller ruptures, which are not of sufficient mechanical importance to interfere greatly with the function of the arm, are best considered with the subacromial bursitis which they cause. It must be understood that these ruptures are beneath the serous base of the bursa, which may or may not be torn through. If it is torn through, a communication is established between the bursa and the true joint. In operating for subacromial bursitis, if on entering the bursa one finds straw colored joint fluid, a careful search will usually demonstrate a small opening into the true joint at the point of rupture. In only one case has it seemed worth while to him to make an attempt to suture one of these small ruptures. Usually these heal satisfactorily if the inflamed portion of the bursa over them is clipped away with scissors. He is convinced, nevertheless, that suture is necessary in long standing complete cases. He has never seen the tendons of the other short rotators ruptured except in conjunction with that of the supraspinatus.

3, 4. Intussusception in Children.—Young states that of all the causes of intestinal obstruction at all ages, intussusception comprises one third, while in infants it comprises three fourths. Nevertheless, it is not a common disease. The disease is three times as frequent in males as in females. Invaginations of one part of the intestine into another may occur at any part of the intestinal tract from the duodenum to the rectum, but, as naturally would be expected, the junction of the large and small gut is the most common site. These invaginations are usually single, when section shows three intestinal layers, but may occasionally be double, when the intussusception consists of five layers, and very rarely triple, in which case there are seven layers. The pathology of the condition, after it has once formed, is similar to that of a strangulated hernia.—Ladd says that the treatment of intussusception in children should be surgical. It is a very fatal disease. The mortality of irrigation and palliative treatment is high (about seventy per cent. at least), while the mortality of surgical treatment is about fifty per cent., better than that of irrigation. The way to reduce the still high operative mortality is to operate early and not after exhausting the patient by attempted palliation and delay but as soon as the diagnosis is made.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

May 20, 1911

1. Cause of Inflammation of Cranial Nerves after the Use of Salvarsan. A Plea for the Intravenous Method, By JAY FRANK SCHAMBERG.
2. Impermeable Cardiospasm Successfully Treated by Thoracotomy and Œsophagoplication, By WILLY MEYER.
3. Cardiospasm. Report of a Case: Treatment by Operation and Subsequent Dilatation, By J. H. IDEN.
4. Treatment of Cough in the Consumptive, By FRANKLIN M. CLASS.
5. Meningismus from Active Cervical Adenitis and Peritonsilar Infiltration, By WILLIAM PEARCE COUES.
6. Good and Bad Corsets, By GEORGE B. SOMERS.
7. A New Clamp for End to End Intestinal Anastomosis, By C. E. TENNANT.
8. A Case of Meningococcus Septichæmia with Demonstration of the Meningococcus in the Blood Smear, By E. WADSWORTH SKILTON.
9. Venous Anastomosis for Cure of Varicose Veins: Venovenostomy, By H. EDWARD CASTLE.
10. Resuscitation by Cardiac Massage, By CHARLES H. FRAZIER.
11. Noma (Cancrum Oris) in An Adult, with Report of a Case, By HOWARD B. KING.
12. Chemistry of Nephritis, By HOWARD T. KARSNER.
13. Classification of Diphtheritic Conjunctivitis. Report of a Case without Membrane Formation, By HARRY FRIDENWALD.
14. Carbon Monoxide Poisoning Resulting in Gangrene of Both Legs, By ANGUS MCLEAN.
15. A New Method of Counting the Blood Platelets for Clinical Purposes and Some Results Obtained with It, By JAMES HOMER WRIGHT and ROGER KINNICUTT.

1. Inflammation of the Cranial Nerves after the Use of Salvarsan.—Schamberg remarks that inflammation of the optic, auditory, facial, and other cranial nerves has developed in a minute percentage of cases after the use of salvarsan in syphilis. The same complications may occur spontaneously or after the use of mercury. Whether the incidence of such neuritic complications is larger after salvarsan than after mercury is a mooted question, on which foreign specialists are not agreed. These inflammations have occurred almost exclusively in cases of recent syphilis. They appear to have occurred exclusively after intramuscular and subcutaneous injections, and not after the intravenous administration. Optic and auditory neuritis have in many instances cleared up under a second dose of salvarsan or under mercury and the iodides. Most of the cases of neuritis have occurred from two to three months after a single injection. A risk is incurred in discontinuing antisyphilitic treatment for a long period in early syphilis, after a single injection of salvarsan, particularly when given subcutaneously or intramuscularly. It would be, of course, likewise dangerous to cease treatment after brief mercurial administration. Schamberg is in favor of the intravenous method of treatment, which he has found to be distinctly more efficacious than the treatment by other routes. Subcutaneous or intragluteal injections will often effect a disappearance of the lesions, but this does not teach us the extent to which the underlying disease has been influenced. It is proved that recurrences are much less early and less frequent after intravenous injections than after administration by other methods. It appears also that inflammations of the cranial nerves have only occurred after intramuscular and subcutaneous injections, therefore, the superior advantages of the blood route over other

methods seem to be established. The theoretical consideration that elimination is more rapid after intravenous injections should not weigh as an argument against the determined clinical results. Arthur Bornstein has shown by experimental research on animals, that the largest part of the dose of salvarsan administered intravenously does not remain free in the blood, but is deposited in the liver, spleen, and kidneys.

9. Venous Anastomosis.—Castle describes his method of venous anastomosis, the object of which operation is to reestablish a normal flow of blood in the internal saphenous vein, and in its tributaries. This is accomplished by changing the current of blood from the upper end of the saphenous vein into the superficial femoral vein. Thus the valves of the femoral vein are utilized to support the heavy column of blood which in the normal subject is supported by the valves of the saphenous. The lower part of the saphenous is relieved of all backward pressure from the inflow of blood into it from the superficial external pubic, superficial epigastric, superficial circumflex iliac, and other smaller tributaries. When this vast pressure is released the valves of the saphenous are often competent to sustain the remaining saphenous blood column.

11. Cancrum Oris.—King states that noma (cancrum oris) exists in the aged, but its occurrence is remarkably rare. In the aged it does not differ materially from the disease as seen in childhood. The supposed predilection of this malady for the female sex is due alone to the fact that the female genitalia offer a more suitable field for infection. No certain and definite organism has been definitely established as the causative factor; the indictment of the long, threadlike bacillus, so frequently regarded as the cause of the disease, is on purely conjectural grounds. While in the realms of the hypothetic metabolic retrogression brought about through previous illness, vitiated environment and bad hygienic conditions may effect a change in the pathogenicity of the previous harmless microorganisms of the mouth to such an extent as to cause an overwhelming of the tissues of the cheeks and jaws, and thus produce gangrene and a condition of general sepsis. Infectious submaxillary angina may be the forerunner of noma, and once the gangrene arises it would be difficult, indeed, to say whether the condition was due to Ludwig's angina or noma. This, too, despite bacteriological observations, as it is more than probable that the two conditions could be coexistent. It is highly probable that noma is a process caused by more than one type of organism.

MEDICAL RECORD

May 20, 1911.

1. Random Recollections of a Long Medical Life, By Stephen Smith.
2. Uterine Cancer and Its Early Diagnosis. Original Research from Subjective Symptoms, By E. Atlee.
3. The Prognosis of Lobar Pneumonia, By Thomas F. Reilly.
4. A Description of a Method for Measuring Easily and Exactly the Dose of the X Rays in Röntgen Therapy, By John Bethune Stein.
5. Comparative Longevity of the Sexes, By A. H. Stewart.
6. The Segregation and Education of Children Affected with Ringworm of the Scalp, By Chas. J. White.
7. Report of Two Cases of Gastric Ulcer Due to Diseased Gallbladder and Appendix. Report of a Case of Perforated Gastric Ulcer with Unusual Symptoms, By Aspinwall Judd.

2. Uterine Cancer and Its Early Diagnosis.—Atlee bases his principle of early diagnosis of uterine cancer upon the weight of the patient, that is, not the actual weight of the individual, but comparative weight of that individual at different periods. He has thus studied the cases of twenty-four women, and the testimony points almost conclusively one way, *viz.*, that the incipient stage of cancer of the uterus is coincident with the maximum weight of the woman, irrespective of age; and that the duration of this incipient stage may vary, as does that of the recognized stage of the disease.

3. Prognosis of Lobar Pneumonia.—Reilly observes that the two general conditions that betoken an approaching dissolution in most cases are the presence of the so called Romberg-Passler syndrome, and, second, the failure of the right heart. In the first instance, the dilatation of the bloodvessels in the splanchnic area causes the normally low blood pressure to sink much lower; this is accompanied by an increased rapidity of the heart. Shortly afterward tympanitis becomes a marked symptom. The patient then looks as though he had been bled excessively. He has the appearance of profound shock; the pulse becomes irregular and this is often followed by delirium, hallucinations, restlessness, and later stupor and coma; although occasionally the heart becomes much slower, the patient invariably dies when this symptom is well developed. In the second class the patient is cyanotic and there is great dyspnœa, the jugulars are full and pulsating, the heart dulness is sometimes increased to the right, and the liver dulness almost always increased. Occasionally such a patient is saved; they usually die of asphyxia. When death has begun, the earliest indication of which is an increasing dyspnœa, and a rattle with each respiration, which persists after coughing, recovery is unlikely.

BRITISH MEDICAL JOURNAL.

May 13, 1911.

1. Some Aspects of Functional Derangements of the Nervous System, By George E. Rennie.
2. Lead Poisoning and the Race, By Sir Thomas Oliver.
3. Granular Kidney and Its Surprises, By Samuel West.
4. A Fatal Case of Secondary Syphilitic Nephritis: with Remarks, By Arthur J. Hall and J. M. Beattie.
5. The Vasomotor System in Tabes, By Hokaku Matsumura.
6. Two Cases of Congenital Aphasia in Children, By Eva McCall.
7. The Treatment of Rheumatic Diseases by Vaccines, By C. Preston Ball.
8. The Deep Temperature of the Human Body at Rest and after Muscular Exertion, By N. D. Bardswell and J. E. Chapman.
9. The Prescription of Glasses, By Reginald A. Morrell.
10. The Ætiology of Iritis, By Reginald A. Yeld.

1. Functional Nervous Derangements.—Rennie treats neurasthenia as a real condition, which often must be carefully differentiated from myxœdema, myasthenia, and Addison's disease. In testing knee jerk we often find the whole body thrown

into a characteristic state of agitation. The patient's attention is so centered upon his symptoms as to cause inability to form correct judgments on other matters. Gastrointestinal and metabolic derangement is common and indican and phosphates are generally present in the urine. As to treatment, Rennie advises what is practically the Weir-Mitchell régime for hysteria, but the indications for treatment from a review of the pathology of neurasthenia are somewhat different. While the mental symptoms are still prominent we do not find it necessary to adopt the isolation treatment. A mistake is very often made in advising neurasthenic patients to start off on a sea voyage before any attempt has been made to improve their physical condition. It is quite true that a change of scene and surroundings, combined with relief from work, is very beneficial in diverting the patient's thoughts from himself and restoring him to a healthier frame of mind, but we have to remember that a neurasthenic is not only jaded in mind and body, and unable to stand the strain of traveling or to take an interest in sightseeing, but he is also suffering from digestive derangements and sleeplessness, and these latter conditions are often aggravated by traveling. Rennie has seen this so often that he is satisfied that we do best for our patients if we first of all put them to bed in the fresh air with quiet and rest, relieve their digestive disturbance by appropriate dieting, secure the free action of the bowels, favor elimination by the skin by warm baths and massaging. We can also improve the state of nutrition of the nervous system by securing oral asepsis, by the use of intestinal antiseptics, and by the use of tonics. After a month or so of this treatment the patient will be much improved physically, and will then be able to profit very considerably by a voyage or by a stay in some health resort. Special symptoms may require special treatment as they arise; be most guarded in prescribing sedative drugs—for example, opium, morphine, or heroin—without very careful consideration, owing to the great tendency there is for patients to contract drug habits. In fact, the less we depend on drugs, the more we adopt general hygienic treatment, the greater the amount of good we shall do for patients suffering from the various forms of functional derangement of the nervous system.

2. **Lead Poisoning and the Race.**—Oliver advises stringent legislation regarding workers in lead. Lead poisoning causes abortions and miscarriages and, in a few generations, sterility and other racial hindrances. It is difficult to arouse interest in the workers themselves.

3. **Granular Kidney.**—West says the surprises of this condition are the sudden occurrence in the patient of acute nephritis, hæmaturia, epistaxis (in middle life), cerebral hæmorrhage, thoracic aneurysm, cardiac failure, pericarditis, optic neuritis and retinal hæmorrhages, cachexia and asthenia, gastrointestinal symptoms, diarrhœa, an outbreak of gout, generalized skin eruptions, headache, frontal, more often vertical, rarely unilateral, fits of true epilepsy, or acute uræmia.

5. **The Vasomotor System in Tabes.**—Matthews recalls that a generalized capillary extravasation of blood has been noted in tabetic patients, also bruiselike marks, coldness of the extremities, capillary stasis, high vasodilatation on application of slight cutaneous warmth, *cutis anserina* from cold applications, dermatographia and oscillatory vascularization upon stroking the skin with the finger nail, violent œdema associated with spontaneous fracture of bones.

7. **Rheumatism and Vaccines.**—Preston reports five cases treated with antistreptococcic vaccines, all of which ended in complete and gratifying recovery.

10. **Ætiology of Iritis.**—Yeld says that syphilis accounts for forty-five per cent. of cases of iritis; rheumatism does not seem to be really a cause and gonorrhœa or osteoarthritis should be suspected. Gonorrhœa is a frequent cause and relapse is common in such cases. Toxæmia is also a cause, arising from grippe, pyæmia, nephritis, mumps, diphtheria, diabetes, tuberculosis, bronchitis, etc. Gout and osteoarthritis cause each about one per cent. of cases. Obscure causes are common in women, for iritis can scarcely be attributed to such secondary matters as exposure to cold, starvation, prolonged lactation, alcoholism, and errors of refraction, which Yeld noted in some of his female patients.

LANCET

May 13, 1911

1. Heredity and Insanity (Lecture VI), By F. W. Mott.
2. Abnormal Forms of Breathing in Cases of Angina Pectoris with Pulsus Alternans, By J. Davenport Windle.
3. Six Cases of "Utriculoplasty" for Uterine Hæmorrhage, By Victor Bonney.
4. The Nature of Hæmatocolpos Fluid, and the Character of the Obstructing Membrane, By W. Blair Bell.
5. The Hidden Dangers of Appendicitis: A Plea for Early Operation, By Herbert J. Paterson.
6. Some Unusual Effects of Perforated Gastric Ulcer. By William P. S. Branson and T. P. Legs.
7. Progress in Cancer Research, By Charles E. Walker.
8. The National Insurance Scheme: The Prussian Official Tariff for Medical Attendance, By G. P. Forrester.

1. **Heredity and Insanity.**—Mott, in his sixth and last lecture, offers his conclusions, *viz.*: 1. Hereditary predisposition is the most important factor in the production of insanity, imbecility, and epilepsy. It is the *tendency* to nervous and mental disease, generally speaking, which is inherited. This may be termed the neuropathic taint. 2. Education, sanitation, and the rest, as Bateson has stated, are only the giving or withholding of opportunity for good or ill. 3. Alcohol is a powerful coefficient, but not of itself the main cause, in the production of insanity, except in the rather infrequent cases of alcoholic dementia. 4. Certain types of insanity may be transmitted with greater frequency than others. This has been termed similar heredity. The types are: Periodic insanity (also termed manic depressive), delusional insanity, and epilepsy. The general rule, however, is for a different type to appear. 5. Mothers transmit insanity and epilepsy with much greater frequency than do fathers, and the transmission is especially to the daughters. 6. Anticipation or antedating is the rule whereby the offspring suffers at a much earlier

age than the parent; more than one half of the insane offspring of insane parents are congenital idiots or imbeciles, or have their first attack in the period of adolescence. This adolescent insanity may take an incurable form of dementia in a large number of cases; in others it is usually mania, melancholia, or periodic insanity, and not infrequently epilepsy with or without imbecility. Very rarely does the parent become insane before the offspring. This is a strong argument of hereditary transmission, possibly hereditary transmission of an acquired character. 7. Regression to the normal average may be (a) by marriage into sound stocks, or (b) by anticipation or antedating leading to congenital or adolescent mental disease terminating the perpetuation of the unsound elements of the stock. 8. High grade imbeciles who are not at present in any way checked in procreating owing to social conditions interfering with survival of the fittest, together with chronic drunkards, neurasthenics, and neuropaths, are continually reinforcing and providing freshly tainted stocks. 9. Recurrent insanity, owing to the fact that patients are not segregated for any length of time, is probably the most potent cause of insane inheritance. Facts tend to support the opinion that the recurrent types of insanity during lucid intervals may breed a stock of potential lunatics and paupers. 10. Nature is always striving to go back to the normal average and only relatively few of a stock are insane. A stock with a streak of insanity when combined with genius is not bad, and the same may be applied to a nation; but we only want a streak of genius and insanity, the great body of the nation should be of good normal average, for I believe that nation will possess the greatest potential virility in the struggle for existence that can breed from the greatest number of men and women with good bodily health who possess a large measure of the three attributes of civic worth—*viz.*, courage, honesty, and common sense, combined with parentage, pride of family, and pride of race.

4. **Hæmatocolpos.**—Bell describes two cases of this rare condition that came under his observation and concludes: 1. Hæmatometra rarely occurs with hæmatocolpos, and can only be a very late complication. 2. The noncoagulability of menstrual blood is due to the removal of fibrin ferment and fibrinogen, probably effected by the endometrium. 3. The lactic acid present is not produced by bacteria. 4. The calcium content of menstrual discharge is very high. 5. The vagina is for the most part developed from the Müllerian ducts, and its lining epithelium may therefore occasionally be of a columnar type, and glands may be present.

5. **Appendicitis.**—Paterson thinks it would be instructive if we could know how many patients are lost through delay in operating. Unfortunately statistics to determine this question are not available; but if the truth were known, we should find that more patients are lost through delay than through precipitancy. In acute appendicitis the symptoms are often so deceptive, the signs of danger so slight, and the ultimate issue so uncertain, that clinical observation, the living pathology of the disease, and the results obtained by the surgery of to-day, all point to early operation as the treatment of choice.

PRESSE MEDICALE.

May 20, 1911.

1. Total Resection of Superficial Varices of the Lower Extremity, By [illegible].
2. Stomach, Duodenum, and Large Intestine in the Erect and Recumbent Postures, By [illegible] and [illegible].

May 3, 1911.

3. Pulmonary Œdema or Tuberculosis, By [illegible].

May 6, 1911.

4. Nystagmus from Hot Applications to the Vestibule of the Ear, By Lermoyez and Hautant.
5. Researches into Biliary Antisepsis, By Gouget.

3. Pulmonary Œdema or Tuberculosis?—Brunon points out that the differentiation is important, on account of the wide difference in treatment, but difficult through physical signs; pulmonary œdema at the apex simulates tuberculosis and may be accompanied by bronchial adenopathy. Radiography is most useful in correcting the diagnosis. In œdema, milk diet followed by milk and vegetable diet gives such excellent results as to be useful from the diagnostic viewpoint.

4. Nystagmus.—Lermoyez and Hautant state that this condition is an excellent diagnostic sign of trouble in the middle ear, which otherwise yields up its secrets with such difficulty; it is as sure a reflex as the patellar, giving certain indication as to the state of the semicircular canals. Stimulation should be made with water colder or warmer than the bodily temperature; a gentle current is allowed to flow through the auditory canal. Stimulation of the horizontal canal produces a horizontal nystagmus; that of the vertical canal either a vertical or rotary oscillation.

SEMAINE MÉDICALE.

May 10, 1911.

Aphthæ Tropicæ; Its Relation to Typhoid Fever, By Garin.

Aphthæ Tropicæ.—Garin acknowledges the rarity of this disease, due to the presence in the lung of *Endomyces albicans;* he has found only six cases in the laterature and in none of them was Koch's bacillus excluded. His own case occurred in a woman, forty-one years of age, who complained first of violent headache and pains in the body, and subsequently developed a temperature of 39° C. (102.2° F.), and became delirious. Tongue clean, no cough or expectoration, but bronchial râles present; reflexes exaggerated; urine normal. The patient was treated by hot baths. The third day, aphthæ appeared in the mouth; later on she became jaundiced, the ankles were œdematous, and albumin appeared in the urine; humid râles became audible in the apices; there was dulness in the supraspinous fossæ; she expectorated with great difficulty and the matter disclosed the endomyces, but no bacilli. The patient died about two months after the first attack. At the autopsy the lungs presented hepatization at the apices and an appearance of lobar pneumonia. There were small cavities filled with a whitish, thick, viscous fluid; both liver and spleen were enlarged. Inoculation of guineapigs proved negative. The intestines were filled with colon bacilli, but no endomyces. Garin thinks it likely that this affection has been occasionally mistaken for tuberculosis and advises bacteriological investigation whenever the apices become dull during convalescence from typhoid fever.

BERLINER KLINISCHE WOCHENSCHRIFT

April 24, 1911.

1. Clinical Lecture Concerning the Folds Which Are Formed in the Gastrointestinal Tract in Chronic Intestinal Stasis, By W. Arbuthnot Lane.
2. Chronic Intestinal Stasis Treated by a Short Circular Incision, or Colectomy, By Harold Chapple.
3. Contribution to the Technique of the Intraperitoneal Operation on the Cæcum, By P. Bosse.
4. Remarks Concerning the Indications, Technique, and After Treatment of the Linear Amputation of Kausch, By W. von Oettingen.
5. Extirpation of a Large Angioma of the Brain, By Cassirer and Muehsam.
6. Therapy of Pyelitis Gravidarum, By N. Markus.
7. Disinfection of the Hands with Chiralkol, By K. H. Kutscher.
8. Röntgen Rays in Gynæcology, By Manfred Fraenkel.
9. The Contract in an Operation, By Katz.

1 and 2. **Chronic Intestinal Stasis.**—Lane described the folds which are formed in the gastrointestinal tract and give rise to occlusion in cases of chronic intestinal stasis, while Chapple gives an analysis of fifty cases which have been operated in. The operations were various in nature according to the seat of the obstruction, ileosigmoidostomy, lateral anastomosis with removal of part of the colon and small intestine, ileocolostomy, and colectomy.

4. **The Linear Amputation of Kausch.**—Von Oettingen gives the indication for the method of amputation devised by Kausch and calls the linear amputation of Kausch to be an infectious process that necessitates amputation. He describes the technique and after treatment with the report of a case.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

May 2, 1911.

1. The Double Reaction of Cow Pox Vaccination, By von Pirquet.
2. The Therapeutic Use of Air Poor in Oxygen, By Schmidt and David.
3. New Evidences of the Causation of Cholera by Nitrous Acid, By Emmerich.
4. A New Operation for Covering Defects in the Trachea, By Hohmeier.
5. Continuous Rectal Infusion of Salt; the Entrance of Little Drops under Constant Observation, By Martin.
6. High Irrigation of the Intestine and a Rectal Tube for Weakness of the Sphincter. By Kausch.
7. Experiences with Salvarsan, Especially in Syphilis of the Central Nervous System, By Neuhaus.
8. A Case of Syphilitic Reinfection, By Bering.
9. Cæsarean Section of the Dead, By Stern.
10. A Rare Source of Origin of Mercury Poisoning, By Boesl.
11. The Royal Frauenklinik in Dresden as a School for Physicians and Midwives, By Richter.
12. The Most Efficient Fight against Infant Mortality, By Vidal.
13. A New Shoe for the Prevention and Cure of Insufficientia Pedis. By Lengemann.
14. The Cause of Incarceration in Retroflexio Uteri Gravidi, By Mathes.

1. **Double Reaction of Vaccination.**—Von Pirquet finds by means of revaccinations and inoculations of dead cowpox in vaccinated persons that a double reaction is produced by vaccine, the same as by serum.

3. **Causation of Cholera by Nitrous Acid.**—Emmerich asserts that the contents and the mucous membrane of the small intestine in cholera, and in half the cases in the cadaver, have an acid reaction and that both contain nitrous acid. This condition, he says, is pathognomonic. Although the urine contains no nitrous acid in healthy persons that of fresh cholera cases contains large quantities, which proves that it is present in larger quantities, more than sufficient to poison, in the blood of cholera patients. Nitrous acid is found in healthy persons either never, or in minute traces, in the stomach, intestine, fæces, urine, or tissues of the body. When it appears in the stomach and intestines it excites choleralike symptoms, and acts as a foreign, extremely poisonous substance.

7. **Salvarsan in Syphilis of the Central Nervous System.**—Neuhaus reports sixteen cases of syphilis of the central nervous system treated by repeated injections of salvarsan. No bad effects were observed and some symptoms were benefited, e. g. bladder and intestinal disturbances.

8. **Syphilitic Reinfection.**—Bering reports a case of reinfection of a man from his own syphilis which had been treated with mercury. The history runs very peculiarly. Both the man and his wife were under observation, yet he became reinfected from his wife who gave no symptoms of syphilis and who gave a negative Wassermann reaction, and was later infected herself.

WIENER KLINISCHE WOCHENSCHRIFT

May 4, 1911

1. Physiological Effects of Great Altitudes, By A. Durig.
2. Pathogenesis of Cretinism, By Arnold Flinker.
3. A Case of Tetany after Injections of Adrenalin in Osteomalacia, By Richard Marek.
4. Presence of "Heart Disease Cells" (*Herzfehlerzellen*) in the Urine, By Ewald Koller.
5. The Meiostagmin Reaction in White Rats after Extirpation of Both Suprarenal Capsules, By Franco Cattoretti.

2. **Cretinism.**—Flinker reports a case of twins in which the brother was a well marked cretin, while the sister was normally formed with the exception of a small goitre.

3. **Tetany after Adrenalin Injection in Osteomalacia.**—Marek reports the clinical history of a case of osteomalacia in which symptoms of tetany were induced by the injection of adrenalin. He suggests that it would be well to make thorough examination of the thyreoid gland, the hypophysis, and the suprarenal capsules in every case of osteomalacia that comes to autopsy.

ANNALS OF SURGERY.

May, 1911.

1. Recent Advances in Pulmonary Surgery, By John H. Jopson.
2. Injury as a Causative Factor in Cancer (*Continued*), By William B. Coley.
3. Acute Ulcer Peritonitis in Typhoid Fever, By Forbes Hawkes.
4. The Radical Cure of Femoral Hernia in the Aged, By Paul M. Pilcher.
5. Acute Diverticulitis, By Herbert A. Bruce.
6. Appendicostomy to Safeguard the Excluded Colon in Lane's Operation for Chronic Intestinal Stasis, By A. E. Rockey.
7. Chylous Cysts of the Mesentery, By W. H. Axtell.
8. Removal of the Ureter with a Tuberculous Kidney, By George Erety Shoemaker.
9. Results of the Use of the Moorhof Bone Plug in the Surgical Clinic of the University of Minnesota, By J. Clark Stewart.

10. A Further Note on the Clinical Use of Scarlet Red and Its Component, Amidoazotoluol, in Stimulating the Epitheliation of Granulating Surfaces,
By John Staige Davis

11. An Improved Device for Transfusion.
By Henry H. Janeway

2. Injury as Causative Factor in Cancer.—Coley bases his conclusions upon 1,200 personal observations: Local trauma of any kind, from chronic irritation to a single local contusion, is not infrequently the direct exciting cause of malignant tumors of all types. That a single local injury may cause a carcinoma as well as a sarcoma, is no longer open to speculation. The cases that he has submitted fulfil all the conditions necessary to establish a definite causal relationship between a single trauma and the development of a cancer. This relationship in no way depends upon our ability to offer a scientific explanation of it; nor does it depend upon the acceptance of any one of the various hypotheses as to the ætiology of cancer. It can be equally well explained whether we accept the extrinsic or intrinsic origin of malignant tumors. The medicolegal aspect of this question is as yet in a most unsettled state. While we must admit that trauma often plays an important causative rôle in the formation of malignant tumors, this relationship must be clearly and definitely established according to principles and conditions very similar to, if not quite so exacting as, those laid down by Segond, before any legal liability can be admitted.

3. Typhoid Ulcer Peritonitis.—Hawkes thinks that, in acute ulcer peritonitis of typhoid fever, if the distinctly toxæmic cases are excluded, an "early operation" for the others should give excellent results. This early operation should be one undertaken very soon after the appearance of the lightest recognizable shade of abdominal muscular rigidity. The writer believes that this early operation is not usually suggested because the diagnostic value of abdominal rigidity at its first appearance is not appreciated, and that on this account a persistent search for it is not made from the time that the patient begins to suffer from abdominal discomfort. The records show that it is only recognized as a rule when marked pain is complained of, and unless other alarming symptoms are present that the case is unfortunately too often "watched" until the rigidity becomes general and a spreading peritonitis has become well established. Enough evidence is at hand to justify the statement that an early exploratory operation exerts a distinctly beneficial influence, not only on the ulcers that may be about to break down but on others as well, thus preventing their further progress toward separate perforations, a condition recognized as almost invariably fatal. Whatever may be the opinion held in regard to the advisability of peritoneal drainage for pus conditions originating in the female pelvis, or in cases of suppurative appendicitis, it seems that the coexisting typhoid poisoning should induce us here to follow that procedure which we believe will diminish peritoneal congestion, and by transforming the fluid variety of peritonitis about the ulcers into the adhesive one, bring about a protecting condition in their vicinity.

4. Femoral Hernia in the Aged.—Pilcher describes his method of curing femoral hernia in the aged, which consists of the following steps: 1. Intracutaneous injection of one fifth per cent. solution of cocaine along the line of incision. 2. Incision, enucleation of the sac, and exposure of the femoral ring. 3. Opening the sac and inspection of the contents, incision of point of constriction, and return of intestines to abdominal cavity. 4. Transfixation and ligature of the neck of the sac with a single ligature, and fixation of the stump of the sac to the abdominal wall above the femoral ring. 5. Single purse string suture uniting Poupart's ligament, Gimbernat's ligament, the pectineal muscle, and the sheath of the femoral vessels, obliterating the patency of femoral canal. 6. Closure of the wound. The entire procedure is often accomplished with the use of about two drachms of one fifth per cent. solution of cocaine, which contains about one fourth grain of the cocaine. The patient is conscious, and is better able to fight the toxæmia. The procedure is very simple, needs few or no assistants, and can be done at the patient's home. Oftentimes no bleeding points need to be ligated, and the only foreign bodies are the ligature used to transfix the neck of the sac, the ligature closing the femoral canal, and the sutures closing the wound. It is therefore an operation peculiarly adapted to the aged, and results in a permanent cure of the hernia.

10. Scarlet Red Dressing of Ulcers.—Davis states that scarlet red and amidoazotoluol will not heal every wound, but in the majority of cases, when applied with the proper technique, they will cause epithelial stimulation in the edges of the most sluggish wounds, and give a rapid healing which is stable and resistant, and which has the macroscopical and microscopical appearance of the normal skin. There is no tendency to subsequent contraction, and the skin becomes movable on the underlying tissues in a reasonable time. Any one of these characteristics would make the use of these substances well worth trying.

INTERSTATE MEDICAL JOURNAL

May, 1911.

1. The Treatment of Club Foot in Infancy,
By David Silver.
2. On the Management of Children Predisposed to Nervousness,
By Lewellys F. Barker.
3. Chronic Supersecretion,
By J. A. Storck.
4. Perineal Prostatectomy; Its Preliminary Treatment and After Care,
By John R. Caulk.
5. Some Observations on Subconscious Phenomena,
By S. Philip Goodhart.
6. Some Later Views on Pellagra,
By Frank Eskridge.

1. Treatment of Club Foot in Infancy.—Silver is in favor of beginning treatment of club foot in infancy. The advantages of beginning treatment at the earliest possible moment would seem sufficiently obvious: 1. Correction is facilitated in the first months of life by the cartilaginous nature of the bones and the more delicate condition of the soft parts; at birth deformity may often be readily corrected or even overcorrected. 2. The rapid increase in size during the early months of life is thus made to act as an aid in correction rather than allowed to favor adaptation to the deformed position. During the first three months the increase in size of the average child is about equal to that of the succeeding nine months, while the increase of the first year

compared to that of the second is in the proportion of 16 to 5. 3. The earlier the foot is maintained in the overcorrected position the greater the chances of the bones acquiring their proper shape and so the more likelihood of securing perfect function. The objections raised to treatment during the first months are chiefly the following: (a) The possibility of injuring the delicate tissues of the foot or of impairing the general health of the young baby. Against this may be urged that the measures used may, and should, be adapted to the age and the condition of the infant, it being possible to gradually correct deformity without the use of measures which will irritate the normal infant. (b) The small size of the foot, and so the difficulty of keeping plaster of Paris and other dressings in place. This may be overcome early in treatment by the use of simple splints, maintained in position by adhesive plaster, or in some cases by the use of adhesive strapping alone. After a sufficient degree of correction has been secured to permit of the foot being placed in dorsal flexion, this difficulty is not so great; moreover, by carrying the plaster of Paris cast up over the flexed knee slipping is rendered less likely. (c) The fact that partial relapse may occur after walking has been begun, necessitating a second period of treatment or a second operative manipulation. It will hardly be said that relapse will be of frequent occurrence under careful treatment or, where it is allowed to occur, that it will be complete in more than occasional instances. The successful cases are far too numerous and the advantages of early treatment too great for one to be deterred by the disappointment of an occasional relapse. (d) That walking is necessary for a cure. It must be granted that a cure cannot rightly be asserted until the use of the foot in walking has demonstrated its normal condition. Yet while admitting this and also fully recognizing the value of walking in reshaping the bones of patients after the first year, Silver does not regard it as a necessity in cases in which treatment is begun soon after birth; and not only this, but it even seems to him that the fact the little patient cannot walk has a distinct advantage in that it permits of the maintenance of a degree of over correction which would be impossible for the walking child.

6. Pellagra.—Eskridge remarks that in the treatment of pellagra, equally as little progress has been made as in the discovery of the ætiological factor. No agent has been found that exerts a specific action upon the disease. In beginning cases the removal of predisposing conditions is a most important matter of treatment. In pronounced cases, as a rule, treatment is reduced to the mere relief of symptoms. Arsenic stands preeminent as the one agent to combat skin manifestations; in his hands it has proved its efficiency. Dyer regards quinine of great value, while iron and strychnine have held the fort as tonic prescriptions. Eskridge uses for the pellagrous diarrhœa a prescription of argyrol in a proportion of five grains to a teaspoonful of an eight per cent. bismuth suspension, given every four hours. Atropine hyperdermically in 1/300 gr. doses gives good service in combating the increased salivation. Absolute rest in bed is essential. An ointment of ichthyol and lanolin for the dermatitis is usually all that is required for this condition. Among the arsenical preparations the most useful in his hands has been the salicylarsinate of mercury, given intramuscularly. The injection is painless, and the elimination, mainly by urine, is very marked, greatly reducing the toxicity of the drug. In his mind this preparation exerts an elective effect on pellagra. Ehrlich's dioxydiamidoarsenobenzol has been employed in pellagra to some advantage. Torrence, McLester and Nice, of Birmingham, notice a material change in the skin lesions, ptyalism, vaginitis, weight, and mental symptoms. A solution of argyrol ten per cent. Eskridge employs routinely for the stomatitis. Eskridge concludes that after an exhaustive reading of many works pertaining to the subject, and from a close study of the cases under his care, he is forced to the conclusion that pellagra is not essentially a corn disease and that it may be found under conditions that absolutely eliminte corn from the possible causes. The essential factor is still unknown, while the new theories advanced as to the ætiology of pellagra should be followed with keen attention; still none of them has been proved to be more than an interesting suggestion, while at the same time the old theories occupy this same position. The disease in this country is of an acute character, assuming a severe form, but if taken in hand early the prognosis is brighter than has been pictured.

JOURNAL OF EXPERIMENTAL MEDICINE.

May, 1911.

1. The Value of Hydrogen Peroxide in the Microchemical Determination of Iron, By W. H. Brown.
2. Vaccine Treatment in the Prevention of Dysentery in Infants, By W. P. Lucas and Harold L. Amoss.
3. Characteristics of Growth of Sarcoma and Carcinoma Cultivated in Vitro, By R. A. Lambert and F. M. Hanes.
4. A Study of Cancer Immunity by the Method of Cultivating Tissues outside the Body, By R. A. Lambert and F. M. Hanes.
5. Studies on Immunity in Cancers of the White Rat. The Significance of Athrepsia, By I. Levin and M. J. Sittenfield.
6. The Relation of Certain Bacteria to Nonspecific Reactions with the Complement Fixation Test for Lues, By C. F. Craig.
7. Studies in Isoagglutination. II. The Occurrence of Grouped Isoagglutination in the Lower Animals, By R. Ottenberg and S. S. Friedman.
8. Studies in Isoagglutination. III. Tonicity in Isohæmagglutination, By M. H. Kahn and R. Ottenberg.
9. The Distribution of Solutions in Cardiectomized Frogs, By S. J. Meltzer.
10. The Influence of Distilled Water on the Healing of Skin Wounds in the Frog, By E. S. Ruth
11. On the Physicochemical Regulation of the Growth of Tissues. The Effects of the Dilution of the Medium on the Growth of the Spleen, By A. Carrel and M. T. Burrows.
12. Cultivation in Vitro of Malignant Tumors, By A. Carrel and M. T. Burrows.
13. The Behavior of Bacillus Lepræ in Cold Blooded Animals, By M. Cook.
14. Complementoid and the Resistance of the Midpiece of Complement, By H. K. Mitchell.

1. Hydrogen Peroxide in Determination of Iron.—Brown states that it has been shown that hæmoglobin in solution or within the red blood corpuscles can be oxidized by hydrogen peroxide to

form a colorless substance capable of manifesting a microchemical reaction for iron, the type of the reaction depending upon the degree of oxidation. It has been further shown that hæmatin and hæmin, when treated with hydrogen peroxide, are decolorized. The colorless or nearly colorless body, preserving the form of the original body and being an intermediate product of its oxidation, will also exhibit a typical reaction for iron. A method has been described for obtaining microchemical reaction for iron from hæmoglobin and its various modifications and iron containing derivatives, from tissue cells, from cell nuclei, and from eosinophile granules, by an appropriate degree of oxidation with hydrogen peroxide.

2. **Vaccine Treatment in Prevention of Dysentery in Infants.**—Lucas and Amoss remark that the vaccine used by them in their experiments in no instance did harm, and the reactions in the majority were very mild and of short duration. Cases in which bacteriologically *Bacillus dysenteriæ* were proved to be present, but in a clinically unrecognizable form, were not affected differently from those which were culturally negative. This may in part be due to the fact that this mode of vaccination produces an immediate passive immunity, while the bacterial vaccine is producing an active immunity. The work is of interest and holds out a possible means of preventing the great mortality from infantile dysentery during the summer months.

3. **Growth of Sarcoma and Carcinoma in Vitro.**—Lambert and Hanes observe in a beautifully illustrated article that the transplantable sarcomata of rats and mice grow very readily by the method of cultivating tissues *in vitro*. Sarcomatous tissue grows in conformity to a type which may be regarded as characteristic for tissues of mesenchymal origin. The growth of sarcoma cells *in vitro* consists in amœboid wandering into the surrounding plasma, karyokinetic proliferation, and evidences of active metabolism on the part of the cells. Mouse carcinomata can be cultivated *in vitro*. The outgrowth of carcinoma cells assumes a sheetlike form, only one cell in thickness. They migrate into the plasma by amœboid movement, the advancing edge showing numerous prolongations of the cytoplasm into pseudopods. Karyokinetic figures are frequently seen in growing carcinoma cells. The cells show evidences of active metabolism. Both sarcoma and carcinoma cells cultivated *in vitro* show active phagocytosis; carmin particles placed in the plasma are taken up rapidly by the growing cells.

4. **Studies in Cancer Immunity.**—Lambert and Hanes found by their experiments that a mouse tumor through a sojourn in the rat reacquires the characteristics of a spontaneous tumor; namely, it takes in a small percentage of inoculated animals, and this percentage increases in subsequent generations. But the diminution of the virulence of the tumor which takes place in the organism of the rat is due to congenital racial immunity of the latter. Furthermore, the immunity of the rat against mouse tumor is not due to conditions of nutrition, but is accompanied by an active noxious influence of the organism of the rat on the mouse tumor. Thus a direct evidence is brought forward through this investigation to show that immunity to cancer growth, but not to tumor grafting, is caused not by differences in intracellular nutrition, but by an active inhibitory influence of the organism of the host on the cancer cells.

6. **Complement Fixation Test for Lues.**—Craig gives the results from his experiments: Certain strains of staphylococci and streptococci, when growing under favorable conditions in normal human blood serum, are capable of producing substances in the serum which cause a positive result with the complement fixation test for lues. These nonspecific reactions do not occur in normal serum which is uncontaminated with bacteria, even though the serum be kept at room temperature for one month. The intensity of the positive reaction in contaminated sera apparently depends upon the presence of favorable cultural conditions for the bacteria concerned, as contaminated sera in which the bacteria can not develop do not give a positive reaction. When growing in normal blood serum certain strains of staphylococci and saprophytic bacilli produce thermostabile anticomplementary bodies which are capable of causing total inhibition of hæmolysis in both the antigen and control tubes. Nonspecific reactions due to bacteria are probably very rare in practice, but they are of sufficient importance to justify the use of aseptic methods in the collection of blood for the complement fixation test.

9. **Distribution of Solutions in Cardiectomized Frogs.**—Meltzer summarizes his experiments thus: Strychnine and adrenalin when injected into cardiectomized frogs are efficiently distributed all over the animal body, and when administered in sufficient quantities produce the usual reactions of these alkaloids. The experiments with strychnine prove positively that the paralyzing effect of this poison is due to its direct action upon the nerve cells of the cord, and not, as Verworn assumes, to a paralyzing action upon the heart. When morphine is injected into cardiectomized frogs the effects are much greater and incomparably more rapid than when administered to a normal frog. The normal circulation probably contains substances derived from some organs capable of modifying and retarding the specific effects of morphine. The distribution of solutions in animals deprived of their circulatory apparatus takes place through the tissue spaces, which present a more or less well connected system of communications throughout the entire animal body, especially through its peripheral parts. This mode of distribution is designated as the peripheral mechanism. In contrast to the centralizing cardiovascular apparatus, the peripheral mechanism permits a greater autonomous action of organs and a more localizing effect of injections. The peripheral mechanism found to be active in animals deprived of their circulation is probably identical with the mechanism which serves for distribution of the mesolymph in living animals not yet possessing a circulatory apparatus. The existence of the peripheral mechanism in animals with a cardiovascular apparatus possesses probably a phylogenetic significance. It is assumed that the activity of the peripheral mechanism is probably not completely sup-

pressed, even in the presence of a normally acting circulatory apparatus; that it exerts a greater physiological influence in parts in which the circulation is normally somewhat difficult; and that it unfolds an activity in pathological conditions in which the circulation has been eliminated or reduced in some parts of the body, or in which the energy of the entire circulation has been reduced.

CANADIAN MEDICAL ASSOCIATION JOURNAL.

May, 1911

1. Study of Eight Hundred and Fifty Cases of Scarlet Fever (Part II), By JOHN MCCRAE.
2. Relation of the Thyreoid Gland to the Female Generative Organs, By JAMES R. GOODALL and L. C. CONN.
3. Medical Inspection of Schools, By JOHN STEWART.

1. **Scarlet Fever.**—McCrae devotes this part of his paper to a discussion of the seventy-one fatal cases of his series. In cases with a bad prognosis both rash and throat symptoms are well marked. In many there is an intense stomatitis with pharyngitis, amygdalitis, and mucopurulent rhinitis; delirium and coma were sometimes noted; fever was always high. Autopsy findings were disappointing. In nineteen cases there was a severe secondary septichæmia. Eleven cases were complicated with diphtheria, the combination, as the writer says, being stronger than the mere superimposing of one disease on the other. As to treatment, frictions are not much good and tubbing is impossible. Intestinal antisepsis and purgation are useful but, on account of vomiting, hard to carry out. Cleanliness of mouth and nose must be attempted and persisted in. In the secondary septichæmia, antistreptococcic serum should be given a chance. If the patient can be kept alive long enough to manufacture his own immunity, full feeding should be entered upon as early as possible, regardless of the kidneys. If a vaccine can be prepared sufficiently soon from the patient's own infective agent, it may be of use, but it has not yet been done. Enlarged glands should be incised.

2. **Relation of Thyreoid Gland to Female Generative Organs.**—Goodall and Conn conclude that: 1. The relation between the female genitals and the thyreoid gland is very intimate. 2. The generative organs which stand in such close relation with the thyreoid gland are the ovaries. 3. That the uterus is devoid of any influence upon thyreoid activity, except that its function may affect the ovarian function and through this the thyreoid gland. 4. Thyreoid activity is in a measure under the governance of ovarian activity. 5. Ovarian superactivity is a frequent cause of the development of exophthalmic goitre. 6. Diminished, or absent, ovarian activity usually coincides with myxœdema. 7. Puberty, menstruation, pregnancy, lactation, and menopause, exercise a profound influence upon thyreoid secretion. 8. Thyreoid secretion and ovarian secretion do not supplement, but neutralize each other. 9. The ovary has two secreting structures,—the corpora lutea and the interstitial cells. 10. It is the secretions from the latter which seem to bring the ovary and thyreoid gland into such close relation.

Proceedings of Societies

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of Wednesday, January 11, 1911.

The President, Dr. HENRY LEFFMANN, in the Chair.

Vaccine and Serum Therapy in Diseases of the Eye.—Dr. WILLIAM ZENTMAYER gave the methods used for immunizing individuals against particular diseases, first by the use of vaccines which stimulated the tissues, producing antagonistic substances, so called antibodies; second, by introducing sera, which were antibodies already formed, into the system. The methods adopted for the diagnosis of ocular lesions by the use of vaccines or bacterins in no way differed from those used to determine the character of lesions elsewhere in the body, though the results secured were somewhat more definite. In the eye the possibility of obtaining a visible local reaction indicated definitely the specific character of the inflammation. The importance of obtaining a local reaction did not seem to be fully accepted, as some clinicians held that when the symptoms suggested, for instance, tuberculosis, a typical general reaction was sufficient basis of a positive diagnosis. Personally he hesitated to accept this view. It was true that there might be local conditions which might prevent a local reaction, but the clinical diagnosis of tuberculosis of the eye was still in the formative stage, and he believed, therefore, we should insist on a local reaction to establish the diagnosis, until we were more familiar, clinically, with its different manifestations. It was not within the province of the paper to describe the various tests, but it was of interest to note the present status of the tests for tuberculosis. Special attention was given to the diagnosis of ocular lesions by vaccines or bacterins. The value of the Wassermann reaction in establishing the specificity of an ocular lesion, ophthalmologists seemed to be willing to consider conclusive, especially if the tuberculin test was negative. Methods of administration of tuberculin among ophthalmologists were mentioned, and that of von Hippel seemed to be advised. The value of the gonococcus vaccine was also discussed. So was the use of the Coley toxines. The antitoxine of diphtheria was one of those discussed. Nonspecific sera were given some attention.

The Relation of Cerebral Decompression to the Relief of the Ocular Manifestations of Increased Intracranial Tension.—Dr. GEORGE E. DE SCHWEINITZ said that the best results were reached by early cerebral decompression, that is, before the disc changes were associated with much depreciation of visual acuteness and contraction of the field of vision. The indication for operation did not depend alone on ophthalmoscopic examination, but on an examination of the visual field, the size of the blind spot, of the light sense and periods of temporary obscuration of vision; vision was properly studied until there had been a thorough investigation of the refraction of the eye, and this test had been made through the glasses which gave the most satisfactory visual result.

All head injuries, whether a fracture of the skull

was present or not, should be carefully investigated from the ophthalmoscopic standpoint as well as from the other standpoints which had just been described. The presence of a papilledema, which sometimes was conspicuously evident, was an indication for decompression, but not a peremptory one, as sometimes the lesions subsided without operative interference. The medicinal treatment of brain tumor had nothing to commend it unless the symptoms depended upon syphilis; if, after a thorough mercurial or other antisyphilitic course, lasting from six to eight weeks, there was no subsidence of the intraocular disease, operation should be considered.

While the prognosis as to sight, if a late stage of papilledema was present, was extremely unfavorable, the operation might have to be done for other reasons, but the prognosis *quoad visum* should be definitely and accurately stated to the patient, and he should understand that sometimes the operation itself appeared to hasten the impending blindness; occasionally it seemed to check it, and sometimes even very defective visual power was really improved by the operation.

Dr. Thomas B. Holloway, in the discussion of Dr. de Schweinitz's paper, stated that it was a well known fact that choked disc resulting from an increase in the intracranial pressure in cases of brain tumor, in the majority of cases, showed a difference in the height of the swelling in the two eyes, and that there was no direct relationship between the degree of swelling and the size of the intracranial growth. It was not thought necessary to refer to the various intracranial factors that might be held responsible for this variation in the intensity of the intraocular manifestations, but he was much interested in a recent article by Ley on this subject. Ley accepted the theory that choked disc was due to an increase in the intracranial pressure, and arguing from the well known laws of hydrostatics, he believed that an increase in the intracranial pressure should produce an equal swelling in the two eyes, and that any variation in the height of the discs was dependent upon a difference in the intraocular pressure in the two eyes, presumably, what might be regarded as a difference within the physiological limits. Dr. Holloway thought that inasmuch as fully two thirds of the cases of choked disc or papilledema associated with brain tumor showed a difference in the height of the swelling in the two eyes, that it would be necessary to assume that in all of those cases the intraocular pressure differed in the two eyes. While it was true that oculists relied upon digital manipulation for testing the variations in tension, and doubtless in some cases slight differences escaped undetected, it was, nevertheless, more or less remarkable how uniform were the results when tested by skilled fingers. Ley's theory had suggested to Dr. Holloway that it was rather strange that a rise in the intraocular tension was not more frequently observed. Doubtless, in many cases of brain tumor there had been instances where the patients presented certain predispositions to glaucoma, while within the eye there existed a lesion that was essentially an intraocular growth, sometimes attaining a height of 3 mm. or more, and further, the lesion was situated so as to partially or completely obstruct the posterior lymph channels. While it was appreciated that compensatory processes doubtless regulated intraocular tension in these cases, nevertheless it seemed unusual that in view of the probable existence of these conditions, and in addition, the possibility of some chemical change occurring in the intraocular fluids as the result of degenerative changes, that in some instances a distinct rise in the intraocular tension did not occur. In those cases of choked disc that had come under the speaker's observation at the University Hospital and Orthopædic Hospital and Infirmary for Nervous Diseases, no rise in tension had been detected by digital methods, nor had the report of a glaucoma complicating choked disc ever been observed in the literature by the speaker. With the advent of Schiotz's tonometer, a more accurate method had been placed at our disposal, and henceforth those cases of choked disc that came under observation at the before mentioned institutions would be subjected to the accuracy of this instrument.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of Wednesday, January ...

The President, Dr. C. B. Longenecker, in the Chair.

Pellagra.—Dr. Samuel Stern called attention to the warnings of pellagra's presence and significance by Dr. Wyman and Dr. Babcock as verified by the recorded existence of over 3,000 cases today as against 200 recorded cases two years ago. The relation of corn as an ætiological factor, and the danger that lies in last year's three billion bushel growth of maize was pointed out. The appearance of over sixty cases upon which observations had been made in Philadelphia, in and out of institutions, and attention directed to the presence of the factors recognized as essential to the production of the disease, e. g., poverty, poor hygienic surroundings, and corn diet. In a résumé of the symptoms, as observed and studied by Dr. Stern, he included several observations which he believed to be original, and he also claimed priority in the recognition of and the report of pellagra's presence in Philadelphia and vicinity. The conclusions reached after a study of conditions were that the sense of security of the profession at present against the invasion of this pestilence was unwarranted; that pellagra would be found whenever one would find the factors necessary to cause the disease; that the conditions were more widely spread than heretofore credited; and that it was the duty of the profession and the local and State health bodies to engage themselves in a study of the disease, that measures might be instituted to aid in the prevention of and in the possible discovery of the cause that successful treatment might also be found for pellagra.

He reported the case of a girl, nine years of age, who had spent all her life in Pennsylvania, most of it in Philadelphia. In August of 1909 she began to lose flesh, became melancholic, and some time later diarrhœa developed, and in the spring of 1910 a peculiar red brown dermatitis of the hands and face. During her stay in the University Hospital there was considerable improvement, but soon after

her discharge she grew worse and finally died in October, 1910. All her symptoms were quite characteristic of pellagra. The eating of spoiled corn as a causative factor could be excluded with reasonable certainty.

During the summer of last year the author had the opportunity to study the disease as it occurred in Northern Italy, and from the observation of a small series of cases he had become convinced that in mild cases and poorly developed ones, the diagnosis might be surrounded with considerable difficulty; and that it was a mistake to lay too much stress upon dermatitis and pigmentation unless accompanied by other symptoms, especially by gastro-intestinal symptoms.

Dr. FRANK C. KNOWLES, in the discussion, remarked that the diagnosis of pellagra was almost impossible unless there were present the three "Ds": "Diarrhœa," "dementia," and "dermatitis."

Dr. LEONARD D. FRESCOLN had had two cases in the Philadelphia Hospital which were suspicious of pellagra; but, he had never seen any cases which were diagnosticated to his own satisfaction by the authority of those who had seen the real disease in Italy. There had been shown no positive proof by blood tests that from his study and reading he believed we should have. To the three "Ds" mentioned by Dr. Knowles, "dermatitis," "diarrhœa," and "dementia," he believed there should be added a fourth, that of "death." His impression was that practically all patients, suffering from pellagra, died. They improved for a time, but finally died without any other manifest cause of death.

Dr. GEORGE E. PRICE was impressed with the great variety of mental symptoms that had been reported in association with pellagra. This was, in a large measure, due to the fact that many cases were found in the asylums for the insane. If there were any insanity of pellagra, it seemed to him that it must from necessity follow the line of insanity of any infectious or toxic process. If we had a destructive agent sufficient to cause the changes that had been noted in the spinal cord in pellagra, we surely had a destructive agent sufficient to bring about pathological changes in the brain and membranes. The cord changes had been those of a combined or diffuse sclerosis comparable to the changes found in anæmia and toxic states.

Dr. A. E. ROUSSEL'S experience had been confined to four cases in South Carolina, two years ago. The erythematous eruption in three of the four cases was markedly present. The post mortem findings showed the earlier involvement of the membranes than of the cord proper. While he regarded these papers as productive of great good in attracting attention to the subject of pellagra, he felt that the question of bacteriological examination should be thoroughly carried out before we definitely assumed that every case of eruption of this or that type was pellagra. Even those who practised in neighborhoods where the disease was prevalent realized the difficulty of diagnosis in the early stages. Every safeguard should be adopted against the error of hasty diagnosis.

Dr. STERN, in closing, stated that regarding the relation of insanity to pellagra, abroad the figures varied from ten to thirty per cent. Over eighty per cent. of the cases were not insane. Probably a very small percentage showed any nervous manifestations. While it was true that "dermatitis," "dementia," and "diarrhœa" were important factors and that their presence aided in diagnosis, he did not attach the same degree of importance to them as do some. The additional "D," that of "death," he thought was out of order, since we desired to make the diagnosis in the early stage of the disease and not at the end.

The Destruction of Surface and Cavity Neoplasms by Desiccation—a New Electrical Effect.—Dr. W. L. CLARK gave a preliminary report. He said that his work up to the present time would appear to justify the following conclusions:

1. That a current from a static machine of large output, with properly attuned accessories, was capable of destroying tissue by desiccation. His clinical experience did not lead him to the conclusion that this specialized current had a particular affinity for abnormal tissue over the normal, but it was a simple matter to keep the destruction well within bounds on account of refinement of control.

2. That malignant growths might be destroyed without blood or lymph channels, thereby preventing further metastasis, or the inoculation of healthy tissue in adjacent parts. In cancer of the breast, where there was involvement of the axillary or cervical glands, a surgical procedure was indicated on account of inaccessibility of the involved structure; but, upon the first appearance of recurrence, there would be a great possibility of arresting activity. In cancer of the cervix he believed it to be more desirable than the curette and cautery. It was a perfect sterilizing, destructive, styptic, deodorant, and penetrating. It could be employed with a minimal degree of danger and discomfort and might offer a chance of cure if taken in time.

3. That it simplified the treatment of hæmorrhoids and other neoplasms of the mucous membranes. Employing the endoscope as an aid, cavity lesions might be successfully treated. Its applicability in the bladder had been shown, and it was perfectly possible to apply it deeply into the rectum, the interior of the uterus, the throat, the œsophagus, and even the stomach.

4. That in warts, moles, pigmentations, and in certain other cutaneous lesions, the destruction was a simple matter and the cosmetic effect good. Old pus sacs might be entered, destroyed, and sterilized, as in pustular acne, etc. Sluggish ulcers might be stimulated to repair.

5. Fulguration produced its effect by a coarse kind of mechanical superficial charring, while oscillatory current desiccation produced a refined, penetrating, devitalizing effect by drying, and possibly, some biological effect in addition which he could not, as the present time, define.

Dr. B. A. THOMAS stated that he knew very little about the theory of the high frequency current described by Dr. Clark, but had become very greatly interested in the subject. It was certainly true that good effects were obtained by this method in the treatment of papillomata of the genitourinary tract. In a case of papilloma of the bladder recently treated the tumor had had but two applications of the current and shown improvement. In

one case of papilloma of the rectum, ten days after a single treatment the papilloma could not be found.

Dr. William J. Dugan thought that we had no proof of this "oscillatory" movement, and nothing was shown that had not been known for years. It seemed to him that we had no scientific facts. The x ray, radium, and fulguration he believed were palliative, but he did not believe they cured cancer or sarcoma. If, after a diagnosis of such condition, by a good pathologist, the patient was cured, he should be the first to accept the facts, for there was no physician in the world who would not hail with delight any cure of cancer.

Dr. George M. Dorrance thought the most important feature was the treatment directed to the bladder conditions, for these cases were practically all fatal by any other method of treatment.

Dr. D. J. McCarthy did not know whether this method was new, or a modification of an old one; but, if Dr. Clark had been able to modify fulguration in such a way as to produce a decided change in effects, then he was entitled to the presentation of this paper, and we could say that his modification of fulguration was worth while. He questioned whether the action was one of desiccation; he thought rather that Dr. Clark was dealing, not with desiccation, but with a condition of some form of coagulation necrosis, a distinctly pathological condition. The elimination of the tattoo marks was very interesting. Even if there should be nothing new in this matter he felt that the society was indebted to Dr. Clark for calling attention to the possible application of the method through cavities of the body.

Dr. E. C. Titus stated that it was to Rivière, of Paris, that we were indebted for the first application of high frequency currents for their local effects when concentrated in their application by suitable electrodes, and called by the originator fulguration or effluvation; to Keating-Hart, a pupil of Rivière, for the more general dissemination of the uses of this therapeutic measure in the treatment of circumscribed local conditions, and to Czerny for their employment in major conditions. In this country it was becoming universally employed by advanced therapeutists who had apparatus for the production of the properly attuned high frequency electrical currents. To obtain the best results it was essential that these high frequency currents emanated from an apparatus so adjusted that capacity, inductance, and resistance were balanced. This could be determined by putting in series between the machine and the rheophore or conducting cable a properly constructed oscilloscope or oscillograph which would readily show us when we had a true oscillatory or high frequency discharge. To Dr. Clark we were indebted for a refinement of these adjustments in essential details, and it was because of this fact that he had been enabled to obtain such excellent results in the cases exhibited here to-night. One significant feature that had not heretofore been brought out in the application of effluvation, fulguration, or the high frequency currents was that if carefully examined the whole tissue would seem to become fluorescent by a rapid bombardment of innumerable fine sparks, and it was fair to assume that the local effects were due to the physical action of these fine oscillatory sparks when concentrated to a point by a suitable electrode.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting of March 20, 1911.

The President, Dr. Reynold Webb Wilcox, in the Chair.

(*Concluded from page 1007.*)

The Newer Treatment of Gout.—The main points brought out in this paper, by Dr. George Meyers, were the following: 1. Gout was a metabolic disorder due, not to proteids as a class, but to one special form of proteids, namely, the nucleoproteids. 2. The fault might be due to either (a) the ingested nucleoprotein, or (b) special ferments which metabolize nucleoproteids. 3. The principal indications in the treatment, therefore, were: (a) To avoid the nucleoproteids; this was best accomplished by the use for a few days of a diet entirely free from nucleoproteids, and then establishing a tolerance by the gradual addition of nucleoproteids to the diet. (b) Rest or alter the ferments; to be done by the avoidance of nucleoproteids. (c) As the gouty deposits in the tissues were increased by sodium salts, avoid sodium compounds. By the use of a salt free diet the amount of sodium ingested was limited. When drugs were employed (as for the relief of pain, etc.), the selection of strontium or potassium salts, in the place of those of sodium, was advisable. So, too, the mineral waters partaken of should be free from sodium, and, in this connection it was important that great care should be taken in the selection of proper health resorts to which to send patients.

It would have been noticed, the speaker went on to say, that nothing had been said in the paper in regard to colchicum. This was because the drug had no effect whatever on the disease, its only service being the relief of pain. Radium, however, appeared to exert some influence over fermentation processes, and therefore such mineral springs as contained this agent might prove useful to the gouty patient.

Cystinuria.—Dr. Frederic E. Sondern said that this condition, so far as he was aware, did not give rise to any characteristic clinical symptoms unless it had formed calculi in the urinary tract, and it would seem to be a metabolic curiosity, rather than a veritable entity. True cystinuria was rare. K. von Hoffmann, in a collective review published three years ago, stated that but 175 cases were on record, and in approximately 35,000 specimens of urine Dr. Sondern had met with it in only three instances. But one of the patients presented symptoms referable to this condition, the presence of cystin in the urine being discovered on routine analysis. One had an acute gonorrhœa, the second was to be operated upon for a lipoma of the neck, and the third had his urine examined as a precaution before applying for life insurance. There were, as far as he could learn, no calculi in the urinary tract and no history of renal colic or tenesmus, but in all three there seemed to be a distinct neurotic taint. While most textbooks mentioned cystin cal-

as a variety in lithiasis, it was difficult to find the clinical history in an actual case. Israel, for instance, in his *Surgical Clinic of Kidney Diseases* spoke of cystin calculi, and the fact that this substance was found mixed with other elements in some stones, but did not cite one case in his long list, unless those largely composed of sulphur might be so considered.

It was formerly believed that cystin was a product of putrefaction in the intestine, but the chief practical object of recent publications by Loewy and Neuberg and by Wolf and Shaffer, as well as of a paper by H. B. Williams on Protein Metabolism in Cystinuria, was the attempt to prove conclusively that it was not a product of intestinal putrefaction. The simultaneous presence of diamines (putescin and cadaverin) was by no means constant, and even if they did occur in cases of cystinuria, it was stated that this would not necessarily indicate a common origin. Whether the other amino acids, such as leucin and tyrosin, occurred in these cases was another important question. They had been found in some analyses and were declared absent in others. A conservative opinion, based on the published research work, would be that cystinuria was the outcome of a faulty amino acid oxidation dependent upon faulty albumin catabolism.

Dr. A. A. Cossitt reported a case of cystinuria in a girl of ten years. She had not been well, he said, since an attack of diphtheria three years ago, and her parents were disposed to attribute her condition to the antitoxine administered at that time. The urine, which was deficient in quantity, contained blood and occasional crystals of cystin and was of high acidity. There were marked gastro-intestinal symptoms, and the stools were frequently thin. The child had been under the care of a number of excellent physicians, but had not been benefited. Dr. Cossitt, however, was the first to detect the cystinuria.

Dr. Louis F. Bishop said there was a good deal of difference between the various European "cures," and it was a matter of the greatest importance that the right resort should be selected. Every year there were numbers of patients who went to the wrong ones, and were thus made very much worse. There was no doubt in his mind as to the danger from intestinal putrefaction, which, in common with many others now, he believed to be the ultimate cause of arteriosclerosis, myocardial disease, and nephritis. The alkaline mineral waters were liable to do great injury, as they tended to promote such putrefaction, while an acid condition in the alimentary tract encouraged the development of bacteria which were inimical to putrefaction. The most suggestive points which had been brought out in the present "symposium," he thought, were the limitation of the use of sodium and the proper selection of cures. He was a great believer in Nauheim, and one of the best things about the resort was that patients do not drink the waters there.

Dr. Meyers thought it must be apparent that the benefit derived from the foreign spas did not come from drinking the waters, but from the change of environment, diet, and general mode of life. He was glad to confirm what Dr. Bishop had said, for it was certainly true that the patients at Nauheim who got along the best were those who did not drink the water. Baden Baden was a very good resort, because its springs supplied pure water, with a very small content of salts.

Letters to the Editor.

THE PRONUNCIATION OF GASTROPTOSIS.

New York, *May 20, 1911*

To the Editor:

Will you kindly permit me to answer Dr. William E. Wright's query in to-day's issue of your esteemed *Journal?* There exists no rule how to pronounce a barbarism like gastroptosis. In the *Journal* of May 11, 1901, I wrote:

To sis—xis—psis—sis vor sis endigende Hauptwörter als zweiten Bestandtheil, wenn nur der 1ste Bestandtheil eine Präpositio ist, wie z. B. prolapsus, periptosis, diagnosis; ist der 1ste Bestandtheil aber keine Präposition, wird sis zu sia, z. B. palingenesia, hierognosia, apraxia, cupraxia, gastroptosia.

That is, a feminine noun which ends in sis, xis, and psis as the second component remains unchanged when the first component is a preposition, as, for instance, proptosis, periptosis, diagnosis; but if the first component is not a preposition, then in composition the ending is changed into sia, as cupraxia, apraxia, palingenesia, hierognosia, and also gastroptosia. Gastroptosia, therefore, is pronounced with the accent on the penult, thus: gastroptosi'a.

A. Rose, M. D.

INTERSTATE RECIPROCITY.

New York, *May 17, 1911*

To the Editor:

Will you please write an article as soon as convenient for you about medical reciprocity with various States. I am sure many physicians would leave the State, and I am one of them, if other States would reciprocate with New York and why should there be no reciprocity with other States? and why is it that the medical papers keep quiet about it? In Germany a physician can practise all over Germany; the same is true in France, Spain, Great Britain, and Austria-Hungary, but here, if a medical man steps over from the New York shore to the Jersey shore, he is not considered a physician. Isn't that fierce?

Subscriber.

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

New and Nonofficial Remedies, 1911. Containing Descriptions of the Articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, Prior to January 1, 1911. Chicago: American Medical Association, 1911. Pp. 282.

This is the third edition of New and Nonofficial Remedies published by the American Medical Association. Like its predecessors, it contains descrip-

tions of articles approved by the Council on Pharmacy and Chemistry of the association. An appendix is added which gives an index of proprietary articles, arranged under the names of the manufacturers or their agents. As the remedies are not arranged alphabetically, a general index, which is to be found at the end of the volume, is very necessary for the use of the reader.

A Handbook of Intestinal Surgery. By Leonard A. Bidwell, F. R. C. S., Surgeon to the West London Hospital, Lecturer on Intestinal Surgery, and Dean of the Postgraduate College, etc. Second Edition. New York: William Wood & Co., 1911. Pp. xiv-212. (Price, $2.25.)

The present edition has been rewritten so as to include all desirable methods of operative procedure that have been introduced within the past five years. In view of the practical character of the work, and the author's insistence on the importance of practising the various sutures on bullock intestine with the aid of an intestine holder he has devised, it is unfortunate that the illustration of the portable holder has been omitted from the volume.

By Gilbert J. Fowler, D. Sc., F. I. C., Lecturer in Bacteriological Chemistry in the Public Health Department, Victoria University of Manchester, Examiner in Biological Chemistry to the Institute of Chemistry of Great Britain and Ireland. New York: Longmans, Green, & Co.; London: Edward Arnold, 1911. Pp. vi-328. (Price, $2.10.)

In the book before us the author gives an excellent and timely presentation of a highly important branch of biological chemistry. It is surprising to what an extent the researches of Pasteur on fermentation have been developed, and to find how varied a part enzyme action plays in nature. The author deserves great credit for bringing together in such readable form and acquired facts concerning all these varied enzyme activities. The book deserves to be carefully studied by physicians and particularly by laboratory workers.

kin, Col., R. A. M. C., Lecturer on Syphilology, Royal Army Medical College, London, etc. With Preface by Sir Frederick Treves, *Bart.*, G. C. V. O., C. B., LL. D. New York: William Wood & Co., 1911. Pp. vii-195. (Price, $2.25.)

Colonel Lambkin has for many years observed and directed the treatment of syphilis in the British army, and thus brings to this work an experience which is hardly equalled and an authority which comes from such vast experience.

Beginning with a brief sketch of the history of syphilis from the earliest times to the present, the book discusses in succession the pathology of the disease and each of its clinical stages. The notes on bacteriological diagnosis are for some reason placed in an appendix at the end of the book, where they are apt to escape detection. The clinical diagnostic points are brought out clearly and systematically. We do not like the use of the word "syphologist" (p. 40), and believe that its use mars an otherwise excellent diction in this book.

The sections on treatment, general and special, are the most valuable portions of the book. Every method with which the author has had any experience is detailed and full directions are given as to their application. The chapters on the inunction method and the intramuscular method are very complete and practical. Intramuscularly, the author's preference runs to calomel injections first, then metallic mercury (gray oil), and to a systematic intermittent treatment. From four to eight injections are given; then a period of rest is ordered varying from two to six months, according to the stage of the disease. It is interesting to note that a writer of such experience as Lambkin considers two years of systematic treatment sufficient in syphilis, provided a negative Wassermann reaction is obtained at the end of that time (p. 168). Altogether, it may be said that the value of the Wassermann test in diagnosis and in determining need of treatment is not sufficiently brought out in this book. The subject is treated in a parenthetical way in an appendix, where the reader may discover it, as we did, by chance, after a thorough perusal of the rest of the volume.

To Ehrlich's new remedy, salvarsan, which is nicknamed "Hata" in this book, the author devotes four pages, which were inserted after the volume was already in press. The information on salvarsan is entirely too scanty to enable the reader to gain a working knowledge of it. This doubtless will be remedied in future editions.

Studie aus der Praxis von Dr. med. Hermann Rohleder, Spezialarzt für Sexualleiden in Leipzig. Mit Anhang: Die künstliche Zeugung (Befruchtung) beim Menschen. Leipzig: Georg Thieme, 1911. Pp. xi-289.

The Physiology of Reproduction. By Francis H. A. Marshall, M. A. Cantab., D. Sc. Edin., Fellow of Christ's College, Cambridge, and University Lecturer in Agricultural Physiology. With a Preface by Professor E. A. Schäfer, Sc. D., LL. D., F. R. S., and Contributions by William Cramer, Ph D., D. Sc., and James Lochhead, M. A., M. D., B. Sc., F. R. C. S. E. With Illustrations. London, New York, Bombay, and Calcutta: Longmans, Green, & Co., 1910. Pp. xvii-706.

These two books, which were published at about the same time, cover a very interesting subject, representing the German and the English views of the question of reproduction. Dr. Rohleder, the author of the German book, touches the subject only as far as it treats of the generation of man, while Mr. Marshall speaks of generation in general, including that of man. Both books are written in an absolutely scientific way, a good medical education being a *sine qua non* for the understanding of the subject.

The German book will be of great interest to the physician as it also gives practical hints and treats the pathology of generation and artificial generation in man. It is divided into two parts. The first, taking up only forty-four pages, speaks of generation from a general point of view and the laws governing it, while the second part, nearly 250 pages, speaks of generation in man. The author goes fully into detail and is very conservative in his views. Very interesting are the chapters on heredity and the determination of the future sex of the child. In this chapter he concludes: The determination of sex would be possible only if it depended upon one factor alone, as otherwise too many agents would have to be considered, which would make a certain result impossible; but it is not probable that sex in man is determined by one agent only. Therefore, our expectation to make this determination of prac-

tical value will not be fulfilled. The second part is divided into the physiology, pathology, and artificial generation of man. The writer is thoroughly conversant with his subject, which is fully treated. Although the book is written in a German which can be easily understood by a foreigner—as he avoids capsulated sentences—it would be a great help to our profession if an English translation should appear.

The English book by Dr. Marshall is of importance for gynæcologists as well as for breeders of animals. It contains pure science and describes the generation of different organisms from the lowest class, the protozoa, up to the highest, man. In his chapter on determination of sex, the author comes to the conclusion that "it seems certain that sex is not determined by the same factors in all cases, neither is it determined at the same period of development." The chapter to which we have referred in the previous sentence is very well written, as well as the final chapter on the Duration of Life and the Cause of Death. Dr. Cramer has contributed a chapter on the Biochemistry of the Sexual Organs, while Dr. Lochhead is the author of the chapters on Fetal Nutrition and the Metabolism of Pregnancy.

The book is plentifully illustrated, and the illustrations are well executed. The book can be cordially recommended and should find many readers.

MEDICOLITERARY NOTES.

We think all reputable physicians will rejoice with us in noting in the June *Cosmopolitan* the likelihood that naughty Valerie, the model, will fail in her endeavors to make the virtuous Neville, the artist, throw his silk hat over the mills, as the French would say. It looks as if the strong social influences that are being brought to bear would force the young woman to give the hero his marriage lines, and so bring The Common Law, by Robert W. Chambers, to a morally improving conclusion.

* * *

Old Dr. Henry C. Rowland cures that tired feeling by means of his strongly stimulating stories. In The Dog with the Broken Tooth, in the May 10th issue of the *Popular Magazine*, the hero narrator is a physician, very highly educated. When he sees a man fatally stabbed on the sidewalk in front of his office he says to the footman, "Quickly!" A less careful man might have said "Quick"; or, perhaps, the editor made the change. However that may be, the story is quick enough to suit the most jaded reader, and the heroic physician gets the charming heroine of nineteen, as physicians have always done since the dawn of medical science.

* * *

According to *Collier's* for May 20th, "A library in Philadelphia, the Apprentices', announces that while its circulation during 1910 rose three and one third per cent., the proportion of fiction became two per cent. less of the total. If solid reading is gaining generally around the country, at the expense of novels, we should be glad to receive reports from libraries, booksellers, and publishers. If many reports come in, we shall not only print the results, but also moralize. Meantime we observe that fiction is an excellent sweet in the mental diet, but not suited to form the mind's exclusive nourishment." We do not agree with *Collier's*, and believe fiction to be a proper mental food for people who work hard. Solid reading is all very well for otherwise idle people or for those who consider conversation about books instead of actualities a sign of intellectual superiority. We confess to a preference for opinions at first hand and are never in the least abashed when obliged to answer in the negative a query as to whether we have read the opinions of the latest discoverer of ideas that were old to Aristotle.

* * *

The world was spared a remarkable sensation and the credulous a probably immortal delusion by the circumstances which attended the painful death of the clever French illusionist, Lafayette. This performer had a double who traveled with him and whose striking resemblance was useful in the presentation of many startling tricks. When it was first reported that Lafayette had perished, the cognoscenti of magic and vaudeville winked and whispered to one another that it was only the double who was receiving funeral honors. Presently, said they, Lafayette will reappear upon the scene to announce, with appropriate excursions and alarums, that he has risen from the dead. As thousands of responsible people will conscientiously testify that they saw him buried, his apparent resurrection will not only startle the world, but prove to be a priceless advertisement of unprecedented strength and daring. Those who knew the skill and remorselessness of Lafayette in advertising aver that he would readily have profited by the gruesome end of his double, had not the Edinburgh disaster later involved him in a like fate.

NEW PUBLICATIONS.

[illegible] Medicine.—A Textbook of Medicine for Students and Practitioners. Fourth American Edition. Translated by Permission from the Seventeenth Revised German Edition. With Editorial Notes, Additional Chapters, and a Section on Mental Diseases, by Herman F. Vickery, A. B., M. D., Instructor in Clinical Medicine, Harvard University, and Philip Coombs Knapp, A. M., M. D., Clinical Instructor in Diseases of the Nervous System, Harvard University. With Six Plates, Three of Which Are in Color, and Two Hundred and Twenty-four Illustrations in the Text. In Two Volumes. Volume I: Acute General Infectious Diseases, Diseases of the Respiratory Organs, Diseases of the Circulatory Organs, Diseases of the Digestive Organs, and Diseases of the Urinary Organs. Pp. xxi-831. Volume II: Diseases of the Organs of Locomotion, Constitutional Diseases, and Diseases of the Nervous System. Pp. xiii-800. New York and London: D. Appleton & Co., 1911. (Price, $12.)

Report of the Department of Health of the City of Chicago for the Years 1907, 1908, 1909, and 1910. W. A. Evans, M. S., M. D., LL. D., Commissioner of Health. Chicago, 1911. Pp. 446.

Proceedings of the Tenth Annual Conference of Sanitary Officers of the State of New York at Y. M. C. A. Auditorium, Buffalo, November 16-18, 1910. Albany: New York State Department of Health, Department of Publicity and Education, 1911. Pp. 269.

Transactions of the College of Physicians of Philadelphia. Third Series. Volume XXXII. Philadelphia, 1910. Pp. lxxii-442.

Report of a Special Committee Appointed by the Washington Chamber of Commerce to Investigate the Milk Situation in the District of Columbia. Prepared by J.

Louis Willige. Presented by Mr. Gallinger. Washington: Government Printing Office, 1911. Pp. 437.

Yellow Fever. A Compilation of Various Pulbications. Results of the Work of Major Walter Reed, Medical Corps, United States Army, and the Yellow Fever Commission. Presented by Mr. Owen, January 27, 1911. Washington: Government Printing Office, 1911. Pp. 250.

Miscellany.

The Lumbosacral Articulation as an Ætiological Factor in Lumbago.—Displacement of the sacroiliac joint as a cause of lumbar pain has been and is at the present time overlooked by the general physician. This is no doubt due to the fact that injury of this joint, owing to its strong ligaments, is supposed to be a medical rarity. Such, however, is not the case, and through the studies of Goldthwaite, of Boston, attention has been recently directed to the comparative frequency of dislocation at this articulation as the real seat of trouble in many of the obscure cases of so called lumbago. The patient usually gives a history of having lifted a heavy object, thereby straining his back, followed by severe lumbar pain, which necessitates the summoning of a physician, who, after a more or less thorough examination, diagnosticates the trouble a sprained back, bruised muscles, etc.; whereas, if trouble had been taken thoroughly to investigate the sacroiliac articulation, there would have been no difficulty in determining mobility of the joint to be the cause of the pain. In some instances the displacement is marked and not at all difficult to ascertain, while in others the separation is very slight and extremely hard to detect. Therefore, advises the *Maryland Medical Journal* for April, 1911, in every instance of sacral pain do not fail thoroughly to investigate the sacroiliac synchrondrosis as the probable seat of the trouble.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from yellow fever, cholera, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending May 19, 1911:

Places.	Date.	Cases.	Deaths.
Alabama—Birmingham	May 1-6	-	
Florida	May 1-6		1
Iowa	Apr. 1-30	1-1	
Louisiana—New Orleans	Apr.		
Maine—Penobscot County	Apr.		
Missouri—Kansas City	Mar.		
Oklahoma	Mar.		
South Carolina—Charleston	Apr.		
Tennessee	Apr.		
Wisconsin	Apr.		
Austria-Hungary—Galicia	Apr. 9-15	1	
Canada—Ottawa	Apr. 23-29	4	
Canada—Winnipeg	Apr.		
Chile—Valparaiso	Apr.		
China—Hongkong	Mar. 26-Apr. 1	12	
France—Paris	Apr.		
Gibraltar	Apr.		
Hawaii—Honolulu	May		
India—Madras	Apr. 2-8		19
India—Rangoon	Mar. 20-Apr.		
Italy—Naples	Apr. 16-22		1
Italy—Palermo	Apr.		
Italy—Turin	Apr. 2-8		
Indo-China—Saigon	Mar. 27-Apr.		
Mexico—Chihuahua	Apr. 10-23		2
Mexico—Progreso	Apr. 23-29		1
Mexico—Tampico	Apr. 26-Apr		
Portugal—Lisbon	Apr.		
Siberia—Vladivostok	Mar. 15-21	305	1
Indo-China—Saigon	Mar. 27-Apr. 2	5	

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending May 27, 1911.

BROOKS, S. D., Surgeon. Granted seven days' leave of absence from May 17, 1911.

CREEL, R. H., Passed Assistant Surgeon. Granted one day's leave of absence, April 14, 1911, under paragraph 191, Service Regulations; granted thirty days' leave of absence from June 1, 1911.

JACKSON, J. M., Jr., Acting Assistant Surgeon. Granted ten days' leave of absence from May 12, 1911.

LAVINDER, C. H., Passed Assistant Surgeon. Relieved from duty at the Hygienic Laboratory and directed to proceed to Savannah, Ga., and assume command of the Service.

MCCLINTIC, T. B., Passed Assistant Surgeon. Directed to proceed to Missoula, Mont., via Helena, for the investigation of Rocky Mountain spotted fever.

MCMULLAN, JOHN, Passed Assistant Surgeon. Relieved from duty at Ellis Island, N. Y., and directed to proceed to Baltimore, Md., and report to Surgeon W. P. McIntosh for duty in the medical examination of arriving aliens; granted twenty-one days' leave of absence from May 9, 1911, on account of sickness.

MIRANDA, R. U. LANGE, Acting Assistant Surgeon. Granted six months' leave of absence from June 3, 1911, without pay.

NYDEGGER, J. A., Surgeon. Granted one month's leave of absence from April 24, 1911, on account of sickness.

RANSOM, STACEY A., Acting Assistant Surgeon. Granted thirty days' leave of absence from April 1, 1911, with pay, and six months without pay from May 1, 1911.

ROBINSON, H. D., Acting Assistant Surgeon. Granted nine days' leave of absence from May 17, 1911.

RYDER, L. W., Pharmacist. Granted one day's leave of absence, April 3, 1911, under paragraph 210, Service Regulations.

STANTON, J. G., Acting Assistant Surgeon. Granted five days' leave of absence from May 16, 1911.

Sterns, C. O., Pharmacist. Granted two days' leave of absence, April 7 and 8, 1911, under paragraph 210, Service Regulations.

Stimson, A. M., Passed Assistant Surgeon. Granted one day's leave of absence, April 22, 1911, under paragraph 191, Service Regulations.

Van Ness, G. I., Jr., Pharmacist. Leave of absence for fifteen days from May 6, 1911, amended to read "ten days from May 13, 1911."

Wertenbaker, C. P., Surgeon. Detailed to represent the Service at the annual meeting of the Association of Surgeons of the Southern Railway Company to be held at Charlotte, N. C., May 29 to 31, 1911.

White, J. H., Surgeon. Detailed to represent the Service at the annual meeting of the American Society of Tropical Medicine to be held in New Orleans, La., May 18 and 19, 1911.

Wille, C. W., Passed Assistant Surgeon. Detailed to attend meeting of the National Dental Association at Cleveland, Ohio, May 10, 1911.

Woodward, R. M., Surgeon. Granted two days' leave of absence from May 18, 1911.

Casualty.

Pharmacist Samuel W. Richardson, died in the U. S. Marine Hospital, Boston, Mass., May 10, 1911.

Board Convened.

Board of medical officers convened to meet at Stapleton, N. Y., May 17, 1911, for the examination of an officer of the Revenue Cutter Service, to determine his fitness for promotion. Detail for the board: Surgeon H. W. Austin, chairman; Passed Assistant Surgeon W. A. Korn, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending May 20, 1911:

Bushnell, George E., Lieutenant Colonel, Medical Corps. Detailed to represent the Army at the Seventh International Congress against Tuberculosis, to be held at Rome, Italy, September 24 to 30, 1911.

Hill, Eben C., Lieutenant, Medical Corps. Granted six months' leave of absence on account of sickness.

Maus, Louis M., Colonel, Medical Corps. Left Headquarters, Department of the Lakes, Chicago, Ill., on twelve days' leave of absence.

Munson, Edward L., Major, Medical Corps. Detailed as instructor at the encampment of the sanitary troops, Ohio National Guard, to be held at Coshocton, Ohio, June 24, 1911.

Purnell, Harry S., Captain, Medical Corps. Granted ten days' leave of absence.

Reynolds, Charles R., Major, Medical Corps. Detailed for duty at the encampment, Ohio National Guard, Coshocton, in the event that Major Straub shall not return to Washington, D. C., prior to June 24, 1911.

Reynolds, F. P., Major, Medical Corps. Detailed as instructor at the encampment of the sanitary troops, Ohio National Guard, to be held at Coshocton, Ohio, June 24, 1911.

Straub, Paul F., Major, Medical Corps. Detailed as instructor at the encampment of the sanitary troops, Ohio National Guard, to be held at Coshocton, Ohio, June 24, 1911.

Thomason, Henry D., Captain, Medical Corps. Detailed as instructor at the encampment of the sanitary troops, Ohio National Guard, to be held at Coshocton, Ohio, June 24, 1911.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending May 20, 1911:

Bertolette, D. N., Medical Director. Detached from duty as president of the naval examining board and board of medical examiners, Washington, D. C., and ordered to command the Naval Medical School Hospital, Washington, D. C.

Boyd, J. C., Medical Director. Detached from duty as a member of the naval retiring board, Washington, D. C., and ordered home.

Devalin, C. M., Surgeon. Detached from the navy recruiting station, Detroit, Mich., and ordered to the Navy Recruiting Station, New York, N. Y.

Gardner, J. E., Medical Inspector. Detached from the marine recruiting station, Boston, Mass., and ordered to duty as member of the naval examining board and board of medical examiners, Washington, D. C.

Heneberger, L. G., Medical Director. Detached from command of the Naval Medical School Hospital, Washington, D. C., and ordered to duty as a member of the naval retiring board, Washington, D. C.

Koltes, F. X., Passed Assistant Surgeon. Ordered to the navy recruiting station, Detroit, Mich.

Payne, J. H., Acting Assistant Surgeon. Ordered to the marine recruiting station, Boston, Mass.

Puck, R. F. S., Pharmacist. Ordered to duty at the Naval Hospital, Puget Sound, Wash.

Rossiter, P. S., Passed Assistant Surgeon. Detached from the *Independence* and ordered to command the Naval Hospital, Mare Island, Cal.

Stuart, M. A., Passed Assistant Surgeon. Detached from duty in the Panama Canal Zone, and ordered to the navy yard, Charleston, S. C.

Thompson, E., Surgeon. Detached from the navy yard, Charleston, S. C., and ordered to duty in connection with fitting out the *Maine* and to duty on board that vessel placed in commission.

Births, Marriages, and Deaths.

Married.

Strickler—Siddell.—In New York, on Wednesday, May 10th, Dr. Edward Strickler and Miss Elizabeth Marie Siddell.

Died.

Baker.—In Brooklyn, on Saturday, May 13th, Dr. Harry H. Baker.

Beckstead.—In Lisbon, New York, on Sunday, May 7th, Dr. Morris Beckstead, aged fifty-six years.

Beltz.—In York, Pennsylvania, on Thursday, May 11th, Dr. Theodore H. Beltz, aged sixty-nine years.

Brewster.—In Seattle, Washington, on Friday, May 12th, Dr. James Brewster.

Brucker.—In Tell City, Indiana, on Tuesday, May 9th, Dr. Charles M. Brucker, aged fifty-one years.

Busby.—In Osnaburg, Ohio, on Tuesday, May 9th, Dr. Aaron Busby, aged sixty-seven years.

Dunham.—In Keene, New Hampshire, on Monday, May 8th, Dr. William R. Dunham, aged seventy-six years.

Eliot.—In Rostock, Germany, on Wednesday, May 10th, Dr. Augustus G. Eliot, aged ninety years.

Hale.—In Dayton, Ohio, on Tuesday, May 9th, Dr. Paul D. Hale, aged thirty-three years.

Harrison.—In New Orleans, Louisiana, on Monday, May 8th, Dr. William H. Harrison, aged fifty-eight years.

Hill.—In Baltimore, Maryland, on Thursday, May 11th, Dr. Norman F. Hill, aged sixty-three years.

Hoagland.—In Memphis, Tennessee, on Thursday, May 11th, Dr. Garrett G. Hoagland, aged fifty-four years.

Holtzman.—In Ocean Grove, New Jersey, on Monday, May 15th, Dr. Samuel E. Holtzman, aged seventy-three years.

Jones.—In Louisville, Kentucky, on Wednesday, May 10th, Dr. H. A. Jones, aged thirty-one years.

Miller.—In Duncansville, Pennsylvania, on Tuesday, May 9th, Dr. Emery Miller, aged forty-three years.

Sappington.—In Catonsville, Maryland, on Sunday, May 14th, Dr. Richard Sappington, aged eighty-five years.

Trawick.—In Nashville, Tennessee, on Monday, May 8th, Dr. John D. Trawick, aged sixty-five years.

Trotti.—In Atlanta, Georgia, on Tuesday, May 9th, Dr. Julius P. Trotti, aged twenty-two years.

Wilson.—In Pittsfield, Massachusetts, on Sunday, May 14th, Dr. William R. A. Wilson, aged forty-one years.

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PRACTICAL TREATMENT OF NERVOUS PEOPLE.*

By J. J. MACPHEE, M. D.,
New York.

The needs of those who are afflicted with functional disorders of the nervous system, and what to do for them, seemed to me a suitable subject to choose for this discussion. Their complaints are as many as there are functions to be disturbed, and their symptoms so numerous and complex that they may be said to be of infinite variety. Therefore, it seemed fitting that a society whose membership includes representatives of every department of medical practice, all of whom discover them among their patients, should consider rational methods of treating them, the causes of their troubles, and the facilities provided for their benefit by the profession and the public. Another reason for keeping the requirements of this unstable class in mind is that they are and always have been the prey of every psychopath who has the capacity to proclaim a new dogma, and of every charlatan who has the business ability and energy to advertise a new remedy for the cure of human ills. In fact, these agencies, notably the former, appear to have obtained an incredible hold on public opinion at the present time, and while the ethics of the profession do not permit us to advise the people in a public manner on these matters, they do not absolve us from doing what we can to oppose them indirectly.

One good result from the propagation of these heresies is the fact that the profession in general has begun to pay more attention to this large and rapidly increasing class of sufferers. There has not been much done for them yet, but we are talking about it and probably something will come of it in time.

When neurotic individuals emerge from the minor psychoses, the feeding ground of our asylums, and pass into the insane class, ample accommodations and expert attention are provided for them by the State. This is due largely to the fact that the people are afraid of them and, to protect themselves, they furnish spacious grounds, buildings, and various other conveniences under the guidance of scientific men who are eminently qualified to treat and care for them. But, while they remain on the safe side of the border, they must shift for themselves so far as the State is concerned.

The limitations imposed upon me in preparing this short paper, excluding any reference to what others have thought, said, and done on the subject, restricting me to my own observation and experience, will lessen its scientific interest, and the time allowed me precludes a study of the underlying causes of nervous instability among our population and the inability of those affected with it to withstand the pressure of our social, business, and industrial life. That and many other matters of interest must be left to the discussion.

I suppose it will be conceded that an essential factor in the treatment of nervous troubles, as in the treatment of all other illnesses, is enough training and experience to understand them. I remember very well—and I presume many of you do also—when our medical schools taught students very little about this subject. Now, in our principal schools, in the larger cities at least, due consideration is given nervous and mental disease in the schedules of lectures and clinical demonstrations, but teachers are seriously handicapped in their efforts by lack of hospital accommodation for practical work. Our general hospitals have not provided and do not now provide as they should for our needs in this respect. In many of them the neurologist is not yet admitted to the regular staff, and even when he is, I believe a ward is not given him for the exclusive use of his patients. He is called in consultation by the attending physician or surgeon when the latter thinks he needs him, and thereafter the patient is left in the care of a staff who are untrained, under the direction of men who are not experts in neurology. It may seem a strong assertion, but nevertheless it is true, that the average general medical ward in our general hospitals has a very bad effect upon nervous patients. The suggestive influences of their surroundings are very disturbing, and suitable environment is, as you know, an exceedingly important part of every sensible method of treating them. What we need, and should have, is a hospital for nervous and mental diseases, or separate buildings in connection with our schools and hospitals for the care of nervous people. But, meanwhile, much better work could be done by giving the neurologist separate wards for the treatment of his patients and the same standing and privileges as the physician and surgeon. Under present conditions, no special provision is made for the treatment of the multitude except in one institution, and that is still in its infancy.

In private practice there is no rule that can be laid down for one's guidance in all cases, and any attempt to fit one's patients into an arbitrary system will meet with resistance and often with failure. What one may do, of a surety any plan of procedure that will yield satisfactory results, must

*Read before the New York Medical Journal Association, October, 1910.

be conditioned upon a careful study of the patients' mental and physical state, a comprehensive grasp of their personality, a candid, trustworthy exposition of their personal history and inheritance and intelligent consideration and adjustment of their circumstances and associations. Besides, if the medical adviser's personality and character impress his patients favorably, thereby inspiring confidence, and his experience and judgment create and sustain a conviction that he is a competent authority in such cases, he will have obtained an ascendancy in their consciousness that will, of itself, dispel many of their doubts and relieve much of their discomfort. If he fails in that, there is little chance of benefiting them by administering drugs, arranging diet lists, smiling at their complaints, and recommending changes in their routine of life. I do not mean that medication is not necessary. On the contrary, it possesses an intrinsic and suggestive value that is indispensable in many instances. Nor do I hold that regulation of their daily doings and associations is not an essential element in the successful management of all patients. What I contend is, that unless one gets a strong mental control of his patients, other measures, however carefully considered and systematically carried out, are likely to fail. It is not an easy thing to do. We hear a great deal about hypnotism or suggestive influences, and no doubt there are some instances where good effects have been obtained in that way; but, I think, even the temporary relief is greatly exaggerated, and permanent benefit is, in my experience, a very exceptional thing. There are some weak willed, emotional, credulous people who like that sort of treatment and think it does them good. I have tried it in a few susceptible persons in connection with other measures, and apparently succeeded in doing something they thought helped them, because they became very strongly impressed with what they believed was my power and persisted in asking me to repeat the treatment. But as far as I could see, the effect was temporary. I do not advise it or practise it or believe in it as a routine treatment.

I have observed curious changes to follow a painstaking examination of an hysterical subject without my intending it or thinking of it. For instance, I saw an hysterical paralysis of the left side of the face shift to the right, and an anæsthesia of one side of the body disappear and return or appear on the opposite side, and many things of that nature. Sometimes patients will tell you they feel perfectly well after a satisfactory consultation and they go away in a buoyant, cheerful state of mind. In these cases, it has seemed to me, something occurred more than the ordinary encouragement of an interview would produce. Such effects, however, are not lasting, and are offset usually by the disappointment that follows a return of the symptoms. I suppose one might interpret these unexpected changes as induced by suggestion, and very likely they help to strengthen one's grip on his patients. They are not uncommon occurrences in medical practice, and, while one should be mindful of such subconscious influences, it is safer, if permanent good is desired, to reach your patients through their intelligence. Just how to do that depends on one's experience, his intuition, his knowledge of human nature, and his familiarity with languages and racial characteristics.

If you wish to gain the confidence of sensitive, long suffering, petulant individuals, you had better avoid, in the outset, stating what you know to be their weaknesses and faults. If you try to comfort them by saying their symptoms are imaginary, they will resent it, because their conception of your meaning is that they are willfully magnifying their sufferings. It is true, as a rule, that their clinical manifestations are out of all proportion to discoverable causes, but even when they are intentionally exaggerated, as they sometimes appear to be, it is unpolitic and unprofitable to let them see that you know it. The tactful practitioner will unfold his interpretation of their feelings and his estimate of their personality as he gets into their good graces and wins their approval. When he has done that he may become very ingenuous and inquire into their secrets, their conduct, and contacts with life without disturbing their composure or impairing their confidence. Many of them are very ready to tell what they know at once, and if anything is retained, it is because they do not remember it or consider it important. The majority, however, are secretive and indisposed to disclose all the facts of their history. If you press them unduly, they are likely to become hostile, especially if their symptoms are due to suppressing unpleasant memories, and they think you are too critical and severe. Others, with a bad inheritance, may be egotistical, selfish, and obstinately opposed to discipline and scientific direction. They are disposed to blame their relatives or friends or society in general for their misfortunes, and are often impossible patients.

If you suspect, as often happens in the hysterical type, that the incidence of the trouble is to be found in a forgotten experience, an amorous incident that has been put aside, or an erotic longing that could not be satisfied legitimately, I do not think it is wise to bring it back vividly into their consciousness by any method of investigation. It would seem more rational—and my practical experience has led me to this view—to improve their consciousness by developing their understanding and common sense, rather than try to revive painful recollections of the remote past. A cheerful, confident trust in the future is not usually encouraged by urging people to recall their follies, mistakes, and errors of judgment.

One does not need to hear everything, and besides, it is not always necessary, for a close observer can get an insight into things very often without talking about them. I have found it better not to search the memory of these patients too closely, in the beginning, for subdued causes. What is in their active consciousness you will easily obtain, and as you grow in their esteem and overcome their resistance, they will tell you what you wish to know without reluctance, and, in fact, often reveal it spontaneously without your asking.

One must exclude organic causes before he can hope to make satisfactory progress with his treatment—advanced arterial changes, uterine or ovarian difficulties, serious affections of vegetative organs, local irritations such as chronic appendicitis, floating kidneys, etc. If there are such conditions, they

will require the care of those who are best fitted to treat them and should be referred to them if one is not qualified to do it himself. And even when the mental unrest externalizes itself by a disorder of some particular function or a pseudoneuralgia of some particular organ, it causes an effective psychical influence to have your diagnosis sustained by experts in these special fields.

If you suspect a history of syphilis, it is very important to determine if there is active lues present, for general paresis or even cerebral syphilis may begin with functional symptoms. Until evidences of organic changes develop, there are no distinctive clinical signs that will enable one to detect an impending paresis, but a history or suspicion of syphilis will put one on guard, and if a reaction is found upon examination of the blood, vigorous antispecific treatment, coupled with other precautionary measures, may retard its progress. I have had such patients, and though I cannot report any recoveries, I have observed decided improvement and am convinced that if you get them in the so called "preparetic stage" and can control their conduct and medication, encouraging results may be obtained. I have seen the functional symptoms subside after a period of rest and a thorough course of treatment, and, but for negligence in following directions and other unfortunate circumstances, I think the onset of the disease would have been delayed.

Cerebral syphilis usually begins with characteristic symptoms, but sometimes it does not and may be mistaken for neurasthenia. I have had such cases. I recall very clearly a case of cerebral syphilis in a young man I had treated for neurasthenia, until the supervention of an apoplexy enlightened me as to the cause. There was no specific history, but it was suspected, and if I had been guided by my suspicions the result would have been different. I think this is an important point, and if you wish more details on the subject, you will find them in an interesting paper by Dr. Dana, published in a recent number of the *Journal of the American Medical Association*. The larger number of patients that have had syphilis or think they have had it, and become anxious and restless and unhappy from fear of its possible after effects, or get various obsessions or phobias, are treated like other troublesome neurasthenics, unless the blood state reveals an active lues; then specific treatment is demanded.

The surroundings and personal relations of your patient always require careful consideration. Very often, the exciting cause of the difficulty will be found in the family or among their friends, and a change of environment becomes imperative. And even when the home life is entirely free from friction and affords every desirable comfort and convenience, it is an advantage, in long standing cases, to isolate them under the care of experienced attendants. As the surgeon protects his wounds by antisepsis, so the neurologist must shelter his patients from all annoyance in order to get the best results from his treatment. But one cannot always do that. Some will not consent and others cannot afford it, and you are obliged to make the best of a discouraging and perplexing situation with the means at your disposal.

Immoderate use of alcohol and tobacco and similar agents must be abandoned. Abnormal sexual habits or secret practices are very common ætiological factors in these disorders. Abstinence and excesses and incompatabilities in the married state are not uncommon, but masturbation has been the most common, in my experience. If masturbation is discontinued before impotence supervenes or before the pleasure of the act makes normal sexual intercourse unsatisfactory and undesirable, its effects may not seriously imperil the chances of improvement; but if either of these conditions exists, the prognosis is assuredly bad. I have seen instances where a burning, relentless desire to resume the habit persisted into old age despite early marriage, agreeable marital relations, a spiritual life, and other efforts to suppress it. Occasional indulgence in boyhood, if it does not become a habit, is not injurious enough to be considered a contributing cause of these troubles. Abstinence in the male is a cause not frequently met with, but it does occur and is not easily adjusted. Women, for obvious reasons, are less likely to admit their desires, and one has to rely upon inference for his facts; but, judging from observation, I do not think abstinence is as common a cause among them as is generally believed. The best treatment is marriage, or moral admonition in which spiritual advisers are experts, and if the latter fails and the former is impossible, our civilization provides illicit means of gratification they can enjoy if they wish.

Every rational plan of treatment will include intelligent supervision of diet, regulation of exercises and diversions, and rest. The best exercise is walking in the open, the best diversion is agreeable occupations and pleasant pastimes, the best diet is what agrees with and nourishes, and the best rest is freedom from responsibilities and annoyances and enough normal sleep. Stimulants are usually, but not necessarily, excluded. One must adapt one's directions to the requirements of his patient, and when there are no contraindications, I should not withhold a cup of coffee in the morning, a glass of wine or beer with dinner, or a cigar in the evening because theorists do not approve of them. Ordinarily, when the digestive functions are not much impaired, rigid restrictions in diet are not necessary; but, in advanced types with extreme exhaustion and inadequate vegetative functions, complete rest in bed and scrupulous attention to diet become imperative. Massage is then substituted for active exercise and mental diversion must be provided by attendants. In connection with diet one has to consider constipation, which is a common condition in these patients. Foods that favor intestinal peristalsis, by leaving enough residue to overcome their intestinal lethargy, should supplant the use of laxatives, but the latter are necessary in the beginning of treatment. On the other hand, one may be troubled by a treacherous diarrhœa suddenly developing on the eve of some important event or undertaking that causes mental agitation and anxiety. Rest and composure will relieve it, but a dose of castor oil may be needed in intestinal fermentation.

While the administration of drugs in the treatment of these disorders has been replaced, to some extent, by other scientific measures, there still re-

mains an unavoidable demand for their employment. One sees occasionally statements purporting to come from good authority that their usefulness has gone by and that people can be treated successfully without them. Those of you who have had to combat the mischievous prejudices disseminated among the people by irregular practitioners, know the danger of such unqualified announcements. Drugs are necessary. There are many cases we can manage without them, but in most instances we can do better with them and in some cases they are absolutely essential. Obstinate insomnia, for instance, will not yield without the temporary use of hypnotics, and severe headaches and pseudoneuralgias require analgetics to relieve them. In depressed mental states, with apprehension and irrepressible restlessness, bromides and the denarcotized preparations of opium do good. Tonics and aids to digestion, as well as calomel and castor oil and the cholagogue salts, are often indispensable. There may be some danger, if one is not cautious, that hypnotics and opiates produce a habit in susceptible persons, but, as a rule, they are taken without anxiety and stopped without difficulty. Persistent cases in patients with a rebellious temperament and stubborn disposition, or, where the circumstances are unfavorable, may need them for considerable time, but ordinarily they can be discontinued after a few weeks of treatment. Occasionally one finds that patients become dependent upon them and will buy them in the shops if they know what they have been taking; but this is a rare occurrence and should not prevent their use when conditions demand.

I regret I cannot do more than mention the importance of electricity, hydrotherapy, and physical exercises for the correction of disordered muscular functions. My paper is already beyond what I intended, but I trust the discussion will bring out what I must omit.

Psychotherapy may be said to have its special field of usefulness in the treatment of nervous people. It is an important element in the therapeutics of every illness, but in functional disorders of the mind and nervous system it gained its reputation and its notoriety. It has been the foil of the impostor and the refuge of the psychic healer, and has won its widest publicity through abnormal and dishonest ways of using it. Among its most conspicuous advocates are those who suspend the normal consciousness of their patients to administer it, and certain idealists who have made it an article of faith in their social organizations. There is a mysticism attached to it, when practised in this way, that wins steadfast supporters among credulous people, and the fact that it sometimes brings relief without voluntary effort by the patient adds to its popularity with persons who like to be indulged. The latest addition to the subjective methods of treatment is what is called psychoanalysis. Suggestion, as you know, aims to dispel symptoms by putting opposing ideas into the patient's mind while under hypnotic influence, but psychoanalysis probes the memory for the pathogenic idea that caused them, brings it back into consciousness, and banishes it forthwith. The theory upon which it is based is both ingenious and elaborate, but not convincing. Like all new things in medicine it has its adherents, and there are some experienced neurologists who think it has value. It is not practical, and I do not believe it is commendable. The illogical thing in all these subjective methods of treatment is that they pretend to strengthen the self control of patients by temporarily suspending their will power and approaching them through their instincts and credulity. It is admitted that repeated hypnosis weakens the resistance of the will, and, therefore, every treatment given under its influence must lessen intellectual control.

Placebos and subterfuges, such as giving baking soda instead of hypnotics, and sugar of milk to relieve pain, and various tricks of that sort, may work once in a while, but, as a rule, they are detected and do harm instead of good. If you arouse a suspicion that you are not absolutely candid in everything you say and do your patients will not trust you, and, furthermore, many of them are annoyed by any measure that casts a doubt upon the reality of their sufferings. They may appreciate a joke at another's expense, but they seldom like to be included in one themselves. A genuine sense of humor in your patient will enable you to overcome many troublesome obstacles, but, unfortunately, it is a quality seldom met with in a psychopathic individual.

My experience has been that every normal, encouraging influence and every helpful measure, whether it be the force of your character or the sincerity of your purpose, a calming sedative or a bracing tonic, an invigorating exercise or a stimulating bath, a comforting diversion or the consoling attention of a tactful nurse, is psychotherapy in so far as it brings hope and confidence and brighter prospects to your patient.

124 West Seventy-seventh Street.

TUBERCULOSIS OF THE KIDNEY IN WOMEN

*With the End Result of Ten Cases of Nephrectomy.**

By Hiram N. Vineberg, M. D.,
New York,
Associate Gynæcologist, Mt. Sinai Hospital; Visiting Gynæcologist Har Moriah Hospital.

Although the essential features of tuberculosis of the kidney are the same in both sexes, there are some features observed in women that are not met with in men. The object of this paper is especially to draw attention and to emphasize these points of differences, but, it goes without saying, many of the points common to both sexes will be discussed.

It is generally held that renal tuberculosis is much more frequently met with among women than among men, the proportion given being usually two to one. Thus Albarran, in a collection of 203 cases operated in, found that 148 or seventy-three per cent. were in women and fifty-five or twenty-seven per cent. were in men. Krönlein operated in eighty-eight cases, of which fifty-nine or sixty-seven per cent. were in women and twenty-nine or thirty-three per cent. were in men. Israel, Kümmell, and others give a similar proportion.

Rovsing, on the other hand, states that it is not true that tuberculosis of the kidney is more often met with in women. He says it is more common in

*Read before the Metropolitan Medical Society, March 28, 1911.

men, but that cases lending themselves to operative interference are more often seen in women; hence the apparent discrepancy. In men, he says, kidney tuberculosis is frequently associated with advanced tuberculosis of the genital organs and the patient is not a fit subject for a radical operation. Von Illyés's statistics, even of cases operated in, support Rovsing's contention. Of his thirty-nine cases, eighteen were in women and twenty-one in men. Von Illyés goes further and concurs with Kapsammer that the greater frequency in women is only apparent from the circumstance that tuberculosis of the kidney and secondarily of the bladder in men is often mistaken for gonorrhœal cystitis. But this assumption is based on the false premise that in women no such errors in diagnosis are made. We shall be able to show later that such errors in diagnosis are rather the rule than the exception.

Tuberculosis of the kidney in women, contrary to that in men, is rarely associated with tuberculosis of the genital organs. In this regard the experiences of all observers correspond. Israel was able to find only one case in which a renal tuberculosis in a woman was associated with genital tuberculosis. Howard A. Kelly, in a very large experience, met with only one case, in which he had to operate some years later for tuberculous annexa. In the writer's ten cases of renal tuberculosis, there was not a single instance of tuberculous disease of the genital organs. Further, in a fairly large experience with tuberculous disease of the female genital organs, the writer has not met with a single case of associated renal tuberculosis.

There are three routes by which the kidney may become the seat of tuberculous disease, (1) the hæmatogenous or descending, (2) the urogenous or ascending, (3) by contiguity. The latter is so rare that it may be left out of consideration. The few cases on record have been instances of extension of a tuberculous affection of the intestine or vertebræ to the kidney or ureter.

The hæmatogenous route is *par excellence* the route of infection and is stated by many to be the only route. This holds especially true in women. In men, it is held by some, especially by Rovsing, that the infection not infrequently ascends from the genital organs. This, according to Rovsing, would account for the greater frequency of renal tuberculosis in men, for, in addition to the hæmatogenous route, to which they are subject in common with women, they are subject also to infection by the urogenous (ascending) route.

In one of my earliest cases, I was of the opinion that the disease had traveled upward from the bladder, but on further consideration that view did not appear to me to be beyond dispute. For since then we have learned that the bladder wall may become secondarily involved without direct extension from the ureteral orifice of the affected kidney. Baumgarten's experiments, showing that the tubercle bacilli cannot travel against the current, would seem to exclude the possibility of an ascending infection. Albarran, however, has demonstrated that when he injected the bacilli into the ureter and ligated the ureter below the point of injection, the kidney became infected. These experiments indicate how a primary tuberculosis of the bladder (a very rare condition) could infect the kidney secondarily. The tuberculous process in the bladder might extend to the ureteral orifice and for a short distance up into the ureter, a stenosis, or rather an atresia of the involved portion of the ureter might form, and a few bacilli could be caught above the point of stricture, thus bringing about a condition similar to that created in Albarran's experiments.

In the writer's first case, such a stricture of the ureter near the bladder entrance did exist, but there was no marked bladder involvement although there was moderate urinary distress. There can be no doubt that, in that instance, the tuberculous process was a descending one.

Wildbolz was able to bring about tuberculosis of the kidneys by injecting tubercle bacilli into the bladder and closing the urethra for a time.

Symptoms. Renal tuberculosis, especially in women, as a rule is insidious in its course and may reach a fairly advanced stage without giving rise to any marked symptoms. While dull, aching pain in the loin corresponding to the affected kidney may be an early symptom, it is not one which generally brings the patient to consult a doctor. The location of the pain may be misleading, as it was in one of my cases, when it was referred to the right loin, the left kidney being the one affected. In the case referred to not only was the site of the pain misleading, but on palpation it was the right kidney also which was tender and apparently enlarged. The affected left kidney did not project appreciably beyond the rib border. A cystoscopic examination, however, showed the right ureteral orifice to be normal in appearance, while the left presented the characteristic changes. The diagnosis was established by the collection of urine from each kidney by catheterization of the ureters. Other operators have observed a similar discrepancy in the site of the pain and have characterized it as reflex. May it not in some instances be the accompaniment of the period of compensating hypertrophy when the function of the diseased kidney is gradually diminishing?

The symptom which, as a general rule, the patient first notices is frequent micturition, attended with pain and tenesmus. The frequency, at first, may only be slight, but it soon becomes very marked, the patient having to void as frequently as every hour and, as in one of my cases, as often as every ten or fifteen minutes. A characteristic of the frequency well to bear in mind, is that it persists during the night, when the patient may have to get up four or five times and even oftener. Another feature is that the desire is imperative and must be obeyed at once. The pain following the act varies in intensity and not infrequently is very great. After a time considerable tenesmus, increasing materially the patient's suffering, develops from the bladder disturbances. The urine frequently is turbid, of acid reaction, containing a varying amount of pus and a moderate number of leucocytes, and, according to Israel, a few red blood corpuscles. Marked hæmaturia has occasionally been witnessed as an early symptom. It was present in only one of the writer's cases. Renal casts are seldom found and many authorities hold that their absence is characteristic of renal tuberculosis.

The percentage of cases in which tubercle bacilli are found in the urine varies within very wide limits, as stated by different observers.

Kuster and Wagner, in their recent work, gave it as from ten per cent. to twenty per cent. Rovsing asserts he has succeeded in finding them in eighty per cent. of his cases. He has followed Forsell's method, which consists in taking in a twenty-four hours' collection, allowing it to stand in a funnel shaped vessel, and submitting the lowest strata of the precipitate, which contain the bacilli, to centrifugation. They were found in only four of my cases.

We have already touched upon the trustworthiness of palpation of the affected kidney as an objective symptom. This is due to the following circumstances:

1. The kidney may not be enlarged; on the contrary, it may even be smaller than normal in these rare cases in which the tuberculous process leads to cicatrization. 2. The kidney may be situated so high up, especially on the left side, that it is beyond the reach of the palpating fingers. 3. If the lower pole is palpated, it may be normal in size and free from tenderness, as the process may involve the portion of the kidney above the palpable area. In a few cases the affected kidney will be found enlarged and moderately tender.

Regarding diagnosis, in women especially, the aphorism may be formulated that every marked cystitis that resists the ordinary means of treatment, particularly the local application of silver nitrate through a Kelly's cystoscope, should be looked upon as probably due to tuberculosis of the kidney. This is a reiteration of a statement made by the writer of a paper read before the Section in Obstetrics of the New York Academy of Medicine, November 23, 1899. Experiences gained since then have only strengthened the correctness of the assertion. Kümmell has gone even further, and has stated that every woman who has frequency of micturition with turbid urine, may be looked upon as suffering from renal tuberculosis.

How often tuberculosis of the kidney in women is treated for a long period of time as merely catarrhal cystitis, is well illustrated by the writer's series of cases. In seven of the ten cases the treatment for cystitis extended from six months to three years. In one case the patient had been an inmate, at different times, of two prominent New York hospitals, and after being under observation for three and six weeks, respectively, was discharged as having an incurable cystitis. This happened no later than three years ago. Another woman had been under the care of several well known specialists for fifteen months, during which time she was subjected to treatment for cystitis, and no one suspected tuberculosis of the kidney.

In what relatively small percentage of cases aid in diagnosis may be had by finding tubercle bacilli in the urine has already been stated by the quotation from Kuster and Wagner, who have given especial pains to this aspect in diagnosis. Urine of acid reaction containing pus and free from bacteria points very strongly to a tuberculous infection.

The experimental test with guineapigs may be of aid in some cases, but it may happen, as in the writer's experience in two cases, that after waiting the necessary six weeks, the result of the inoculations were reported as being indefinite. The method, advocated by Bloch, of injecting the suspected urine into the glands of the guineapig after they had been injured traumatically, it is said, gives quicker and more certain results.

The cystoscope is of great value in diagnosis. With it one may find, in a large percentage of cases, characteristic changes in the ureteral orifice of the affected kidney. The orifice will be swollen and present a nipplelike projection, or it will be ulcerated and the ulcerative process may be seen to extend as a streak on the bladder wall. Patches of the ulceration studded with tubercles may be seen in other parts of the bladder. In some instances one will see only a few scattered tubercles on the bladder wall in the neighborhood of the trigonum. In still another class of cases the appearances in the bladder will correspond to those seen in severe cystitis, as that may be the only bladder lesion present, for experience has taught us that not all the cases of bladder disturbances in kidney tuberculosis are due to a descending tuberculosis. In many the symptoms are caused by a nontuberculous cystitis. Furthermore, with the aid of the cystoscope, the urine may be drawn from the supposedly affected kidney and a more satisfactory search made for the tubercle bacilli than can be done from the bladder urine.

A fair degree of familiarity with the various electrocystoscopes and a study of the literature on the subject have not altered the view of the writer, expressed as early as 1899, as to the superiority of the Kelly method in women, particularly in the diagnosis of renal tuberculosis. For here we have to deal, in the vast majority of cases, with a very irritable bladder due either to secondary vesical tuberculosis or to a severe grade of catarrhal cystitis. In some of the women it is difficult to obtain a clear field for the electrocystoscope, owing to the constant admixture of turbid urine. In others, again, it is impossible to inject sufficient fluid into the bladder to permit the use of the instrument. Whether the Burger urethrocystoscope can surmount these difficulties, the writer has not sufficient data to express an opinion. In one notable instance, in which the late Dr. Tilden Brown had failed with the electrocystoscope after two or three prolonged attempts, the writer succeeded with the Kelly method in his first attempt to obtain a fair view of the bladder interior and to catheterize both ureters. I was thus able to ascertain which kidney was affected and, by collecting urine from the opposite kidney, to ascertain its functionating capacity. The diseased kidney was removed by the writer, and the patient presents the tenth case in the series.

Even so expert a cystoscopist as Casper reports occasional failures with the electrocystoscope in renal tuberculosis, owing to irritability of the bladder. He describes one case in which he was unable to cystoscope the patient, but as the right kidney was found tender and enlarged, it was assumed to be the one diseased and was removed. The patient died from anuria, and at the autopsy it was found

that the left kidney was the more diseased of the two.

A further advantage of the Kelly cystoscope is that it may be used for therapeutic tests by the direct application of silver nitrate to the diseased areas in the bladder. If no marked relief is obtained after a few applications, the suspicion is very strong that we have to deal with a tuberculous process.

Since the general introduction of the cystoscope and with the further aid of the indigocarmin and phloridizin tests, the mortality rate of nephrectomy from anuria, or insufficient action of the remaining kidney, has been reduced to almost nil. While the prognosis in general will depend in a great measure upon the condition of the second kidney, moderate disease of it does not always form a contraindication. Thus Wildbolz operated in a case in which tubercle bacilli and numerous leucocytes were found in the urine from the other kidney, and the patient made a good recovery.

Albarran describes a case in a young girl treated for a long time for tuberculous cystitis without any benefit. When seen by him she had undoubted tuberculosis of one kidney and pyonephrosis of the other, with a temperature of 104° F. He removed the tuberculous kidney seven and a half years ago, and she is still living and is in fairly good health, although she has occasional disturbances from retention of pus in the remaining kidney.

Albuminuria of the second kidney is no contraindication to operating. It is usually due to toxæmia from the tuberculous kidney, or it may be merely reflex.

Israel, Albarran, and others have operated several times in the presence of fairly advanced pulmonary tuberculosis, and with surprisingly good results. The removal of the tuberculous kidney seemed to have a favorable influence upon the general disease.

The best results, thus far, have been obtained by Albarran, who reports 108 cases with only three (2.7 per cent.) deaths from all causes. The mortality statistics of other operators vary from five per cent. to twelve per cent. and thirteen per cent. to thirty-three per cent. (Israel, Zuckerkandl, and Wildbolz).

Occasionally the process will result in a cicatrization and an apparent cure take place, but the cure is not definite. Even in these kidneys the parenchyma will usually show tubercles which may become active at any time.

There are only a few cases on record where at autopsy a condition was found which might be considered to point to definite cure, there being a simple cicatrix which was assumed to be the terminal process of a prior tuberculous lesion.

Another instance of so called cure, or what has been termed autonephrectomy, is when the ureter has been completely occluded and the kidney converted into a sac, containing purulent and caseous matter. These tuberculous sacs may remain latent for indefinite periods, but they constitute an ever existing menace to the health of the patient.

Ekehorn states that out of seventy cases observed by him only one patient, apparently, underwent spontaneous cure, but it did so through complete disorganization of the kidney structure. In 1900, the patient was admitted into the hospital for pronounced renal tuberculosis, attended with marked dysuria and tubercles in the urine. Consent could not be obtained to operation. Two years later, the urinary symptoms gradually disappeared. She reentered the hospital in 1909 with a tapeworm. She had no bladder symptoms and the urine was normal (?). The right kidney, the one formerly affected, was found enlarged, and while in the hospital some fever developed. The kidney was now removed. It was found to be converted into a sac, filled with cheesy pus and detritus; no trace of renal parenchyma was found. Tuberculous and other bacteria were absent in the contents of the sac.

Karo and Pielicke report cures of renal tuberculosis with tuberculin injections, but the cases are not entirely convincing.

All of the ten patients operated upon by the writer recovered from operation and were alive when last seen or heard of.

The first patient is well and free from all symptoms at the end of fourteen years.

The second patient is alive at the end of twelve years, but for some years has had marked albuminuria. This patient has never been entirely relieved of her bladder symptoms, micturition being still frequent, every two or three hours, although she is free from pain. It was in this case that the tuberculosis of the bladder was so extensive and was present for some years before the nephrectomy was done, and it was thought that it might have been a case of ascending tuberculosis of the kidney. This patient declined any treatment for her bladder, saying that she was much better and was content.

The third patient is free from all urinary symptoms at the end of nine years. She had severe bladder symptoms for eight months before the operation. During the past year she has been under the care of Dr. L. Hausworth for Basedow's disease.

The fourth patient was last seen December, 1903, fifteen months after the operation. She had then gained twenty-three pounds in weight and was entirely free from any urinary disturbances. This patient had severe bladder symptoms for three years prior to operation and had been discharged from two prominent city hospitals as suffering from incurable cystitis.

The fifth patient is perfectly well at the end of seven years. No bladder disturbances, urine normal.

The sixth patient is entirely well at the end of six years and recently went through, successfully, a vaginal hysterectomy for fibroid uterus. She had been treated for eight months before operation for cystitis.

The seventh patient is perfectly well at the end of four years. She has gained thirty pounds in weight and since the operation has gone through, successfully, two pregnancies and labors.

The eighth patient was last seen nine months after the operation. She was then perfectly well and free from any bladder symptoms.

The ninth patient is well in every respect, two years and three months after operation.

The tenth patient had gained in weight and was very much improved two years after operation, although she still suffered from frequent and painful micturition.

The consensus is pretty general that the only treatment worthy of consideration for tuberculosis of the kidney is extirpation of the diseased organ, providing the other kidney has fair functionating capacity. This opinion is shared in common by surgeons and internists. As representative of the latter, one may quote from Brown, in Osler's *System of Medicine*. He writes: "Treatment must of necessity be mainly surgical. It would certainly

seem unwise to wait until the general health has suffered and symptoms of advanced disease have made their appearance, with the extreme impossibility of bringing about a cure by medical treatment alone." In another place he states, "the earlier the surgical intervention, the better." To quote still further from the same author: "It is surprising for how long a time tuberculosis of the kidney alone, or of the kidney, ureter, and the bladder, may persist without active manifestations of the disease elsewhere. It is because of ever widening appreciation of these facts that the prognosis in renal tuberculosis is becoming progressively better."

In France and Germany these facts are being widely disseminated by the teachings and writings of Albarran, Israel, Kümmell, Krönlein, and others. In this country it would seem that there is still a lack of knowledge of these facts, or, perhaps, it would be more correct to say that renal tuberculosis, especially in women, is still very frequently overlooked and is often treated for months and years as catarrhal cystitis. When it is generally realized that the secondary affection of the bladder in renal tuberculosis constitutes a much more difficult condition to cure than the primary disease of the kidney, the great importance of early diagnosis and early surgical treatment will perhaps be fully recognized.

It is fortunate, however, that in a fairly large proportion of cases, the secondary bladder affection will disappear of its own accord, generally within a couple of months or a year after the diseased kidney is removed. I have found that the cure may be hastened by the direct topical application through a Kelly cystoscope of silver nitrate to the affected area of the bladder wall. In one unfortunate case, operated in by a colleague, the bladder was so irritable that applications were not feasible. In that case considerable relief was afforded by employing very hot bladder irrigation of a five per cent. solution of carbolic acid, as recommended by Rovsing. This treatment I have found of value also in two patients that would not submit to the discomfort and pain attending the direct application of silver nitrate.

Should a patient, who has had a tuberculous kidney removed, be allowed to marry and, if married, to have children? The data gained by various operators during the past fifteen years, would justify an answer in the affirmative to both questions.

The probabilities of the second kidney becoming similarly affected is very slight. The number of cases in which such an occurrence has taken place is not more than one or two in a hundred. In a few instances a parenchymatous nephritis of the remaining kidney developed afterward, as in the second case of the writer's series. Apart from these very rare, untoward, after results, the patients operated upon have remained well for periods of fifteen years and longer.

Israel reports fifteen cases of subsequent pregnancy and thirteen normal deliveries with no ill effects, the condition being borne by the women as normally as if they had had two healthy kidneys. One of the writer's patients (Case VII) had borne two children since her operation.

It will be seen that the writer has avoided all reference to the technique of the operation and any lengthy discussion of the methods of ascertaining the functionating capacity of the other kidney. The first would be out of place in a paper of this nature and the second would lead us too far afield.

The writer's object, as stated at the outset, has chiefly been to emphasize the difference between renal tuberculosis in women and in men and to draw attention to the importance of early diagnosis and early surgical intervention.

CONCLUSIONS.

1. Operative renal tuberculosis is more frequently met with in women than in men.

2. Renal tuberculosis in women is seldom or never associated with tuberculosis of the genital organs.

3. It is frequently overlooked in women and wrongly diagnosticated as catarrhal cystitis.

4. From the fact that it is oftener unilateral in women than in men, and that it is seldom or never associated in the former with genital tuberculosis, the prognosis of operative interference is much better in women than in men.

5. Nephrectomy for a tuberculous kidney in women is no bar to marriage or to bearing children.

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751 MADISON AVENUE.

ACUTE HÆMATOGENOUS INFECTIONS OF THE KIDNEY AND PYELITIS OF PREGNANCY: THEIR MEDICAL TREATMENT.*

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[illegible]

During the past few years I have encountered certain cases of renal infection that presented unusual difficulties in diagnosis and treatment. Among these was one seen in consultation about four months ago, in which these difficulties were most pronounced.

The case was that of a woman, twenty-two years of age, a primigravida in the fifth month of gestation, whose former history was negative. She was taken suddenly ill with severe abdominal pain, chiefly on the right side, chills, high and irregular temperature, frequently in urination, and vesical tenesmus. In addition there were nausea, vomiting, and constipation. These symptoms at first suggested an acute appendicitis, but the marked pain on pressure in the right costovertebral angle, the rigidity of the lumbar muscles, and the tenderness in the right hypochondrium directed attention to the right kidney as the seat of the disease. The most plausible diagnosis was one of acute pyelitis of pregnancy and the usual conservative expectant treatment was advised. A few hours later, a surgeon who was summoned independently by the patient, made a diagnosis of an acute hæmatogenous infection of the kidney and recommended removal to the hospital with the view of ultimate surgical intervention. On the eighth day after admission the patient was operated upon and the right kidney was removed. The temperature promptly dropped to normal and the patient made a speedy and uninterrupted recovery.

The course of this case was one that aroused my keenest interest. Elated at the daring surgery and the spectacular recovery of the patient, I was conscious at once of the apparent conflict between my own experience in the conservative treatment of similar cases and that of radical surgical intervention. Open to conviction as to the validity of the latter, I nevertheless felt constrained to investigate the subject from all points of view. Here was a field where the surgeon and the internist met at the undetermined boundaries between their respective domains. The before mentioned case concretely illustrates a problem that has often presented itself and about which many widely divergent views have been advanced. I shall attempt to review as briefly as possible the manifold phases of this question in the light of the accumulated experience of many observers. The therapeutical indications can be based only upon a clear appreciation of the ætiology, pathology, and course of the disease. These I shall briefly review in order that one may reach a rational conception of the proper management of these cases.

ÆTIOLOGY AND PATHOGENESIS.

The pyogenic infections of the kidney form a comprehensive group of diseases of perennial interest to the general practitioner. I shall pass over the tuberculous infections of the kidney and also those which follow the acute infections, such as typhoid fever, pneumonia, and diphtheria. I shall also omit the so called metastatic suppurations of the kidney which are frequently encountered during the course of general pyæmia, septichæmia, ulcerative endocarditis, osteomyelitis, etc., in which the kidney lesions represent only one of the many local manifestations of the general infection. The subject of our discussion to-night will be limited to those cases in which the kidney, and the kidney alone, is apparently the seat of the infection, "cases of pyogenic infections of the kidney attacking persons apparently well" (Farrar Cobb).

The infection of the kidney may be an ascending one from the bladder by way of the ureter, a form that has long been recognized as occurring in gonorrhœa, chronic cystitis, and in the retention of urine associated with calculus or hypertrophied prostate. On the other hand, the kidney may be invaded by way of the blood stream; this is the so called hæmatogenous infection of the kidney, a form that has only recently attracted considerable attention, although the general practitioner has not yet awakened to its frequency of occurrence. It is to this variety of renal infection that I desire to direct attention.

The same types of microorganisms are found in both forms of infection, the *Bacillus coli communis* being the most frequent one, having been found in 44 out of 56 cases by Ward (Rowleston), while Lenhartz in 80 cases of pyelitis and pyelonephritis found the colon bacillus 66 times in pure culture, and von Albeck in 92 cases of pyelitis and pyelonephritis of pregnant women found the same organism 76 times in pure culture. Other microorganisms have been cultivated, such as the *Staphylococcus albus*, streptococcus, *Proteus vulgaris*, and the gonococcus. But practically all series of observations show the marked prevalence of the colon bacillus, this preponderance being unquestionably more marked in women than in men. According to Kuester, the colon bacillus is the cause of infection in at least one third of the cases of suppurative nephritis, while Guyon and many others have stated that in their experience the colon bacillus is the commonest cause of all the infections of the urinary tract (Thomas R. Brown).

It is important to recognize the conditions that underlie the bacterial infection of the kidney from the bloodstream. The parenchyma of the normal kidney is permeable to bacteria; the presence of a large amount of bacteria in the urine is not in itself evidence of a destructive process in the kidney tissue. Bacteria may be excreted by the kidney without causing any more than very slight temporary changes. The factors that determine infection are the following:

On the one hand, nonvirulent bacteria may become virulent ones. This is particularly so in the case of the colon bacillus, in which increased virulence has been observed after prolonged constipation or in acute diarrhœa. This fact of varying virulence serves to explain why the same bacillus produces different grades of infection from a simple bacteriuria to a suppurative pyelonephritis of a very severe type. On the other hand, certain causes lower the resistance of the kidney and increase in vulnerability. Among these the most prominent one is retention and stasis of urine—nephrectasis. It has been clinically and experimentally proved that retention of urine due to a stricture or compression of the lumen of any part of the

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urinary tract is the most potent factor predisposing to infection (T. R. Brown).

Age plays an important rôle in the incidence of hæmatogenous infections of the kidney. These frequently occur, although rarely diagnosticated, in infants and children; girls are more frequently affected than boys on account of the shortness of the female urethra, the proximity of the anal orifice, and the frequent practice of cleansing the anal outlet in the direction of the vulva. While these are probably instances of urogenous infection, the cases of pyelitis occurring with fissures in ano in constipated babies and others of pyelonephritis following circumcision, as observed by Morse, are undoubted types of hæmatogenous origin. In adult life, between the ages of twenty and forty years, suppurative nephritis is most common, females contributing the largest number of cases; childbearing is an important predisposing factor; after the age of forty years males predominate—diseases of the bladder and prostate, so common during and after the fifth decade of life, favor the infection of the kidney of the ascending urogenous type.

Infections of the kidney in pregnancy are of eminent importance. In 1840 Rayer was the first to recognize the relation between pyelitis and pregnancy, but it was not until Reblaud in 1892 presented his observations on pyelitis gravidarum that this condition attracted the attention of obstetricians and general practitioners, but even the latest textbooks on obstetrics devote very little space to this common complication of pregnancy. A collective investigation of this subject has been made by Pollak, he ably reports the views of different observers from many maternities and clinics. Von Albeck, in the latest and most extensive contribution on pyuria in pregnancy, found in 392 cases of pyuria that there were in 52 cases, or 14 per cent., evidences of kidney involvement. As to the path of infection, he joins the German school which maintains the theory of the ascending type, while the French school, headed by Guyon and Albarran, and Rovsing, of Copenhagen, Cumston, of Boston, and Barth, of Leipzig, are enthusiastic exponents of the opposite theory, namely, that of hæmatogenous infection. The ureter is normally protected against bacterial migration from the bladder by a valvelike occlusion of its vesical opening and by the contractions of its muscular coat which force the urine toward the bladder. Congestion of the pelvic organs during pregnancy causes swelling of the mucous membrane of the renal pelvis and of the ureters, making them susceptible to infection. Pressure of the gravid uterus on the pelvic end of the ureter arrests the peristaltic wave from above and causes retention of urine. Lohlein and Olshausen have shown that the ureters are always dilated in women dying in labor, the dilatation being above the superior strait (Brown, *l. c.*). It is probable that the congested kidneys of pregnancy have already been infected by the microorganisms prior to the development of the symptoms of pyelitis which present themselves at a time when the compression of the ureters causes retention of urine (Albarran, Legueu, Kapsammer).

The older views of ascending infection of the kidney from the bladder must be largely abandoned in the light of accumulated clinical and surgical experience and of experimental investigations. The opinions as to the direct transit of microorganisms upward through the ureters, which have been handed down from one generation of pathologists to another, were not based upon careful observation. Even speculative, anatomical, and physiological considerations would show the original fallacy of this doctrine. Anatomically, the kidneys are protected by their position above the bladder from upward infectious invasion; secondly, the vesical orifice of the ureter is guarded by a valvular sphincter; third, the constant downflow of urine would minimize the possibility of an upward bacterial migration. An initial vesical irritability has been erroneously interpreted as a manifestation of cystitis; but modern cystoscopic examination and ureteral catheterization have shown that this irritability of the bladder is the result of a reflex from the ureter and the pelvis of the kidney, and is not an expression of vesical inflammation. On the basis, therefore, of anatomical and physiological considerations, as well as direct observation, one may conclude that the renal infection secondarily from the bladder is relatively less common than the hæmatogenous form. Another important fact has been brought to light, namely, the infection of the kidney may be unilateral, at least in the beginning of the disease, while the unaffected kidney gives evidence only of physiological changes (Maugeais) This unilaterality of acute renal infection is strongly analogous to the same incidents that have been recorded statistically by Albarran and others in tuberculosis, malignant diseases, and calculus of the kidney.

PATHOLOGY.

This varies according to the stage and severity of the disease. In the fulminant type (*forme foudroyante* of Albarran) when death occurs in a very few days after the onset of the symptoms, one finds only an engorgement, congestion, and turbidity of the parenchyma. In the acute form, the *forme aigue* of Albarran, the characteristic lesions are miliary, cortical abscesses of pin head size, or even smaller, and frequently scattered equidistantly from one another throughout the cortex in groups surrounded by a zone of intense hyperæmia. These are best seen on the surface of the kidney, usually projecting from the cortex and becoming adherent to the capsule. These foci give evidence of all degrees of suppuration from mere leucocytic infiltration to necrosis and pus formation. They are located mainly in the bloodvessels and in the interstitial tissue surrounding them—the result of the plugging of the smaller arteries and capillaries with colonies of bacteria. When the larger trunks contain these microbic emboli one observes triangular infarcts.

Sometimes these abscesses coalesce to form larger ones which rarely exceed the size of a hazel nut.

The contents of the abscesses may undergo a fatty degeneration, the abscess cavity collapses, and, according to Sanator, is replaced by scar tissue which is sometimes so pronounced as to cause a shrinkage of the organ to such an extent that it may resemble a small cirrhotic kidney (Richler). In most instances, however, the scars are small and

circumscribed, occupying the site of former miliary abscesses.

Frank Kidd, in his most illuminating treatise on *Urinary Surgery*, that has just appeared (November, 1910), states as follows:

> A not uncommon result is the formation of multiple abscesses with an inner wall formed by a thick layer of granulation tissue surrounded by an outer wall of fibrous tissue which bursts from time to time into the tubules and keeps up a constant or recurring irritation of the tubules and pelvis, and a condition of intermittent pyuria. This condition may last for years without either clearing up or destroying the patient.

In this concise survey of the pathology of the suppurative infections of the kidney, these facts stand forth preeminent; the kidney differs in no respect from other parenchymatous organs in its capacity for protective resistance, regeneration, and repair in the face of acute bacterial onslaughts.

SYMPTOMATOLOGY AND DIAGNOSIS.

The clinical picture of a hæmatogenous infection of the kidney varies according to the type and virulence of the process. For practical purposes one may differentiate three forms:

1. The superacute or fulminating type;
2. The acute severe form; and
3. The superacute mild form.

The superacute form is a condition which has attracted attention only in the last decade. Virulent bacteria suddenly attack the right kidney of an apparently healthy woman.

It is probable that the infection is invited by a slight mobility of the organ which has caused congestion of the vessels or kinking of the ureter. The patient is suddenly stricken with a severe abdominal crisis, ushered in with a chill, which is followed by a sharp rise of temperature to 105° or 106° F., and a pulse of from 120 to 140, weak and thready. She has nausea and vomiting, the tongue is dry and furred, the bowels are constipated, or there is a diarrhœa. Pain is very severely felt over the entire abdomen, in the epigastrium, and in the middle of the back. In some cases there is a frequency of urination, with vesical tenesmus; in others, no symptoms direct attention to the urinary tract and these cases are mistaken for general peritonitis resulting from perforation of an abdominal viscus. It seems highly probable, says Rolleston, that many a case of removal of a healthy or nearly normal appendix is really one of infection of the kidney with *Bacillus coli*, which eventually takes care of itself; but in spite of the typical picture of an "acute abdomen" a careful examination will enable one to distinguish the case from one of peritonitis; the abdomen is rigid and tender, mainly over the right hypochondrium and loin, and there is an agonizing pain on pressure in the renal angle (Grynfelt and Lesshaft), bounded by the twelfth rib, erector spinæ, and internal oblique muscle. This pain is pathognomonic, and while in many cases the patient does not spontaneously experience this pain, nevertheless it can always be elicited by pressure in the costovertebral angle. There is a high leucocytosis which reaches 18,000 to 24,000 and, as in a case reported by Morse, may reach as high as 51,700. Multinucleosis is very marked and tends to persist if suppuration occurs, so that frequent blood examinations may prove of use in deciding whether to explore in doubtful unilateral cases. Examination of the urine completes the diagnosis. The urine is scanty, contains albumin, blood, cells, and possibly pus. It usually contains the *Bacillus coli* in pure culture, but at times other microorganisms, such as staphylococci, streptococci, *Proteus vulgaris*, etc. This superacute form of Albarran may end fatally in the course of one or two days as the result of sapræmia and uræmia. It is in these cases in which certain surgeons (Brewer, Cobb, Watson, and others) hasten to operate, and in which the removal of the kidney has been certainly attended with success.

If the patient survives the first two days, his case belongs to the second category, the acute severe form, *forme aigue* of Albarran. The onset is the same, the temperature is high and remains at from 103° to 105° F., with slight remissions or may be of an intermittent character. The general symptoms are acute but not as alarming as in the first form; there is less toxæmia, less prostration. The patient himself directs attention to the sharp pain in the loin which is often of a colicky character, simulating renal or ureteral stone. There may be painful reflex contractions of the neck of the bladder and frequent and painful micturition. The kidney is not palpable, but the lumbar region is rigid and very tender and the pain in the renal angle is always in evidence. The urinary changes are more marked in this acute type—blood, pus, albumin, and bacteria are almost invariably present, but they may be absent. This absence may even point more strongly towards the existence of a unilateral lesion; it has been observed that in unilateral infections there may exist complete anuria on the affected side. A case of this kind I shall cite later.

In the subacute mild form the cause is a more protracted one; the fever does not range as high but maintains the characteristic irregular type with very marked remissions and intermissions. There is a constant dull ache in the lumbar region of the affected side and tenderness on pressure in the costovertebral angle. These symptoms, in conjunction with the urinary findings, can hardly be passed unnoticed and must invariably direct the attention, even of the superficial observer, to the seat of disorder.

I shall not dwell on the differential diagnosis of the diseases which are simulated by hæmatogenous infections of the kidney, such as acute appendicitis, gallstones, gastric and duodenal ulcer. If the picture of kidney infection has been adequately portrayed and if in doubtful cases of acute abdominal conditions one does not fail to examine the lumbar region and make it a rule to elicit the tenderness of the costovertebral angle, the most pathognomonic symptom of acute infections of the kidney, one easily makes the diagnosis. Bedside impressions must be corroborated by recognized methods of examination, namely, cystoscopy, ureteral catheterization, and tests for functional capacity of the kidney. When this has been done the conception of the case will be complete and the attitude toward treatment a decided one. It should not be overlooked that, as an underlying or associated factor, a calculus may exist and may give symptoms similar to those described before and in which an x ray examination is indispensable, furnishing positive evi-

dence of the presence of renal concretions and possibly of the size of the diseased organ. The general practitioner, no less than the surgeon, is not competent to pass in final judgment upon a renal lesion without availing himself of all these refined diagnostic methods that demand the skilled technique of the specialist. To be sure, these diagnostic aids are fully exploited in the hospital wards. It is equally imperative that the general practitioner should always make an effort to obtain this valuable information, without which a diagnosis is hazardous and the plan of treatment may be a dangerous one.

As a striking illustration of the importance of these modern methods of clinical examination may be noted the fact that pyelitis of pregnancy, which has long been regarded as an ascending infection from the bladder, is now shown by the weight of abundant evidence to belong strictly to the hæmatogenous group. The term, pyelitis of pregnancy, should be discarded, for it is impossible to affirm that in any individual case the infection is limited to the pelvis of the kidney alone. On the other hand, numerous observations made on the kidneys of pregnant women that have come to autopsy have revealed most unmistakably the familiar evidence of involvement of the parenchyma. Thus, Barris has described in his autopsy findings the presence of small abscesses in the medulla of the kidney.

Meyer-Ruegg has observed in severe cases hæmorrhages, bacterial emboli, and small miliary abscesses. The ætiology of pyelitis of pregnancy is identical with that of the hæmatogenous infections. The existence of back pressure, due to compression of the ureter and the invariable presence of the *Bacillus coli,* are pathogenic factors common to both conditions. Even the unilateral character of the infection is the same in the two groups; it has been observed by Swift, who collected forty-one cases of pyelitis and found that the right side was attacked thirty-seven times and the left four times. Similarly, the clinical course of pyelitis of pregnancy bears the same characteristics as the hæmatogenous infections. To be more specific: usually about the fifth month of pregnancy there is noticed by the patient a slight difficulty in urination with a moderate degree of pain which at the time may not be appreciated. Suddenly, there is a chill, the temperature rises to 103° or 104° F., the pulse to 100 or 110, and the woman appears very ill; she has general abdominal pain, nausea, headache, constipation, or diarrhœa. The temperature runs an irregular course, regarded by Lenhartz as characteristic, being of the intermittent type and lasting from three to eighteen days, more frequently from six to seven days; the pain is finally localized, almost always in the right side, and the characteristic tenderness in the renal angle can invariably be elicited. The urinary flow, which is scanty in the beginning, soon becomes more abundant, and even polyuria frequently sets in; finally all the symptoms gradually abate and the patient recovers. Examination of the urine in pyelitis of pregnancy shows the same changes as in the hæmatogenous infections, with the exception that in protracted cases there is a large amount of pus. The bacteriology is also identical, the *Bacillus coli* predominating in the majority of cases. Furthermore, cystoscopic examination of the bladder discloses no evidence of a marked cystitis that can be regarded as the origin of the renal infection. Therefore, in view of these facts, which embrace the ætiology, pathology, and clinical manifestations of pyelitis of pregnancy, we may conclude that there is no warrant in placing it in a category apart from the hæmatogenous infections of the kidney and that it should properly be denominated a pyelonephritis rather than a pyelitis of pregnancy.

PROGNOSIS.

The kidney infections, when compared with those of the other organs, belong, as a rule, to the less virulent group. The prognosis hinges on the fact that a colon bacillus is the infective agent in 87 per cent. of the cases. This organism is noted for its comparatively mild degree of virulence; the destructive changes that it produces in the kidney are fully within the possibility of spontaneous repair. Its toxic effects, moreover, yield readily to vaccine treatment. After the removal of the predisposing causes, the acute cases of hæmatogenous infection have a tendency to recover completely. If the back pressure is not entirely eradicated, the renal condition may become chronic, giving rise to a pyonephrosis or to the so called "surgical kidney." Thus, one may perceive that in the common type of acute hæmatogenous infections the prognosis as to life is fair. Only in the rare instances of acute fulminating infection does the prognosis become grave. In these death may occur in the first three days. But it is impossible to determine the exact gravity of an individual case of this kind, for the number of observations recorded is as yet too meagre from which to draw any definite conclusions. This uncertainty has led to marked difference of attitude with respect to treatment. While some surgeons advocate early nephrotomy or nephrectomy, on the ground that death is almost certain to occur without operation, in the experience of others the majority of these patients will recover from the acute attack if treated expectantly (Kidd). Even cases that appear urgent may respond to the conservative management, which, at any rate, ought to be tried for at least from thirty-six to forty-eight hours. If at the end of this period the symptoms still progress and become alarming, an operation is justifiable.

TREATMENT.

The treatment of acute hæmatogenous infections of the kidney is a subject about which there is still considerable difference of opinion. The reason is obvious. The cases are not of common occurrence and are frequently not recognized. The comparative newness of the subject is exemplified in the diverse methods of treatment that have been employed in its management. These methods vary all the way from the most expectant plan of medical treatment, and the use of vaccines, to strict surgical measures, like decapsulation of the kidney, nephrotomy, and nephrectomy. Which of these methods of treatment is the one to be elected? My own opinion is that surgery, spurred on by its conquests in other fields of internal medicine, has in this condition wielded its knife with unwarranted freedom. It is time to make a plea for the con-

servative methods of treatment whose success has been amply demonstrated in the medical wards. This success has been most conspicuous in the cases of pyelitis of pregnancy.

Inasmuch as it has been conclusively shown that pyelitis of pregnancy is a hæmatogenous infection, would it not be logical to utilize in all the types of the latter the therapeutics that has been so efficient in the former? Pyelitis of pregnancy has been recognized since 1840, and the large number of cases observed is sufficient to warrant definite conclusions as to the plan of treatment. To this end I shall not be guided merely by my own limited experience, but shall review briefly the observations of various clinicians the world over.

Allbeck reports fifty-two cases of pyelitis of pregnancy; in forty-six of these the women were delivered spontaneously either at term or a couple of weeks before: rest in bed and a milk diet sufficed to insure recovery; even the most alarming symptoms disappeared under conservative treatment; labor had been induced only in six cases out of fifty-two, and Allbeck concludes that obstetrical intervention is seldom indicated in pyelitis of pregnancy.

Smith has been similarly conservative; in his twenty-seven cases premature labor was usually followed by spontaneous recovery, and he has concluded that indications for surgical interference, like nephrotomy, present themselves very rarely.

In the opinion of Seeligman, the only indication for nephrotomy is a desire to save the fetus. Conceding that modern surgical operations are well tolerated by pregnant women and that pregnancy is not thereby interrupted, Dessenius, in very severe cases, would rather sacrifice the fetus and induce labor. Such radical treatment is resorted to only in exceptional cases; the majority recover after being kept lying on the side opposite to that of the affected kidney, as recommended by Zeppel, and after diuresis, established by the intake of large quantities of tea and water.

Opitz collected sixty-nine cases, and noticed the marked unilaterality of the disease. Fifty times the right side only was affected. He finds that the prognosis as to life is good, and that even in the most severe cases there is a possibility of complete recovery under conservative treatment with urinary antiseptics, like hexamethylenamine, helmitol (the anhydrous methylenecitrate of the foregoing), and salol, and large quantities of water. Only in ten cases out of sixty-nine was labor induced; in eight the recovery was prompt, while in two the fever continued a short period after delivery. Obstetrical interference is indicated solely in the most severe cases after the palliative measures are of no avail, but even then merely induction of labor is to be considered, while renal surgery finds its indications only in complicated cases, like hydronephrosis or empyema of the pelvis of the kidney. He concludes that even if surgery is at the present time accompanied with little danger, "still it is not harmless."

Haberlin reports eight cases of acute pyelitis gravidarum with alarming symptoms, such as high fever, chills, severe pain in the lumbar region, which were cured with urinary antiseptics, flushing of the kidney, proper position in bed, and supporting the head of the fetus by means of a pessary.

Mirabeau, in discussing pyelitis due to coli infection, states that the main indication is the establishment of free drainage. He suggests elevated position of the trunk (Fowler's position) and the introduction of a catheter à demeure; if these measures do not suffice, he recommends ureteral catheterization and lavage.

These last mentioned applications were discussed at the Second Urological Congress in Budapest. The opinions were divided. While many admitted the usefulness of catheterization and lavage in pyelitis with retention, others objected to these measures in acute stages of the disease; lavage of the pelvis of the kidney particularly met strong opposition from many sides.

Kapsammer, for instance, condemns lavage in acute cases as an irritating measure, and concedes only instillations of organic silver salts in acute pyelitis. The retention of the catheter in the bladder finds many advocates. Among them Mumford, in his new *Practice of Surgery*, warmly recommends it for the reduction of the intravesical pressure to a minimum.

Fremont Smith reports a case of severe pyelonephritis complicating pregnancy, with a leucocyte count of 18,000, and an irregular temperature reaching as high as 105° and 106° F. The ablest surgeons in Chicago advised a nephrectomy, but, as a compromise, labor was induced, and in five weeks the patient fully recovered, with pus free urine.

French, in his Goulstonian Lecture of 1908, describes a case of severe pyelonephritis in a pregnant woman in which the kidney was cut down upon, opened, and found to be studded with miliary abscesses, but there were no large collections of pus; the wound was partly sewed up and drained; the patient improved under vaccine treatment and expelled a living child on the seventy-seventh day of the disease.

The recovery of a case of pyelonephritis of pregnancy under vaccine treatment is reported by Rauth.

Allen, in his book on vaccine therapeutics, states that in acute nephritis, especially the pyelitis of pregnancy, recourse should be taken to vaccine treatment when the colon bacillus is present. It is well known that a bacteriuria tends speedily to clear up after evacuation of the pregnant uterus, but when acute symptoms appear in the third or fourth month one should employ the vaccines, a method of treatment which has yielded most successful results.

The opinions quoted, I think, give a clear idea of the attitude of many observers toward pyogenic infections of the kidney in pregnancy. The number of cases reported, the thoroughness of observation, the results, and the almost unanimous conclusions of independent observers can hardly leave any doubt in our minds that pyelonephritis of pregnancy belongs to the domain of the internist. Medicinal and dietetic treatment, in conjunction with ureteral catheterization and instillations in the pelvis of the kidney, suffice in the treatment of the majority of cases. In the most severe ones the obstetrician may be pressed into service when the induction of labor is decided upon. Renal surgery finds its application only in cases of old standing.

in cases of infected hydronephrosis, of pyonephrosis, and of abscesses of the kidney; in other words, in cases of the so called surgical kidney.

It will be superfluous to burden you with a narration of my personal cases. I have had many opportunities to follow up pyelitis of pregnancy in private practice and in the hospital wards where the diagnosis had been definitely established by all modern methods of examination. I have seen these patients improve during the early months of pregnancy and the pregnancy continue to term; I have seen some of them abort spontaneously, and I have also observed cases in which I had to call for assistance upon the obstetrician, cases in which the induction of labor led promptly to a speedy recovery. Personally, I have never as yet seen a case that demanded radical renal surgery.

(*To be concluded.*)

THE INFLUENCE OF PREGNANCY ON DISEASES OF THE EYE.*

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My essay this evening is essentially a plea for systematic and careful examination of the eyes of pregnant women by obstetricians with the view of safeguarding their vision and even their lives.

It is needless for me to refer, in such a body as this, to the overwhelming importance of good vision in the vast majority of mothers, not only in promoting their own welfare and happiness, but also for the sake of those dependent on them and their kindly ministrations. Nor is it necessary for me to call your attention, in detail, to the marvelous complexity and delicacy of the organ of vision in its anatomy and its richly coordinated functions. "A traveller tells of one monkey pursued by another, and running over and through the tops of the trees of an African forest faster than a deer could run on open ground. The flashing repetitive momentary glances of the eyes, before, back, and all about a hundred objects must be coordinated with a mathematical precision to accurate unity and brilliant action of every muscle of the body. . . . See with unbelievable accuracy if you would succeed, is the first verse of the biological decalogue. . . . But see inaccurately and you die, is the antithesis," (1) as far as the most important part of the animal world is concerned. So also a woman, who is dependent upon her own exertions for support, must see accurately and see well, in order to fill the more important and lucrative positions in life. Unimpaired vision is essential to the needle woman and to many other women in the humbler vocations of life.

Four months ago, I was called to the Columbia Lying in Hospital to see a young white woman, who had been delivered that day of a healthy child, after a normal labor. She had complained to the physician of sudden blindness in each eye immediately after the birth of the child. She had not complained of any impairment of vision during pregnancy. Uranalyses had been made from time to time with negative results. When I examined her eyes with the ophthalmoscope I found a detachment of the retina in the lower half of each eye and a typical form of severe albuminuric neuroretinitis that gave unmistakable evidence of very long standing, possibly several months. Uranalysis on this day revealed a small amount of albumin and a few hyaline casts. She was kept in bed for three months, as much as possible on her back, and both retinas, very happily, became reattached and she now has normal vision. When I saw her last, two weeks ago, the albuminuric retinitis had entirely disappeared.

One year ago I saw at Providence Hospital, in consultation with her family physician, another young white woman, who complained of a cloud before her eyes during labor. She had not complained of any impairment of sight prior to this. The day after the birth of her child (her fourth one) I examined her eyes and found a typical albuminuric retinitis with hæmorrhages at the macula and all around this region. One week ago I saw this lady and there was marked atrophy of the optic nerve and of the macula in her left eye so that she could not read with this eye even the largest print. In her right eye there was decided palor of the disc and she could thread only a coarse needle and read moderately fine print with the greatest difficulty.

Two years ago Dr. L. L. Friedrich referred to me a lady who was an accomplished artist. She was a widow, and had supported herself and child by painting on china. She was referred to me because of greatly impaired vision, which prevented her from doing her work of decorating china. This was two months after the birth of her second child. She had been going to various jewelers getting stronger and stronger glasses until finally even these failed her. She had complained of flashes of light and floating specks before her eyes during the last three weeks of her pregnancy, and of the same symptoms, off and on, since the birth of her child. She left her family physician and consulted Dr. Friedrich, who recognized the gravity of her symptoms and referred her to me. On examination of her eyes I found a severe albuminuric retinitis in each eye which gave evidences of being of long standing, but also with fresh hæmorrhages at the macula in each eye. Recognizing that nothing could be done that would accomplish any good by local treatment of her eyes, except rest in bed, protection from the light, and dilatation of the pupils, and that treatment of the kidneys and of the general condition was of fundamental importance, I referred her back to Dr. Friedrich. She drifted away from both Dr. Friedrich and myself and I do not know whether she is blind or dead.

These three and other cases are the incentive to my writing this paper.

The fixation of the impregnated ovum in the uterus initiates a series of physiological changes not only in the organs immediately concerned in gestation, but also, though to a less extent, in the organism at large. The nervous system, therefore, as might be expected, and the special senses become extremely impressionable, leading, among other things, to increased sensibility to light, and at times, developing in the woman a state of hysteria manifesting a number of ocular symptoms, such as temporary amblyopia and hemianopia. During the later months of pregnancy a subnormal accommodative and muscular asthenopia at times occurs, making reading difficult and even, occasionally, impossible.

Pregnancy accentuates all pathological conditions affecting the eye systemically or locally that may be aggravated by an increase in the force and volume of the circulation: thus retinal hæmorrhages, glaucoma, and exophthalmos are unfavorably influenced; so also are a preexisting parenchymatous or interstitial nephritis.

*Read before the Medical Society of the District of Columbia.

But apart from these considerations there are two great and powerful pathological conditions that profoundly influence vision in the gravest possible manner. I refer, 1, to anæmia, both acute and chronic; and, also, 2, to the presence in the blood of the mother, of waste substances of metabolism of abnormal quality and quantity; in other words, the autointoxication or toxæmia of pregnancy.

When we take into consideration the demands made upon the maternal blood, we can readily appreciate how important are the blood changes of pregnancy; for upon this fluid tissue depend all the burdens of nutrition. Like other tissues of the pregnant woman the blood increases both in quality and quantity in order to meet the augmented requirements laid upon it.

There are three ways in which general anæmia may arise during pregnancy: First, the toxines may cause a deterioration of the blood corpuscles (and, therefore, this form of anæmia would be but one of a number of the manifestations of the toxæmia of pregnancy); second, there may be a failure of the necessary modifications required to meet the increased demands, by which a relative insufficiency of the blood is produced; third, potent predisposing causes are bad hygienic conditions.

In producing the various forms of asthenopia, the consideration of which occupies so much of the time of the ophthalmologist, there is probably no one constitutional condition that acts more frequently than anæmia. Obscure reflex symptoms, such as photophobia, conjunctival irritation, headache, flashes of light, apparently due to eyestrain from an error of refraction, are occasionally not relieved by wearing appropriate glasses for hyperopia or astigmatism, or weak prisms for an imbalance of the ocular muscles. Under these circumstances an abundance of open air exercise and a suitable ferruginous tonic, in conjunction with the correct glasses, afford entire relief. In fact, great relief may be secured for a time even without the glasses. But, sooner or later, it will be found that permanent relief by appropriate hygienic and medicinal treatment can only be secured by the most painstaking correction of all errors of refraction and muscular imbalance. In simple anæmia, even when profound, often only negative appearances are obtained by the ophthalmoscope. Occasionally we find underfilled bloodvessels and pallor of the optic disc. But what is of much more significance still, retinal hæmorrhages occur at times. Should these hæmorrhages occur at the macula serious impairment of vision may result permanently. Should the simple anæmia become a pernicious one, retrobulbar neuritis or optic neuritis, followed by atrophy of the optic nerves, may occur; also, there may occur retinal hæmorrhages, retinitis, and a typical picture of albuminuric retinitis—whence there may be more or less permanent blindness.

That a simple anæmia of pregnancy may in some cases develop into a pernicious anæmia was demonstrated by Gusserow in 1871. Batut has collected a dozen well authenticated cases.

There is a third form of anæmia which may at times profoundly affect the eyes and produce blindness; a form that we may designate as acute anæmia, due to excessive hæmorrhage from an organ distant from the eye, such as the stomach, lungs, uterus, etc. It is well known that the pregnant woman is subject, at times, to the great hazard of excessive hæmorrhage in tubal gestation or in placenta prævia. When blindness does occur as the result of excessive loss of blood during pregnancy, it is usually after a number of days have intervened, and, according to Kneis, it is caused by a hæmorrhage into the optic nerve, resulting from fatty degeneration of the vessels of the nerve induced by the acute anæmia. Ziegler (2), on the other hand, explains the blindness as due to degeneration of the ganglion cells and nerve fibre layer of the retina.

The most generally accepted theory to-day is that the blindness is due to degeneration of the ganglion cells, because of interference with their nutrition brought about by the acute anæmia.

Kurtsinger (3) has collected 198 cases of blindness due to the acute anæmia of excessive hæmorrhage: Two were due to bleeding from the urethra; two to hæmorrhage from the lungs; five followed wounds in various parts of the body; four were due to epistaxis; twenty-seven followed artificial bleeding; seventy-six followed hæmorrhage from the stomach, and sixty-two were due to hæmorrhage from the uterus. The source of the hæmorrhage in the remaining cases is not stated.

It is an interesting and remarkable fact that blindness very seldom follows bleeding due to surgical operations and to injuries. During the Franco-Prussian War of 1870-71 not a single case is reported as having occurred.

In some cases in which the loss of vision is great or even complete, nothing abnormal can be detected in the fundus of the eye by the use of the ophthalmoscope. Sometimes paleness of the optic disc (indicating optic atrophy) is seen two or three days after blindness supervenes, but atrophy of the optic nerve and consequent pallor of the disc are frequently delayed for several weeks.

Singer (4) has collected 120 cases of impairment of vision after hæmorrhage and reports as follows: In, approximately, 8 per cent. of the cases impairment of vision began during the hæmorrhage; in 11 per cent., immediately after; in 14 per cent., within twelve hours; in 19 per cent., before the end of the second day; in 39 per cent., in from three to ten days after the hæmorrhage; in 7 per cent., after more than ten days; in fourteen cases the impairment of vision was noticed fourteen days after the hæmorrhage; in one case eighteen days after; in one case, in three weeks; and, in one case, sixty days afterward. In about 8 per cent. of the cases, blindness was partial in one eye and complete in the other; in 32 per cent., there was partial blindness in both eyes; in 58 per cent., there was complete blindness in both eyes. Singer reports no improvement in about 46 per cent. of the cases; improvement in 39 per cent.; complete recovery in about 13 per cent., and subsequent failure in a little over 1 per cent. of the latter.

Weeks (4) says that the treatment of blindness after hæmorrhage is usually of little avail. He suggests that if the patient is seen very early after hæmorrhage has occurred, the intravenous injection of normal salt solution may possibly be of value.

To make the subject of anæmia, as affecting the eye, complete, we may say, in passing, that there is a harmless reflex anæmia of the retina that has been known to produce temporary defects of vision during the latter weeks of pregnancy. Should the pregnancy be preceded or accompanied by hypertrophy of the left ventricle of the heart, and therefore be associated from this cause with increased arterial tension, the danger of retinal hæmorrhages during a simple anæmia of pregnancy would be augmented.

Retinal, as well as chorioidal hæmorrhages, occurring as the result of increased arterial tension, may cause blindness by developing the serious disease known as glaucoma.

It was considered, not so long ago, to be a direct confession of ignorance of real facts to apply the term autointoxication to a disease. But the knowledge gained in recent years has cleared the ground in a wonderful way, and it is not the vague term it was a few years ago. The truer conceptions of autolytic changes produced by intracellular enzymes, of the constitution of proteids, of exogenous and endogenous metabolism, have placed autointoxication upon a firm basis. The term metabolism must be understood in its widest sense as indicating any form of chemical or biochemical cell activity, physiological or pathological. Without a clear conception of autolysis the most modern work on autointoxication cannot be followed. Every cell in the body has intracellular enzymes, and normally they exist in a very firm combination with the proteids of the protoplasm and have no action on the cell itself; their action is limited entirely to the fluids circulating around it. The blood and lymph carry the foodstuffs that are to be assimilated to the cells, but the intracellular ferments exercise an all important function in the metabolism of the cells. There are many varieties of these enzymes, the most important of which, for our purposes, are the proteolytic ones that have the power to disintegrate proteids into excrementitious substances. In the normal state the cells all work in harmony with one another for their mutual good. But it is quite different when the activity of the enzymes is abnormally raised or when the integrity of the cells is impaired, for then the ferments attack the cells causing catabolic changes of the protoplasm. This process is known as autolysis. Physiological autolysis is well exemplified in the involution of the uterus after parturition; and, again, in the resolution of pneumonia. When the body is in a normal condition there is no harmful accumulation of metabolic products, for these disintegration substances are eliminated by the excretory organs; or, by further biochemical alterations or combinations with other substances, are converted into harmless or relatively harmless products which are easily disposed of by the eliminating organs. But if, for any reason, the intracellular ferments are stimulated to abnormal activity, there supervenes a pathological autolysis, and the system is flooded with catabolic substances of abnormal quality or quantity, or both, and autointoxication is the result.

The placental theory holds the field to-day as the most plausible and adequate explanation of the toxæmia of pregnancy (5). This theory, briefly, is as follows: The placenta, like the liver and pancreas, is known to possess many powerful ferments. The placenta, from a developmental point of view, both ontogenetically and phylogenetically, is a much younger structure than the other great ferment bearing organs of the body. It is therefore much less able to bear the stress and strain of untoward circumstances and its metabolism is more easily perverted than that of the other organs. When placental metabolism becomes abnormal the intracellular ferments of this organ are increased in activity and quantity; there is consequently autolysis of the placental cells; the autolytic substances are mostly the products of the disintegration of the proteids of the protoplasm; they escape in large quantities into the maternal circulation, as do also the ferments, causing, sooner or later, an activation of the autolytic ferments in other organs of the body, such as the liver or the kidneys; these latter organs, throwing out undue quantities of ferments and autolytic substances, add a nephrotoxæmia or an hepatotoxæmia, or both, to the placental toxæmia, thereby enhancing the abnormity of the latter. Thus is paved the way for the coexistence of a number of autolytic vicious circles.

This autointoxication of pregnancy leads to several well defined changes, viz.: an altered ammonia coefficient in the urinary nitrogen; a high percentage of undetermined nitrogen in the urine; an increased amount of fibrinogen in, and, therefore an increased coagulability of, the blood; a more or less extensive capillary thrombosis; leucocytosis; and last, but not least, increased arterial tension, through a stimulation of the cardiovascular apparatus.

The facts of special importance that I wish to lay stress on at this point are these: The toxines may be of such a character as to cause amblyopia or eclampsia, or both; or they may be such as to cause a seeming acute yellow atrophy of the liver; or they may be of such a nature as to cause, in cooperation with or through the agency of increased arterial tension, an albuminuric retinitis—this albuminuric retinitis antedating, at times, and by greater or lesser periods, any involvement of the kidneys or any albuminuria; or, lastly, the toxines may be of such a character as primarily to limit the autolysis to the parenchyma of the kidneys, causing cloudy swelling, fatty degeneration, and finally coagulation necrosis of the epithelium of the convoluted tubules and thus paving the way for another manifestation of the toxæmia of pregnancy, *viz.*, the socalled uræmia. This is a symptom of the kidney of pregnancy as well as of true nephritis. That the kidney of pregnancy is a toxic degeneration, and not an inflammation, is attested by the fact that there is never a proliferation of the capsular epithelium or an infiltration of leucocytes. About 8 per cent. of all pregnant women exhibit albumin in the urine, though a vastly larger proportion show varying degrees of the kidney pregnancy when opportunities for autopsies are presented (6).

The one fact of great importance that I wish to emphasize at this stage of my paper is this: The toxæmia of pregnancy may cause serious diseases of the eye when there is not another single conspicuous symptom present except increased arterial

tension, and an associated disturbed ratio of urea elimination (7).

Now let me invite your attention to a few of these diseases of the eye.

In toxæmic, or the so called uræmic amblyopia, where no retinal changes are observed by the ophthalmoscope, and where even the usually accompanying symptoms, such as nausea, dizziness, and threatened convulsions are absent, their supervention is soon to be anticipated.

The toxæmia, by developing a uveitis, can cause cataract from impairment of the nutrition of the lens due to the effect on the bloodvessels of the ciliary processes.

The increased coagulability of the blood in association with the diseased arterioles, due to the toxæmia, may induce a more or less widespread thrombosis. Hence there may be a thrombosis of the central vein of the retina or of the central artery of the retina, either of which would lead to total and irretrievable blindness.

The increased arterial tension, in association with deteriorated capillaries due to toxæmia, may lead to hæmorrhages into the chorioid and thus induce blindness through glaucoma. The same causes exert a potent influence in inducing many well marked pathological conditions of the retina. One of the earliest and simplest of these pathological states is œdema of the retina. The retinal capillaries, in consequence of the augmented blood pressure and the toxicity of the blood, are deranged in their metabolism and permit a more ready transudation of the serum. Also, the pressure of the fluid in the capillaries having become relatively much higher than the pressure of the lymph in the parenchyma of the retina, there is thus added a powerful factor in promoting an undue amount of serous exudation leading to retinal œdema. This œdema may be comparatively slight and limited to the superficial layers of the retina, doing no harm to vision, but presenting characteristic ophthalmoscopic appearances in the fundus. On the other hand, the serous transudation may be so great as to involve all the layers of the retina, even getting between the retina and the chorioid. Under these circumstances there is grave danger of partial or even complete detachment of the retina, causing partial or complete blindness.

Another serious result of toxicity of the blood and increased arterial pressure is apoplexy of the retina. Fox and Batroff (8) have written a most instructive paper showing the intimate relation between high blood pressure and retinal and subconjunctival hæmorrhages. They have tabulated the results of the investigation of one hundred consecutive cases derived from private and dispensary practice. In the list of diseases they investigated are included early arteriosclerosis, chronic parenchymatous nephritis, chronic interstitial nephritis, secondary anæmia, chloroanæmia, intestinal autointoxication, leuchæmia, kidney of pregnancy, etc. In all of these cases retinal hæmorrhages and, in some cases, even hæmorrhagic retinitis were associated with high arterial tension.

In the pregnant woman, who has the kidney of pregnancy, the retinal hæmorrhages may be small in size and number, and confined to the superficial layers of the retina, or they may be large and numerous. Unless they involve the region of the macula they may not give rise to any symptoms whatever. Thus a serious symptom would be present and the patient and obstetrician, alike, would be unaware of it. But the ophthalmoscope would reveal it unerringly. On the other hand, should a hæmorrhage involve the macula, more or less irreparable damage would be done to vision.

A third serious involvement of the retina, due to the toxicity of the blood and increased arterial tension, is the so called albuminuric retinitis of pregnancy. I feel that writers on obstetrics have laid themselves open to very serious criticism in treating so inadequately the relation of pregnancy to ocular diseases. Some of them mention in the most casual way that albuminuric retinitis occurs in a certain proportion of cases of pregnancy and that it may be necessary at times to induce abortion in order to save vision; others do not even mention the fact that albuminuric retinitis may occur as the result of pregnancy.

As to other grave diseases of the eye, such as œdema of the retina, retinal hæmorrhages, detachment of the retina, atrophy of the optic nerve, etc., no mention whatever is made of them. Sometime in his career the medical student may be introduced to the term "albuminuric retinitis" both in his studies of chronic interstitial nephritis and of pregnancy. This very serious disease of the eye is referred to in such a way as to leave the impression that it is the sum total of the clinical eye phenomena that may be observed (9). But no name could be more misleading to practitioner and student alike, for it designates only the culmination of a long train of well marked ophthalmoscopical symptoms of the utmost importance, symptoms, which, if recognized in their earliest stages, could be removed, or, at least, kept *in statu quo*, thus preserving the vision of the pregnant woman, and possibly obviating the necessity for the induction of premature labor.

The term albuminuric retinitis, both as described in the text of works on practice and obstetrics, and as illustrated by pictures in these works, is the classical expression of a very serious and a very far advanced disease of the retina (of a typical and characteristic appearance), and conveys a very false and therefore a very misleading impression as to the relation of the retina to chronic interstitial nephritis and to the kidney of pregnancy. Therefore, it is well to emphasize, at this stage of my paper, the very important fact that albuminuric retinitis is not born full panoplied like Minerva from the head of Jupiter. It is preceded by several stages of relatively simpler and much less serious pathological conditions.

When we remember that there is associated with the toxæmia of pregnancy an increased arterial tension; and when we remember, further, the anatomical relations of the bloodvessels of the retina, namely, that they are the terminal arteries of Cohnheim, like those in the brain and kidney, and that these terminal arteries very poorly withstand a marked increase of blood pressure; when we remember these important facts, we ought not to be

surprised at finding these terminal arteries to be the first to show signs of disease. The relatively low pressure of the lymph in the parenchyma of the retina and the high pressure in the capillaries of this delicate tissue, in conjunction with an altered condition of the capillaries due to the toxæmia and the stress of the increased blood pressure in them, lead to an unusually large amount of serous transudation into the superficial layers of the retina. Thus is developed the first stage on the pathological chain of conditions that ultimately eventuates in albuminuric retinitis. This condition is known as œdema of the retina or serous retinitis and has been partially described earlier in this paper. Central vision in these cases is rarely disturbed. There may be no subjective symptoms whatever, unless the serious complications of retinal hæmorrhages at the macula or detachment of the retina occur.

But the ophthalmoscope will reveal well marked signs, such as a hazy retina obscuring the blood vessels at different places, a hazy outline of the disc, and dilated and tortuous veins. Appropriate treatment can cure or hold in check this stage of the disease.

A more advanced stage shows a gradual involvement of the optic disc, with overcapillarity of the disc and increasing haziness of its outline, and striation of the retina about the disc. There are increasing dilatation and tortuosity of the veins, and commencing diminution in the size of the arteries; small hæmorrhages may, and usually do occur on the disc or in the retina. We now have a more grave condition on the road to albuminuric retinitis, for we now have a well developed neurotinitis, but nothing as yet that looks like the classical albuminuric retinitis. In this condition central vision is involved, but patients do not often notice or complain of impaired vision. The impaired vision is often only found when looked for by an ophthalmologist. Even in this stage the condition may be cured or held in check by appropriate treatment, without inducing premature labor.

A third stage in the evolution of albuminuric retinitis is the aggravation of the neuroretinitis, in which there is swelling of the retinal nerve cells and fibres, exudation of white blood corpuscles and fibrin, fatty degeneration of the retinal elements as well as the exudates, and numerous and often extensive retinal hæmorrhages. Now we have reached the fully developed and classical stage of albuminuric retinitis. Nothing can cure it but the termination of pregnancy, premature or at full term. A certain proportion of the cases are not even cured by the termination of pregnancy, but progress to the fourth and final stage, about which works on obstetrics are so silent, namely, atrophy of the optic nerve and retina; the amount of the blindness being in proportion to the extent of the atrophy, even to the extreme of total blindness. The albuminuric retinitis may cause blindness, also, by hæmorrhages at the macula, by the hæmorrhages causing glaucoma, by detachment of the retina, and by plastic exudates at the macula. The fully developed disease may not appear for weeks and even months after its inception, and during all this time the patient may not, and repeatedly has not, complained of any impairment of vision. But the ophthalmoscope would have unerringly revealed the disease.

Dr. Edward Loring (10), as long ago as 1882, in urging frequent examinations of pregnant women's eyes, stated that 33 per cent. of those patients who have an organic lesion of the retina or optic nerve either have no complaint, or make none, of any reduction of vision. He goes on to say that a retinitis or neuroretinitis (which in its primary stage may and often does exist for months unsuspected by either the patient or physician) may lead after a long interval, through the secondary or atrophic stage, to complete blindness.

The toxæmia of pregnancy, as bearing upon retinal diseases, is very similar to the symptom complex often called Bright's disease. The latter was for a long time regarded as primarily a disease of the kidneys, but in recent years many able internists have come to the conclusion that these organs only shared in degenerative changes common to the whole organism. The exciting cause was held to be a toxæmia induced either by intestinal autointoxication or by defective elimination of the waste products of tissue metabolism. Recent experiments have confirmed this view, showing that the poison developed in the body is a nephrotoxine formed as an antibody to substances in the kidney. If crushed rabbit's kidney is injected several times intravenously into the blood of a dog, his serum develops a large amount of rabbit nephrotoxine. This dog serum now becomes highly toxic to rabbits, inducing, when injected into their blood, fatal nephritis.

Zur Nedden carried the experiments further and showed that if the toxic dog serum was injected directly into the carotid artery of the rabbit the animal developed, at times, a typical albuminuric retinitis which considerably antedated the occurrence of albuminuria in the rabbit. In view of these facts it should not surprise us to find examples, as we do occasionally, of albuminuric retinitis where the kidneys are as yet healthy. But it is an ominous diagnostic and prognostic symptom of impending renal involvement.

Martin (11), discussing the general question of the pathogenesis of Bright's disease, concludes that nephritis is only an incident in a general toxæmia causing, primarily, a chronic inflammation of the arterioles and capillaries of the general circulation. A form of hæmorrhagic retinitis is then described by him which exists before albumin is present in the urine, but which is often a precursor of typical albuminuric retinitis. Delicate flame shaped hæmorrhages lying in the course of the retinal arteries characterize the disease. These hæmorrhages are transient, often disappearing in a marvelously short time and leaving no trace behind them. They are accompanied by no other ophthalmoscopic signs, cause no disturbance of vision, and are discovered only by a chance ophthalmoscopic examination. Martin regards chronic indigestion as an ætiological factor in all the cases he cites. The albuminuric retinitis may antedate the appearance of albumin in the urine many weeks, or even months, and has, therefore, been appropriately designated prealbuminuric retinitis.

All of these facts have a vitally important bear-

ing on the necessity of the ophthalmoscope as an aid, and, sometimes as the only aid, in the early diagnosis of the toxæmia of pregnancy. We know that the occurrence of albuminuric retinitis in true nephritis is of the gravest import, indicating as it does a very advanced stage of the renal disease; and we know further that the vast majority of these patients die in from six months to two years from the occurrence of the albuminuric retinitis. The albuminuric retinitis coexisting with the kidney of pregnancy is a much less fatal omen, as far as life is concerned, than that coexisting with true nephritis; yet the one at times spells death as truly as the other. As to the effect of the retinitis on vision, Culbertson (12) reports total blindness in 23.33 per cent. of the cases; partial recovery of sight in 58.25 per cent.; and complete recovery of sight in 18.54 per cent.

It is not within the province of this paper to discuss at length the treatment of retinal hæmorrhages, and retinitis, occurring in consequence of the toxæmia of pregnancy, as the management of the case rests with the obstetrician. The most effective means of accomplishing a lowering of the blood pressure and eliminating the toxines is the use of the hot, dry pack, or, where applicable, the cabinet vapor bath. These measures, together with appropriate internal medication, will, in ordinary cases, be sufficient to keep the blood pressure within normal bounds. When, however, the arterial tension is very high and there is impending danger of extravasation of blood into the brain or retina, or of augmenting retinal hæmorrhages that already exist, blood letting is strongly urged by Fox and Batroff in their paper. This procedure affords much more prompt relief and its beneficial results are much more permanent. The amount of blood that must be drawn is to be determined by the height of the pressure, frequent tests of this pressure being made during the venesection. Not the eye alone is benefited by this treatment, but the toxæmic condition in general. In the retinal hæmorrhages accompanying chronic interstitial nephritis, Fox found that when venesection was practised in addition to rest in bed, exclusion of light, and the usual local treatment of the eyes, absorption of the retinal hæmorrhages occurred far more rapidly (from one to three weeks sooner) than by any other treatment. He states further that a number of chronic nephritics with whom retinal hæmorrhages had been habitual for months, had been entirely free from attacks during the past two years following this treatment. This treatment, as previously outlined, may possibly obviate the necessity for the induction of premature labor, when vision is profoundly impaired and permanent blindness is threatened. Should this or any other treatment fail to promote the absorption of retinal hæmorrhages or prevent their recurrence, or should it fail to check the development of an albuminuric retinitis, the serious question as to the induction of premature labor presents itself.

Some writers on ophthalmology and obstetrics advise the induction of premature labor if the retinitis appears before the sixth month. But if it appears after the sixth month they recommend an attempt to tide the patient over to full term. In my judgment, where the object is to safeguard the vision of the woman, pregnancy should be terminated as early as possible after the discovery of albuminuric retinitis, for vision may be destroyed at any moment and in any month as long as the retinitis lasts.

I am aware of the fact that religious and ethical considerations must at times complicate the question of the induction of premature labor and I have nothing but respect and admiration for such considerations. But my own ethical conceptions are of such a character as to enable me to say, with emphasis and earnestness, that the induction of premature labor to save the sight of a woman suffering from albuminuric retinitis is the only thing to do medically and it is a praiseworthy thing ethically. In the vast majority of families throughout the country, the place of the mother is so overwhelmingly important in promoting the happiness, welfare, and moral uplift of a household, that it is vastly more humane to destroy a fetus than to sacrifice the mother's vision.

At any rate the final decision of the question should rest with the mother, and, therefore, she should be given to understand *clearly* and *unequivocally* the sinister nature of albuminuric retinitis and the possibilities of disaster to her vision while it lasts.

CONCLUSIONS.

1. Albuminuric retinitis may exist for weeks, and even months, without pregnant women complaining of impairment of vision.

2. The retinitis can exist for some time independently of, as well as in association with, symptoms of renal disease; also, independently of, as well as in association with, albuminuria.

3. The presence of this retinal inflammation indicates a far advanced condition of the toxæmia of pregnancy; or of that manifestation of the toxæmia known as the kidney of pregnancy.

4. The presence of this disease, in a larger number of cases than is realized, indicates a very grave prognosis as to the life of the patient, for the kidney of pregnancy may be followed by chronic interstitial nephritis.

5. As long as the albuminuric retinitis lasts there is danger of vision being irretrievably ruined at any moment and in any month.

6. The ophthalmoscope is the only means by which the *earlier* and *relatively* much less serious stages of toxæmic retinal involvement can be detected. Also, it is the only means by which we may know that albuminuric retinitis even exists.

7. Should the earlier stages of retinal involvement be detected, as they can, by the use of the ophthalmoscope, such remedial procedures can be adopted as may prevent the development of so sinister a disease as albuminuric retinitis; and, also, the necessity of inducing premature labor, in order to safeguard vision, may be obviated.

8. When uranalyses are negative, the presence of pathological arterial tension and pathological leucocytosis are invaluable symptoms of the toxæmia of pregnancy. If increased arterial tension is persistent, as indicated by an abnormally accentuated second sound of the heart in association with a tense and wiry pulse, or as revealed by the sphyg-

ophthalmoscope, an ophthalmoscopic examination of the eyes ought by all means to be made at stated intervals.

9. It is as much the duty of the obstetrician to be practically familiar with the use of the ophthalmoscope as it is that of the neurologist.

10. If the obstetrician can not use the ophthalmoscope, both his own and his patient's welfare will be promoted by having the cooperation of the ophthalmologist, when there is persistent increased arterial tension, or albuminuria, in a pregnant woman.

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IMMEDIATE OR DEFERRED OPERATION IN TUBAL PREGNANCY?

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The treatment of tubal pregnancy used to be one of the most hotly debated questions in gynæcology, until the results of operation, advocated by Parry in 1875 and first done by Lawson Tait, showed that a great reduction in mortality could be obtained. Now, however, the subject is once more upon the *tabis*, and Robb and his adherents advise that cases of known tubal pregnancy be treated expectantly, from three to twelve days, until there is recovery from hæmorrhage and shock. Robb supports this position by the experiments in dogs. He cut the uterine and ovarian arteries and allowed bleeding to occur intraperitoneally, and the dogs did not die. Animal experiments are illusory in this regard, those in dogs particularly so, as their peritoneal covering is so resistant that the element of shock is not present.

It is well, then, at this time to take account of stock, and find what is the true mortality of tubal pregnancy, what is the cause of death, and whether patients really die from hæmorrhage without operation.

In a collection of various reported series by operators with enough cases to have acquired some skill, there were 4,601 cases operated in with a three per cent. mortality. This is the mortality of the last twenty years. Certain reports, which include the latter part of this period, show some very good results, as Price, 169 cases with one death; Barrows, seventy cases with no death; Vineberg, eighty-one cases with one death; Ladinski, 110 cases with one death; Treub, 151 cases with three deaths. These results were the outcome of immediate operation, with the exception of Treub's cases, which were treated by deferred operation, with immediate intervention in cases with alarming symptoms.

The mortality in tubal (extratubal) rupture and in tubal abortion (intratubal) rupture is somewhat dissimilar. In 1,098 cases in which the two classes and their mortality were differentiated, there was a mortality of seventeen per cent. in tubal rupture and 1.6 per cent. in tubal abortion. Tubal rupture is thus eleven times as fatal as tubal abortion. This mortality includes only operative statistics and does not include those dying from tubal rupture without operation.

In ninety postoperative deaths, taken from the serially reported cases in order to gain an idea, not only of the cause of death, but also of the relation of one cause to another, hæmorrhage, anæmia, shock, or exhaustion caused death in thirty-six cases (forty per cent.). Sepsis, most commonly in the form of generalized peritonitis, caused death in twenty instances (twenty-two per cent.). Secondary hæmorrhage from the stump or from adhesions was responsible in seven cases (7.7 per cent.). Pulmonary embolism was noted in three cases; the anæsthetic was blamed in two cases, probably due incidentally to hæmorrhage, and ten cases were allotted to various other diseases, as kidney disease, ileus, pulmonary œdema, pneumonia, etc.

This summary shows that hæmorrhage, or its effect in lessening resistance, etc., is the direct or underlying cause of death in most cases. The deaths from secondary hæmorrhage form an astonishingly large proportion.

Shock and collapse from rupture are not always due to the amount of hæmorrhage, but sometimes to the reaction of the peritonæum to the foreign fluid. Similar shock is sometimes seen in rupture of an intraabdominal abscess. Linnell states that, of four cases of marked collapse, two were due to hæmorrhage, and, in two cases, the bleeding was not great, and he ascribed it to nervous shock.

There is no doubt that numbers of women die from the initial shock and hæmorrhage without operation. Formad's oft quoted statistics of thirty-five cases of ectopic pregnancy found on the autopsy table are well known. Futh has reported four deaths in patients being transported to the hospital. Dorsett has noted a case of a woman who fell dead while running upstairs. Autopsy showed the abdomen full of blood and a ruptured gravid tube. Weiswange has reported two deaths after rupture in women, who were being transported to the hospital, and one death from hæmorrhage in a patient in the ward, the diagnosis being erroneous. Hirst has noted a patient who died from internal hæmorrhage while being treated for uterine abortion. Stoddard has seen three patients die from shock and hæmorrhage without operation. One of these came to autopsy, and death was found to be due to hæmorrhage, not shock, as the abdomen was full of blood. In fact, so many authentic cases of death

from hæmorrhage have been reported that their enumeration is futile, a work of supererogation.

The mortality in rupture being eleven times greater than in tubal abortion, a consideration of their frequency may be interesting. In 1,607 cases there were three ruptures to seven tubal abortions, or tubal abortion was two and one third times as frequent.

A consideration of these reports shows that almost all deaths in ectopic gestation occur after tubal rupture, and the deaths after tubal abortion are so few that, in uncomplicated cases, the mortality is very small.

It comes then to a consideration of the seventeen per cent. mortality of tubal rupture, which is about one third of all cases of tubal pregnancy. We know that deaths do occur from hæmorrhage without operation, and after operation the majority of deaths are from hæmorrhage or its results.

The Belgian statistics, collected by Jacobs, are of interest. Of 615 cases operated in during the first few hours following rupture, the mortality was 4.42 per cent.; of 142 cases, operated in from a few hours to two days after the first symptoms of rupture, the mortality was 8.45 per cent. There were forty-five patients treated expectantly and without operation with a mortality of 54.5 per cent.

The debatable ground exists in the element of shock associated with the internal bleeding. The condition is analogous to secondary hæmorrhage after operation from slipping of a ligature. It is questionable after consideration of these statistics whether Robb's contention can stand. Delay of an hour or so may sometimes be necessary to combat nervous shock; but delay of days is a *laisser faire* policy which trusts to the patient's bleeding enough to lower her blood pressure so that the bleeding will stop. Delay of days means the presence of adhesions, which increases the difficulty of operation and diminishes the chances of recovery. Movement of the patient while bleeding seems to be very harmful. The best treatment seems to be immediate operation without precipitation.

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THE RELATION OF UTERINE MYOMATA TO HEART DISEASE.*

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The relation of uterine fibroids to heart disease is a debatable one, and many divergent views have been expressed. Ashton states: "Large abdominal fibroids may cause structural changes in the heart and liver. The left side of the heart becomes hypertrophied and dilated and its muscle undergoes fatty degeneration and brown atrophy." Boldt says: "The close relation between myomata and cardiac degeneration has been frequently referred to in gynæcological literature for many years, but even the very latest textbooks fail to give myomata a place as ætiological factors of cardiac degeneration. Yet the circulatory symptoms frequently observed in patients having uterine fibroids suggest that there is some relation between these neoplasms and the circulatory apparatus, showing that these growths produce a detrimental effect on the circulatory system. Cardiac changes in women having fibromyomata occur too often for one to simply consider them as a mere coincidence." Fleck states that "myofibrosis of the heart may also occur as the cardiac lesion in connection with myomata of the uterus;" further, "that the lesion in connection with myomata resembles that of myocarditis, without being exactly identical with it." "Brown atrophy, however, is anatomically recognized as a lesion frequently associated with myomata." Leopold and Ehrenfreund, in three cases of death among their last fifty-one vaginal hysterectomies, found fatty degeneration of the muscle and numerous pulmonary emboli, also thrombosis of the pelvic veins and those of the lower extremity. Webster says: "Cardiovascular symptoms are frequently found. In a series of 210 cases treated surgically by the author they were present in about twenty-five per cent. This is a smaller percentage than has been recorded by the few writers who have given special consideration to this subject. Strassmann and Lehman, for example, studied seventy-one consecutive patients in Gusserow's clinic, and found that there were organic changes or marked functional cardiac disturbances in 40.8 per cent. Roger Williams reports the findings in twenty-two autopsies in women with myoma uteri as follows: Valvular heart disease, mostly chronic, six cases; fatty degeneration, five cases; hypertrophy and dilatation, three cases; atheroma of aorta, three cases; small heart, one case; normal, twelve cases."

Wilson, of Birmingham, England, has recently referred to a series of ten autopsies in the Birmingham General Hospital, and states that the occurrence of myocardial degeneration in four at least among ten women dying as the result of uterine fibromyoma is suggestive that there is some close relationship between the two affections.

At variance with these views Bricker in discussing the year's progress in gynæcology states: "Von Rosthorn, who has been especially interested in the coexistence of cardiac disease and fibromyoma of the uterus, could not convince himself that a habitus myomatosus existed, nor could Winter assure himself of any specific relation between myomata and heart disease. Neu contends, quite sensibly, that we are not willing to regard every cardiac disturbance occurring in a patient with fibroids as caused by a fibroid heart. He holds that the conception of a fibroid heart is not tenable, as convincing proof is lacking."

This report is made from a study of 113 post mortem records of women dying with uterine myomata at the Philadelphia General Hospital. The cases are divided into different age groups, and the heart lesions found are compared with the heart lesions found in women of the same age group dying without uterine myomata. The first series of tables represent the findings in 100 consecutive cases of fibroids compared with an equal number of consecutive cases without fibroids. The second table represents a study of twenty-eight cases of fibroids occurring between the ages of twenty and thirty-nine compared with a like number of consecutive cases of the same ages and races without fibroids. The second table contains fifteen cases considered in the first series of cases. The purpose of the second study is to eliminate the age factor as a cause of the sclerotic changes so dominant in the first series.

TABLE I—SHOWING VARIOUS HEART LESIONS FOUND ON POSTMORTEM EXAMINATION

	Fibroids, 100 cases.	Other conditions, 100 cases.
Normal hearts	12	18
Sclerotic mitral valve	57	44
Sclerotic aortic valves	18	18
Sclerotic tricuspid valves	9	3
Sclerotic pulmonic valves	2	1
Chronic pericarditis	8	2
Chronic myocarditis	18	14
Chronic endocarditis	2	2
Epicardial placques	5	6
Sclerosis of coronaries	14	7
Atheroma of aorta	2	10
Hypertrophy	31	29
Dilatation	9	4
Fatty heart	4	18
Brown atrophy	7	3
Cloudy swelling	2	
Aneurysm	1	3
Atrophy	2	
Acute endocarditis	1	
Acute pericarditis	2	4
Acute aortic disease	1	2
Acute mitral disease		1
Acute tricuspid disease		
Hydropericardium	6	1
Hæmopericardium		1
Pericardial ecchymosis		
Subendocardial hæmorrhage		1
Œdema of the myocardium		
Myxoma of the heart	1	
Lipomatosis pericardii		3
Total lesions	241	232

Age, from twenty to twenty-nine years.

Fibroid, 2.—Multiple neuritis, 1; gangrene of lung, 1.

Normal	2	10
Acute endocarditis	1	
Sclerosis of coronaries	1	1
Total lesions	4	11

Age, from thirty to thirty-nine years.

Fibroid, 13.—Cerebral tumor, 1; pyosalpinx, 1; tuberculous meningitis, 2; miliary tuberculosis, 1; gallstones, 1; pulmonary tuberculosis, 1; uræmia, 1; cancer of breast, 1; syphilis, 1; cancer of rectum, 1; gastric ulcer, 1; pneumonia, 1.

Normal	5	8
Hypertrophy	4	1
Dilatation	2	1
Chronic mitral disease	8	1
Chronic aortic disease	2	1
Sclerosis of coronaries	2	
Hydropericardium	2	1
Sclerosis of tricuspid	1	
Pericardial ecchymosis	1	
Chronic pericarditis	1	
Acute pericarditis	1	
Chronic myocarditis	2	2
Epicardial placques	1	1
Chronic endocarditis	1	
Fatty heart	1	1
Atrophy of heart	1	
Atheroma of aorta	1	
Total lesions	25	16

Age, from forty to forty-nine years.

Fibroids, 25.—Cancer of pancreas, 1; chronic parenchymatous nephritis, 2; pulmonary tuberculosis, 3; acute nephritis, 1; apoplexy, 5; aortic valvular disease, 1; pneumonia, 1; miliary tuberculosis, 2; aortic aneurysm, 1; pelvic peritonitis, 1; diabetes, 1; acute pericarditis, 1; pachymeningitis, 1; purpura, 1; tabes dorsalis, 1; cancer of uterus, 1; erysipelas, 1.

Normal	5	5
Dilatation	3	4
Hypertrophy	7	5
Chronic aortic disease	11	8
Chronic mitral disease	9	13
Fatty heart	3	3
Epicardial placques	1	1
Chronic myocarditis	4	3
Chronic pericarditis		2
Chronic endocarditis	1	1
Sclerosis of coronaries	1	
Cloudy swelling	1	
Aneurysm		2
Hydropericardium		
Small heart	1	
Atheroma of aorta		4
Acute aortic disease		
Acute tricuspid disease		1
Brown atrophy		1
Acute pericarditis		1
Hæmopericardium		1
Total lesions	45	53

Age, from fifty to fifty-nine years.

Fibroids, 27.—Pernicious anæmia, 1; meningomyelitis, 1; chronic interstitial nephritis, 5; pneumonia, 3; myocarditis, 1; adiposa dolorosa, 1; tabes dorsalis, 1; aneurysm, 1; pulmonary tuberculosis, 3; uræmia, 2; pachymeningitis, 1; apoplexy, 3; cancer of vagina, 1; valvular heart disease, 1; myxœdema, 1; septic cholangeitis, 1.

Normal	2	2
Hypertrophy	16	8
Dilatation	1	12
Chronic mitral disease	17	9
Chronic aortic disease	14	12
Chronic tricuspid disease	2	1
Sclerosis of coronaries	4	
Epicardial placques	2	3
Chronic pulmonic disease	1	1
Hydropericardium		1
Fatty heart	3	6
Brown atrophy	2	2
Myxoma of heart		
Atheroma of aorta	1	1
Chronic pericarditis	2	
Chronic myocarditis	3	5
Œdema of myocardium	1	
Acute pericarditis		1
Aneurysm	1	1
Total lesions	71	73

Age, from sixty to sixty-nine years.

Fibroids, 17.—Chronic interstitial nephritis, 2; fractured thigh, 2; cancer of vagina, 1; emphysema of lungs, 1; cancer of stomach, 1; pneumonia, 3; apoplexy, 2; gallstones, 1; senile dementia, 1; rheumatism, 1; valvular heart disease, 1; abscess of kidney, 1.

Normal	1	1
Hypertrophy	2	2
Dilatation	2	3
Fatty heart	2	2
Chronic mitral disease	13	13
Chronic aortic disease	6	10
Chronic tricuspid disease	1	1
Sclerosis of coronaries	2	3
Atheroma of aorta	2	3
Chronic myocarditis	2	2
Hydropericardium	1	
Chronic pericarditis	3	2
Brown atrophy	3	
Cloudy swelling	1	
Epicardial placques	2	1
Chronic endocarditis	2	1
Lipomatosis pericardii		3
Acute mitral disease	2	1
Acute aortic disease	2	1
Total lesions	49	50

Age, from seventy to seventy-nine years.

Fibroids, 14.—Pneumonia, 1; chronic parenchymatous nephritis, 1; cancer of stomach, 2; senility, 1; pulmonary tuberculosis, 2; uræmia, 1; aneurysm of aorta, 1; abscess of kidney, 1; chronic interstitial nephritis, 1.

Hypertrophy		2
Dilatation		
Chronic mitral disease		3
Chronic aortic disease	1	
Chronic tricuspid disease		
Chronic pulmonic disease		
Sclerosis of coronaries	3	
Acute aortic disease	1	
Epicardial ecchymoses		
Chronic myocarditis	4	
Chronic pericarditis	1	
Fatty heart		4
Brown atrophy		
Hydropericardium		
Atheroma of aorta		1
Aneurysm of aorta		
Subendocardial hæmorrhage		
Total lesions	13	7

Age, eighty years and over.

Fibroids, 2.—Pneumonia, 1.

Chronic aortic disease		
Sclerosis of coronaries	1	
Chronic tricuspid disease		1
Atheroma of aorta		1
Total lesions	1	2

In the registration area of the United States, in 1909, the deaths from uterine tumor, other than cancer, numbered 862. It is fair to assume that the vast majority of these tumors were myomata. The relation of these deaths to age periods, adopted in the foregoing tables, were as follows: Under twenty, 0.4 per cent.; from twenty to twenty-nine years, 4.1 per cent.; from thirty to thirty-nine years, 24.6 per cent.; from forty to forty-nine years, 39.2 per cent.; from fifty to fifty-nine years, 15.9 per cent.; from sixty to sixty-nine years, 8.5 per cent.; from seventy to seventy-nine years, 6.5 per cent.; over eighty years, 0.9 per cent. In other words, this report shows that only 29.1 per cent. of the deaths occurred before the age of forty years, and seventy-one per cent. occurred after the age of forty. In the 100 cases of this report fifteen per cent. occurred before the age of forty years and eighty-five per cent. occurred after the age of forty. It is important to bear these percentages in mind in studying the heart lesions incident to fibroids as reported in this paper.

In studying the original series of 100 cases we note that in fibroids there were found twelve normal hearts whereas in the cases without fibroids there were eighteen normal hearts. Again in the fibroid cases there were 195 lesions of the heart which were purely sclerotic in character and the same number of like lesions were found in the cases other than fibroids. These lesions expressed in percentage of the total lesions found were for the fibroids 80.0 and for the other cases 84.1. If we now compare these figures with the percentages of deaths in the Census Report and the present report we find a marked similarity. Thus, after the age of forty, when we would normally expect to find sclerosis of the cardiovascular system, we find in the census cases seventy-one per cent. of deaths and in this report eighty-five per cent. These figures show very clearly, I think, that there is no justification in attributing the heart lesions which are purely sclerotic in character, associated with fibroids to the fibroids. They bear no relation to cause and effect but are entirely incidental. The mistake, I fear, in other reports has been the failure to take into consideration the age of the patients and also to compare the cases with an equal number of cases of the same age in which the patients succumbed to other causes and were free of myomata.

If we study these tables more in detail we find that in the age series, after the age of forty, the heart lesions found in the nonfibroid cases almost equal and in some cases exceed those found in the fibroid ones. Before the age of forty, however, we find that the heart lesions found in the fibroid cases greatly exceed those noted in the nonfibroid ones. I felt that the number of cases reported in this age limit was too small to base a fair comparison and a more extended search of the records was made to gather additional cases. In 3,000 post mortem records thirteen additional cases of fibroids occurring before the age of forty were found. The total of twenty-eight cases of this period is compared with a similar number of consecutive cases of the same ages and races without fibroids in the following table:

TABLE 2

Age, twenty to thirty-nine years.

Fibroids, 28.—Miliary tuberculosis, 1; gallstones, 1; cancer of breast, 1; cancer of rectum, 1; gastric ulcer, 1; cerebral tumor, 1; tuberculous meningitis, 2; ovarian cyst, 2; pulmonary tuberculosis, 1; cancer of liver, 1; syphilis, 2; uræmia, 4; pneumonia, 4; cystoid tubes, 2; multiple neuritis, 1; gangrene of lung, 1.

	Fibroids, 100 cases.	Other conditions, 100 cases.
Normal	9	10
Hypertrophy	8	
Dilatation	1	1
Chronic mitral disease	0	4
Chronic aortic disease	6	4
Sclerosis of coronaries	0	1
Sclerosis of tricuspid	3	
Hydropericardium	1	
Pericardial ecchymosis	1	
Chronic pericarditis	1	
Acute pericarditis		
Chronic myocarditis	6	6
Epicardial plaques	1	
Chronic endocarditis	3	1
Fatty heart	1	
Atrophy of heart	1	
Atheroma of aorta	2	2
Cloudy swelling		
Subendocardial hæmorrhage	2	1
Lipomatosis pericardii		1
Acute endocarditis	1	
Total lesions	60	32

In studying this table we find that while the total heart lesions in the fibroid cases were practically double those found in the nonfibroid ones the normal hearts found in the latter exceeded the former by one. The sclerotic lesions found in the fibroid cases numbered fifty-one while those found in the nonfibroid cases were twenty-three. This would seem to show that fibroids did produce sclerotic changes in the cardiovascular system. This inference, however, is not, I believe, justified. I had no difficulty in collecting an equal number of cases, all under the age of thirty years, in which the total and sclerotic lesions far outnumbered those found in the fibroid cases. Such a comparison would, I believe, be justified, as we must consider the fibroids selected cases as far as heart changes are concerned. In view of these considerations the verdict of not proved is a proper one.

Having disposed of the sclerotic lesions let us study for a moment the other lesions said to be due to fibroids, namely, hypertrophy, dilatation, fatty degeneration, and brown atrophy. In the first series of cases we find hypertrophy present in the fibroid cases thirty-four times and in the nonfibroids twenty-nine times. Here the difference is so slight that it can be disregarded and the conclusion can be drawn that there is no relation of cause and

effect between the two conditions. In the same series dilatation occurred nine times in the fibroid cases and twenty-one times in the nonfibroid. No discussion is necessary, in view of these figures, to disprove this contention. Fatty degeneration occurred fourteen times in the fibroid cases and eighteen times in the nonfibroid. No discussion is necessary on this point. Brown atrophy was present in seven of the fibroid cases and three of the nonfibroid. The lesion occurred so seldom and was so inconstant that we would hardly be justified in considering it as bearing any relation to fibroids.

None of the other lesions occur often enough to consider them bearing any relation whatsoever to the disease under consideration. The acute lesions of the heart are an exception. I can understand that in an infected fibroid septic changes may take place in the heart, but here it is only an accident.

In considering the lesions of hypertrophy, dilatation, fatty degeneration, and brown atrophy in the series as shown in Table 2, what has already been said in reference to sclerotic lesions holds true in regard to these lesions.

Various theories have been advanced by those who believe in a fibroid heart to support their contention. The majority of the views expressed are purely theoretical and are unsupported by clinical or pathological facts. That anæmia does produce heart symptoms is unquestioned, but the symptoms and pathological changes in the heart are no different in the anæmia of fibroids than those found in anæmia due to other causes. This view, I know, is not universally accepted, because fatty degeneration and brown atrophy are found in cases of fibroids which did not cause bleeding and consequently no anæmia. We have seen, however, that these lesions are very inconstant and that there is hardly justification, in view of this inconstancy to consider them bearing any relation of cause and effect to the tumor.

Conclusions.

From this report a definite entity of a fibroid heart can not be sustained.

Uterine myomata, occurring during middle and advanced life, are practically always associated with sclerotic heart lesions. These lesions are part of a general process and bear no relation to the fibroid.

Many of the symptoms referable to the cardiovascular system found in fibroids are due to secondary anæmia and occur just as frequently in anæmia due to other causes.

113 South Twentieth Street.

ACETONE IN INOPERABLE CANCER OF THE UTERUS.

By A. Samuels, M.D.,
Baltimore,
Associate Professor of Gynecology, College of Physicians and Surgeons.

With the decided yearly increase of cancer, with not more than five per cent. of cures, general practitioners and specialists alike are constantly called upon to treat more cases of inoperable cancer of the uterus now than ever before. Numerous methods have been advocated for the relief of patients with inoperable cancer, but their very multiplicity is indicative of their shortcomings. Most of them in fact are only of historic interest. Modern methods to relieve the exhausting hæmorrhage and the fœtid odor from the discharges may be classified into three groups:

I. Physical agents in the form of electricity.
II. Palliative operative methods.
III. Biological and biochemical methods.

I. Electricity was suggested in various forms. Cataphoresis, as advocated by Macy (*Conservative Gynæcology and Electrotherapeutics*, Philadelphia, 1905), has never been able to gain a foothold in the profession. For a number of years the Röntgen rays were rather promising, but a reaction set in and they were discarded. The Röntgen rays should not have been discarded as absolutely worthless, as they are of undoubted value in selected cases; but, when applied by the inexperienced, the effect of the rays is as dangerous to life as the cancer itself.

One of the latest methods of application of electricity was the high tension spark. The best that can be said of it is that it was a distressing failure.

II. Of the several palliative methods that have been devised, the most popular is the thermocautery. In this procedure the surface of the cancer is burned away, leaving only the charred mass. The charred tissues furnish a barrier against the bacteria of the vagina, and hæmorrhages and the discharge cease, for the time being; but in the course of a few days the eschar softens and cracks appear in the blackened tissue, through which the microbes gain ready access to the underlining granulations. The eschar is cast off and the old cycle reappears, necrosis, with fœtid discharge and hæmorrhages.

III. Cauterization with chemical agents is not only unsatisfactory, but dangerous. For these agents to be effective, they must be applied in full strength, and, as a rule, this is so painful a procedure that the administration of ether is almost a necessity. The chemical agents, when applied in full strength, may penetrate so deeply as to injure the deep structures and distant organs. They do not check the hæmorrhages or lessen the discharge; in fact the dead tissue produced by chemicals forms an excellent culture medium for the saprophytic organisms.

From a practical standpoint, the fœtid discharge from the inoperable cancer is the most serious, and it may be well to consider the true cause of this offensive discharge. It is not an inherent manifestation of cancer, but the effect of saprophytic bacteria of the vagina upon the cancer cells, which have broken through the normal epithelium. Cancer cells grow more quickly than normal cells, but they do not live as long. They possess no defensive apparatus whatever, and in the contest with bacteria they sooner or later succumb. The result is necrosis and the fœtid discharge. It will, therefore, be seen that the whole idea of cauterizing the diseased area is faulty; for by cauterization we produce a necrosis of the living cells, the very thing that we have set out to combat, and we cannot relieve a spontaneous necrosis by an artificial one. The truth of this reasoning is proved by the num-

ber of more or less elaborate operations that have been devised to supplant the simple procedure of cauterization.

The maxim was advanced by Freund, "that in such a hopeless disease as cancer even the most heroic treatment is justifiable." It is doubtful whether this maxim, which to a certain extent is true, should be carried out to the letter. It seems rather cruel to subject those pale, emaciated, suffering women to more pain from chemical cauterization, or to anguish by an operation, without being able conscientiously to hold out the slightest prospect of relief.

Research work along the lines of biological or biochemical products is still in its infancy, and practical results in producing an effectual anticancer serum have not been accomplished. So far, all the modes of treatment that we have attempted for relief of patients with inoperable cancer have been failures, or, at the best, with but temporary and highly uncertain results. With these results and with the increase in the number of inoperable cancer cases, improvement in the treatment is more urgent now than ever before.

One of the newer remedies that was first advocated by Dr. George Gelhorn (St. Louis Skin and Cancer Hospital) is the application of acetone. This treatment has given most excellent results in five cases of inoperable cancer. Of course I do not mean to convey the idea that acetone will cure cancer, because it will not. It simply relieves symptoms. It does not require any special knowledge for its application, and does not cause any increase of pain. It must not be inferred that it can be applied in a careless or haphazard way, for, if applied in such a manner, the results will be indifferent.

The method of applying acetone, according to Gelhorn, and one that I have used in six patients, is the one that I believe gives the best results. The method is as follows: Under anæsthesia the cavity or crater is thoroughly curetted. This is done to remove as much of the dead and necrotic tissue as possible. The curetted surface is then dried with cotton sponges. The Ferguson speculum is introduced so as to protect the vagina as much as possible. The patient's hips are elevated, and through the Ferguson speculum about one half to one ounce of pure acetone is poured into the wound. The anæsthesia may now be stopped, and the patient left in this position from fifteen to thirty minutes. The acetone is now permitted to run out through the speculum by lowering the table, and the cavity is packed with a strip of gauze soaked in acetone. The speculum is removed gradually, and the excess of acetone that may have come in contact with the mucosa of the vagina is wiped off with wet gauze sponges. The surface is then dried, and a cotton tampon is inserted into the vagina to absorb any excess of acetone.

After this preliminary curettage and first application of acetone the patient may leave the hospital the next day, as she does not require any future hospital care. The subsequent applications of acetone may be applied at her home or in the physician's office.

Subsequent applications of acetone should begin about five or six days after the patient leaves the hospital, and then be made twice or thrice weekly if the symptoms should require it. With the applications of acetone there is a progressive diminution of the crater, and smaller specula may be employed. In making subsequent applications of acetone, either in the physician's office or at the patient's home, the pelvis should be elevated, as in making the first application, and about the same amount of acetone applied. If the physician is without an office assistant, the patient may hold the speculum in position. Care must be taken, however, not to allow the acetone to run over the vulva. As a precautionary method, to prevent irritation from the acetone, it is a good plan first to coat the vulva and vagina with a layer of petrolatum. After the acetone is allowed to run out, the vagina should be swabbed and a large cotton tampon coated with vaseline introduced into the vagina before the speculum is completely withdrawn. The tampon may be removed by the patient in four or five hours.

The immediate effect from the application of acetone is a slight oozing, which checks itself within a short time. The surface of the crater becomes covered with a thin or whitish film. A slight discoloration may be noted in some parts of the crater; this is due to the action of the acetone upon small bleeding points. The normal vagina is not appreciably irritated. A slight irritation of the outer skin may take place if the parts have not been previously protected by a thin coating of petrolatum; and outside of the intense burning sensation, which arises from carelessly allowing the acetone to run over the outer skin, there is no pain from the application. The burning sensation, however, soon subsides, and it is rarely, if ever, necessary to employ morphine.

The remote result from the application of acetone manifests itself in the marked reduction of the intense odor. The discharge, which at first is profuse and watery, gradually disappears; hæmorrhages occur with less frequency and are not nearly so profuse. After three or four weeks of this acetone treatment, a considerable diminution in the extent of the wound cavity is noticeable. The walls become smooth and firm, and in one instance the walls were so firm that the finger could not remove any friable tissue. With the stopping of the weakening hæmorrhages and discharges, the general health of the patient for the time being improves visibly, and the pain is somewhat lessened. In two patients in whom cancer had extended to neighboring organs, while the discharge and hæmorrhages ceased under its application, the pain was not relieved and morphine in large doses was necessary.

The application of acetone is contraindicated in patients in whom the cancer has extended, and an opening formed either into the rectum, peritoneal cavity, or bladder. However, when a cancer has gone so far as this, the patient's days are so few that the only treatment here would be the free use of morphine. In cases in which it is not contraindicated, it may be used without fear, as absorption does not take place.

While it is almost too soon to claim that acetone will do more than other remedies which have been tried, it will check hæmorrhages otherwise uncon-

trollable and lessen discharges. Being easily applied and harmless, and relieving pain rather than increasing it, should encourage its further use.

1028 Eutaw Place.

CARCINOMA OF THE ABDOMINAL WALL IN A BOY OF SEVENTEEN YEARS.

By J. P. Grant, M. D.,
New York.

With the exception of tumors of the alimentary canal it is seldom that we see a carcinoma in a patient under thirty years of age. For this reason and on account of the unusual situation of the growth the following history of a patient who presented himself at the Cornell Surgical Clinic in January, 1911, seems worth reporting.

Case. The patient was a well built boy, seventeen years old, of a family having no history of malignant disease. He attended public school up to three years ago, since which time he had been engaged as a clerk. There was no history of any serious illness or injury.

Present Illness. Six months ago patient noticed a small lump on the right side of his abdomen. This slowly increased in size for about five months, when it began to grow more rapidly. About three weeks ago he noticed that there was a slight discharge from the growth.

Examination. A tumor about the size of an English walnut was found to be situated one inch above the umbilicus and three inches from the middle line, the apex of tumor was somewhat bluish in color. On palpation, the tumor was soft and elastic in consistence, not attached directly to the skin, freely movable over the underlying structures. Slight pressure produced a blood stained serous discharge from a minute opening in the skin over the apex of the growth. No enlarged glands were palpated in either groin or axilla.

Clinical Diagnosis. Owing to its rapid growth and consistence the tumor was thought to be an angeima, with an alternative diagnosis of sarcoma or possibly an aberrant mamma.

Operation. Under cocaine anæsthesia the tumor was removed with about three quarters of an inch of the surrounding skin and subcutaneous tissue. The wound was sutured with silkworm gut and primary union resulted.

On microscopical examination the tumor was found to be a carcinoma, possibly from an aberrant mamma, but as no breast tissue was found in the section it seemed more likely that it took its origin in a sebaceous gland.

414 West One Hundred and Eighteenth Street.

NOTE ON THE "LIQUOR BELLOSTII" TEST IN PARESIS.

By G. S. Amsden, M. D.,
White Plains, N. Y.

During the past year several notes have been published in the German literature calling attention to the reaction of the so called *liquor Bellostii* upon the urine, especially that of paretics. A positive result, that is, a heavy, dark gray precipitate, is reported by Butenko in ninety-one per cent. of eighty-four cases of paresis; and by Beisele in ninety-four per cent. of twenty-seven cases. These and other investigators have looked carefully into the nature of the reaction, but without as yet very clear results. The diet and medication have been given especial attention, and all agree that iodides, trional and sulphonal are apt to cause a positive reaction.

Liquor Bellostii is prepared by dissolving mercury nitrate ($Hg_2(NO_3)_2$) in water slightly acidified with nitric acid. Pulverize ten grammes of the salt in a mortar and very gradually add to this 86.6 c.c. of water to which twenty-four drops of a twenty-five per cent. solution of nitric acid has been added. If the acid water is not added slowly an insoluble precipitate results. The solution when right should be clear. The test is done as follows: To a few cubic centimetres of acid urine, which has been boiled, add ten to fifteen drops of liquor Bellostii. The urine is then boiled again two or three times. In negative cases there is a heavy white or chalky yellow precipitate formed; in positive results the precipitate is gray, almost black, and the supernatant fluid is yellowish.

Recently at Bloomingdale this test has been applied, under the precautions already noted, to ascertain merely the constancy of a positive result in paresis. Of the urines thus examined, thirty are included in the following note, of which fifteen were from cases of unquestioned paresis. The remaining fifteen control cases included the normal, paranoid, dementia præcox, manic depressive insanity, and Bright's disease.

Of the paretics, four were positive, five so nearly negative that they were doubtful, and six frankly negative. There is clinically no special unique feature of the positive cases, nor is there any finding in the ordinary routine uranalysis which is common only to the positive cases. Of the positive cases, three were clinically active; one stationary, bed ridden, and entirely demented. In one of the active cases, two days before death, the reaction changed from doubtful to very positive. Of the doubtful cases, two were in the early stages of the disease and excited; the other three were in excellent states of remission and very intelligent. Of the negative cases, two were active and the others stationary, but decidedly demented.

Of the fifteen remaining cases, certainly not paretics, four were positive, three doubtful, and eight negative. Here also there was no common unique feature of the positive cases.

The results are summarized as follows:

Liquor Bellostii Reaction.	No. of Cases.	Paresis	Nonparesis.
Positive	8	4	4
Doubtful	8	5	3
Negative	14	6	8

These results need no comment as to the trustworthiness of this test as a diagnostic measure, whatever value it may have from a metabolic standpoint. Beisele (*Münchner medizinische Wochenschrift*, January 3, 1911) speaks of paretics with remission as regularly negative, but does not elaborate this, and ninety-four per cent. of his cases were positive. Very recently F. Stern (*Münchner medizinische Wochenschrift*, February 28, 1911) and Trapet and Woter (*Psychiatrisch-neurologische Wochenschrift*, February 25, 1911) have published results not essentially different from those here reported. Still more recently a report from the Munich clinic gives also similar results.

Bloomingdale Hospital.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CX.—How do you treat flatulence? (Closed May 15, 1911.)

CXI.—How do you treat acute infantile anterior poliomyelitis? (Answers due not later than June 15, 1911.)

CXII.—How do you treat psoriasis? (Answers due not later than July 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to Question CIX was awarded to Dr. George A. Graham, of Kansas City, Mo., whose article appeared on page 1030.

PRIZE QUESTION CIX.

WHAT ARE THE BEST MEANS OF REDUCING INFANT MORTALITY?

(Continued from page 1038.)

Dr. Charles William Heitzman, of Kansas City, Mo., states:

If the last word was given to me to solve the problem of reducing infant mortality, I certainly should not wait until the child was born; the mother, preferably the young expectant mother, would represent the field of my activity. First, I should inculcate into her a thorough understanding of the fundamental laws of hygiene. I should teach her to be fearless of fresh air and good water, the use of the latter internally and externally; also, why we eat food and its proper selection to fit our personal needs. Certainly, I should not neglect the matter of dress. Having thus started her along the road to health, I should next endeavor to have her see the moral side of motherhood: first, to be a mother; second, to be a *good mother*, which means more than merely being present at the birth of the child. The physical wants of the child are of prime importance. If the mother has been well schooled in the primary needs of a *good mother*, barring an accident, she will be in condition to furnish her babe with sustenance not of an artificial kind. Many mothers in our best of civilization object to this natural and manifest office. It is said that about fifteen per cent. of all babies die before they have completed the first year of life, and one third of these deaths are by reason of digestive disturbances, less than one fourth being due to respiratory and tuberculous affections. Statistics prove that the greatest mortality occurs during the season from July to October, and invariably is directly traceable to improper feeding and improper food. Diarrhœal diseases are rare among breast fed babies.

Not so long ago it was thought that the nursing period of the infant should continue at least twelve months, and should the end of this period come during the hot season it should be continued until cool weather, but with the present day knowledge supplementary feeding may begin at from four to six months, and normal nursing discontinued as early as the tenth month. With these facts before us we are enabled to compromise with the mother who is averse to nursing her baby at all, by proposing that the breast should be given until the end of the third month; the infant will thus be carried over the period during which artificial feeding is conducted with the greatest difficulty and the least success. In those cases where the mother will not or cannot nurse her offspring, a wet nurse whose own baby was born as nearly on the same date as possible may be engaged, but this for obvious reasons is a rare chance. This brings us at once to the consideration of artificial food, and the best practical substitute is cow's milk. Its composition and the respects in which it differs from human milk are now well known. The quality and consistence of cow's milk varies greatly and these variations are intimately related to unhealthfulness. To get milk bacteria free, even when first drawn from the cow, seems to be practically impossible in spite of the most stringent rules devised by authorities in many States and municipalities directed against the most fruitful sources of contamination, as dust and dirt in the air of the barn or dairy, and manure and other dirt loosely adherent to the cow's hide and hair, the clothing and hands of the milker, and to the utensils necessary for the transportation of the milk. Various methods have been and are being constantly devised, to give to the baby born *not* to a *good mother*, a wholesome milk. Doubtless many of them are not without merit, but on close analysis much is found to condemn them. Still comes the cry, and increasing daily, from the "mouths of the suckling babes" for good mothers. May it be more than an iridescent dream that after toying with her clubs and suffragism woman will yet arise to the great and noble plane assigned to her by the Creator and become a *good mother*.

Dr. Glenn L. Jones, of Angel Island, Cal., reminds us that—

The medical fraternity is well informed on the humiliating statistics of infant mortality and keenly alive to the necessity for removal of this blot on our civilization. The proper management of the infant from its birth is as important as the scientific care which is given the mother during pregnancy and the puerperium. The reduction of infant mortality passes beyond the scope of the earnest efforts of physicians to include the cooperation of municipal officers, visiting nurses, well informed public spirited citizens, and *mothers*. Little correction can be made of this evil by inactively deploring the passing of maternal lactation.

How shall we inspire mothers to their sacred duty as procreators and developers of infants into robust, receptive children and sturdy, resourceful, healthy men and women? Properly to conserve our defenseless infants, the following factors are of fundamental importance:

1. Liberal, intelligent instruction of pregnant women as to proper habits, environment, personal and general hygiene, with special emphasis on the care of the breasts before delivery. This can be accomplished in two ways, viz. (a) by individual care and vigilant observation by the obstetrician, with special reference to the conservation, and with the single purpose of maternal lactation, and (b) by the publication and distribution of pamphlets of instruction, under the authority of municipal officers, and personal instruction by physicians in attendance upon the poor, and visiting nurses.

2. A concerted and intelligent propaganda of instruction under the supervision of State and municipal health authorities, by means of pamphlets, individual instruction by physicians and nurses, illustrated lectures, and the public press teaching the lessons of pure food, pure water, pure air, and sunlight; the necessity for the continuance of breast feeding, proper judgment in the preparation of suitable food, if artificially fed, proper use and regulation of the bath, exercise, and ventilation, system in the habits of infants, the practise of asepsis in the preparation of feeding instruments, and of oral cleanliness before and after feeding.

3. Congressional, legislative, or philanthropic appropriation of funds to establish and sustain a propaganda for instruction of mothers, depots where properly prepared mixtures of pure cow's milk can be given or sold to the poor, suburban or country nurseries and homes where the infants of the poor and their mothers may be given "the natural elementary trio of pure food, pure water, and pure air."

4. To restore the mothers of some of our babes to the kingdom of honorable and noble maternity with its sacred duties of guidance, care, and instruction, which it has been the blessing of God and Nature to equip them for and bestow upon them.

5. The obstetrical rather than the gynæcological conduct of maternity cases.

In brief, the cure for this most potent social evil is a decisive attack on its three chief causes, ignorance, poverty, and neglect. The mode of attack should be by an educational campaign, under the supervision of physicians, by physicians, nurses, and public spirited citizens; by the provision of milk depots, nurseries, and suburban homes where the infants and mothers can get away from the ill effects of the hot season and bad hygienic surroundings which characterize the habitations of the poor of our cities.

Lastly; it is the duty of the physician in attendance upon women to exalt maternal lactation and instruct mothers in the care and feeding of children.

Dr. Fred W. Linn, of Cleveland, recalls that—

A Prussian king once said "Three things are necessary for war—money, money, and more money." To reduce and prevent infant mortality three things are necessary: Education, education, and more education.

1. Education of the physician. He must be impressed with the fixed idea of his duty to enlighten the public in general and his patients in particular. He must constantly reiterate the need of mothers nursing their infants at least six weeks, preferably longer; of fresh air; of absolute cleanliness, and the avoidance of others who are sick.

2. Education of the mother as to the proper hygiene of the child; as to the advantage of permitting the child to take his nap in the open air; as to the absolute necessity of clean milk; and that proper icing will keep milk free from bacterial growth; and to the danger of drugging the child.

3. Education of the public. Perhaps the best way to reach the majority of mothers is to make the foregoing facts common knowledge. Even the most conservative woman will finally believe if facts are constantly harped on in the daily press.

It is my idea that either the health officer or local medical society should have daily articles of information as to the need of proper icing of milk, need of fresh air, of dangers of contagious disease, and just as potently discuss the number of deaths due to improper feeding.

This same enlightenment will lead to free ice stations in the poorer districts and make ice imperative where parents would otherwise economize. District nurses should be appointed with police powers, their purpose being to investigate cases, instruct in elementary facts, and demonstrate methods. This, with their tact and sympathy, they are able to do without giving offense or awakening resentment. The health officer and medical society must also inspire and enforce the laws for dairy cleanliness.

The things indicated under 3 have been done for some time in our home city, and although I have no statistics to offer, in my own experience I have seen much less infant sickness than in the early years of my practice.

Dr. R. H. Meade, of Great Bend, Kas., states:

The most important thing in reducing infant mortality is to give the infant a proper start in life with the right sort of food, that is, mother's milk. There is no question that maternal nursing will do more than any other one thing to reduce infant mortality. A great many excuses are made by mothers to keep from performing this duty, but most of them are poor and none should be accepted, except in cases where the mother suffers from acute tuberculosis, advanced disease of the kidneys, insanity, epilepsy, or acute infections. Mammary insufficiency is not an excuse unless, after repeated trials, it is impossible to increase the supply of milk. If one half the attention that is given a dairy cow was paid to the mother, nearly every case would give favorable results. If every effort to give the infant mother's milk has failed, the next best thing is a wetnurse, whose perfect physical condition should be assured by a thorough examination.

In case artificial food must be used, I should strongly recommend that the milk of a healthy cow be modified to suit the age of the infant. The manufacturers of artificial foods would have us believe that miracles are performed by their particular brands, and at times the infant seems to thrive on them, but I prefer to save them as a last resort.

Next in importance to the food of the child are

sanitary conditions. Absolute cleanliness must at all times be borne in mind. No matter how good the food is, if the air breathed by the child is impure, the child cannot develop properly. Children should be kept in the open air as early as possible, depending, of course, on the weather conditions; but the air from the first should be pure and warm, away from dust and irritants. In cold climates it is desirable to send patients to a warm climate for confinement, if they have the means. It is especially desirable to be in the pure air, away from the thickly populated cities, as the mortality is greatly reduced in country districts.

The feeding utensils used for the child must be kept absolutely clean, if not, the child is likely to be infected. The mother's nipple, to be kept clean, should be washed before and after nursing. The infant's mouth should have the same attention. If artificial feeding is resorted to, a bottle with a simple rubber nipple should be used, thus eliminating the long tubing that cannot be properly cleansed.

After we have settled the question of food and sanitary conditions, we must now look to the prevention of diseases occurring in infancy. The most important are acute gastrointestinal diseases, marasmus, prematurity, acute respiratory diseases, and the acute infections which are often caused by crowding children together in institutions where the air supply is insufficient. The most important prophylactic measures against acute gastrointestinal diseases are diet and sanitary surroundings; for marasmus, fresh air, sunshine, and good food. The acute infectious diseases, as well as the acute respiratory diseases, are prevented by seeing that children are not exposed to those already infected, by proper isolation, quarantine, by proper inspection of dairies as to cleanliness, fresh air, and sunshine; by inspection of all workmen as to whether they are unconscious carriers of some form of infection, especially typhoid fever, diphtheria, or tuberculosis.

Another method, to help produce the desired result, would be the education of fathers and mothers before they bring children into the world, and a physical examination, by competent authorities, of all applicants for a marriage license.

Ehrlich's biochemical theory will probably be another aid in reducing infant mortality.

To sum up in a few words, the reduction of infant mortality depends upon a healthy infant to start with, proper food, fresh air, cleanliness, and isolation from contagious and infectious diseases.

(To be concluded.)

Therapeutical Notes.

Neurasthenia.—Robin is credited, in the *Revue française de médecine et de chirurgie* for May 10th, with the following notes on the treatment of neurasthenia. If the trouble is of digestive origin, three moderate meals are ordered at regular hours, made up of thick soups, milk, fresh eggs, starchy vegetables in *purées*, tender green vegetables, cooked fruits; no beef or mutton; white meat only and at the midday meal; the choice lies between veal, chicken, and the less fat fish.

A copious enema of warm water is given in the early morning.

At bedtime is ordered a smaller enema, designed to be retained all night; Robin says this should be a decoction of the leaves of the linden and orange trees, much used in France; to the decoction should be added a tablespoonful of the following:

Ammonium valerianate,	2 grammes;
Potassium bromide,	5 grammes;
Water,	60 grammes.

Lukewarm douches are given at intervals, followed by a half hour in bed.

In neurasthenia without digestive disturbance, psychotherapy is of value along with exhibition of the phosphates. During each meal a tablespoonful of the following may be given:

℞ Calcium glycerophosphate,	0 grammes;
Sodium glycerophosphate,	
Potassium glycerophosphate,	
Magnesium glycerophosphate,	2 grammes;
Iron glycerophosphate,	1 gramme;
Tincture of ignatia amara,	30 drops;
Pepsin,	5 grammes;
Maltine,	1 gramme;
Tincture of kola,	10 grammes;
Syrup of cherry,	200 grammes.

M.

The following capsule may be administered instead:

℞ Calcium glycerophosphate,	30 grammes;
Sodium glycerophosphate,	
Potassium glycerophosphate,	
Magnesium glycerophosphate, of each,	10 grammes;
Iron glycerophosphate,	5 grammes;
Powdered ignatia bean,	3 grammes;
Pepsin,	15 grammes;
Maltine,	5 grammes.

M.

Subcutaneous injections may replace these prescriptions and consist of calcium glycerophosphate in five per cent. solution, or sodium glycerophosphate in twenty per cent. solution; two grammes may be used in each injection.

The glycerophosphates are contraindicated in patients who show signs of nervous excitement and suffer from exaggerated nitrogenous and oxygen metabolism.

The Therapeutics of Rhubarb and Soda Mixture.—Weinstein, in the *Medical Record* for April 20th, comments on the question of the proper time to administer rhubarb and soda mixture. In answering it he says it depends on what it is wished to accomplish with the mixture. The alkali bicarbonate is the chief medicinal agent, and it should, of course, be given after meals. The author says that the effect of an alkali on the stomach, when given before meals, is to cause an increased secretion from the gastric glands. On the other hand, when the alkali is administered at the height of digestion, which for the stomach is about one hour after a meal, it neutralizes the acidity of the stomach. The element next in importance to the soda in the rhubarb and soda mixture, the rhubarb causes an augmented secretion from the intestinal glands. The effect, therefore, of the rhubarb and soda mixture, when administered before a meal, is to cause a very much increased secretion from all the glands of the gastrointestinal tract. Through this augmented secretion the whole tract gets flushed out somewhat like an autolavage.

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TREATMENT OF THE NEURASTHENIC.

In this issue of the *Journal*, Dr. J. J. MacPhee presents a communication with the ingenious title, Practical Treatment of Nervous People; most physicians would have written Treatment of Nervousness and thereby missed the point, for into no condition does the personal equation enter so largely as into the treatment of the functional neuroses. Dr. MacPhee's conclusions will be of value to the general practitioner. Many of the cases of neurasthenia, however, cannot be effectively treated except in a properly equipped sanatorium. The cases we refer to occur in patients of refined heredity and education, too refined, perhaps, for this cold world. In order to get the best results it is frequently necessary to separate these patients, not only from their business, but from their families. The great source of irritation is only too often the husband or wife; the spouse may be of a nagging or querulous disposition, who makes an inquisitional rack of the dinner table. There may be sexual incompetence or coldness. Sexual incompatibility is very common, but is seldom revealed save to the competent psychiatrist who gets at the truth by an ingenious method of suggestive questioning. Patients of this kind demand surroundings of a superior nature, the best of food, properly served, good attendance, and competent and well bred nurses. The sanatorium must be in a rural district and equipped with all the modern apparatus for bathing and electrical and x ray treatment. An excellent feature is what is now known as the occupational cure; the patients are taught to hammer brass, to weave rugs, to bind books, to set type, to paint or draw, to produce, in a word, something original. Bowling, billiards, the most recent mechanical methods of producing music, lawn games, and indoor amusements of all kinds are required. The intense egotism of the patients has at first to be humored, but a wholesome indifference on the part of the physician is gradually developed as nervous equilibrium is restored. Treatment of this kind is obviously and necessarily costly, but the results warrant the expenditure.

The superintendent of such an institution must have a rare combination of qualities. He must be a gentleman, a man of forceful character yet of kindly heart and manner, thoroughly modern in his professional equipment, a man of wide education and culture, with superhuman patience and marvelous tact, able to secure obedience, and impervious to insults from his cranky charges. Such a man can do untold good. It is fortunate that we have such men in the profession, but a careful search has sometimes to be made for them.

The temptations to quackery in the management of a sanatorium are very great and there are places where the patients are simply petted and spoiled to the top of their bent and which they leave, if indeed they do leave, worse than when they entered. Quackery may usually be safely predicated of any institution which makes its appeal direct to the patient through popular publications. The most careful investigation of any such institution should be made by the practitioner before he confides his patient to its care. If the record of the physician in charge is clean and good, if the surroundings are picturesque and healthful, if the buildings are modern in plumbing and other appointments, and if the charges are such as to indicate an establishment of the first rank, then the patient may be handed over with a quiet mind.

EDUCATION IN SEXUAL HYGIENE.

Although the institution of the old general practitioner who was consulted not only in sicknesses, but also in many other conditions which did not strictly refer to the health of the family, has almost entirely disappeared, the interest of the practitioner as to the welfare of the people has increased. We see this from the discussion on sexual hygiene, in which physicians take a leading part.

The development of our public schools as they stand to-day can be easily traced. It is not so long ago that families combined in engaging a teacher to instruct their children. From this rudimentary beginning there developed our school system. To place the burden of the expense on the entire community instead of on single individuals and to give the sons

of rich and poor the same fundamental education, thus starting them alike in the battle of life, such was the intention of our pedagogues. But when the civic authorities undertook to oversee the education of the children, they did not at first grasp the responsibility they thus took upon themselves to guard children against infectious diseases. It became apparent that the public school could easily become a menace to the health of the community if medical supervision was omitted. The next step in the evolution of our public educational system was the appointment of school physicians. Hand in hand with the development of the mind of the child should go the moral education which, so far, has been left absolutely undecided. We, the members of the older generation, have seldom had any scientific instruction in sexual questions at an age where such instruction would have been most valuable. Principally it was handed down from friend to friend, usually in a most distorted form, and the life of many a child was needlessly endangered by the lack of proper instruction, if not entirely shipwrecked. But from the mistakes made by ourselves in our youth, we have learned, or should have learned, to guard our children from the same errors. The question now arises, where should the instruction in sexual hygiene be given? By the family, the school, the physician, or the church?

As all matters of education are now left to the school, there are many men who would leave the instruction in sexual knowledge also to the school. This seems to us wrong. The teachers in our schools are usually unmarried men and women and the classes are for the most part mixed, that is, containing both boys and girls. It is impossible to broach the question to boys and girls alike. Even if the classes were separate, there would be members who would take such instruction only as food for an appetite aroused too-early or wrongly, members who would not be serious enough to appreciate the lesson. Very few families have now one physician to whom they refer all their cases; most of them drift from one physician to another, and the physician himself does not have interest enough in the children of the family or does not know the family well enough to take the pains of proper instruction. If the teaching was left to the ministers of the church, there is many a family that does not belong to a congregation, and neither the average minister nor the average Sunday school teacher is competent to give such instruction.

We believe therefore that the family would be the proper place to give instructions in sexual hygiene: whether it would be the father for the boys and the mother for the girls should be decided by the parents.

In our book notices we have reviewed many an excellent book treating of this subject, to which the physician can refer the parents if they wish to be instructed in the matter of how to approach the child's mind and to properly educate and guard him against missteps. If the parents are not able to give this instruction, it then devolves upon the school; but these lessons should be given individually, not before the assembly of children. This is a serious question which should receive the proper attention from hygienists, pedagogues, physicians, and parents alike.

EMASCULATION OF THE LAW.

The Supreme Court of the United States has handed down a decision in what is known as the Johnson cancer cure case which will be a source of great disappointment to all interested in the enforcement of the Federal Food and Drugs Act, for the court holds that the law does not contemplate the regulation of claims for curative qualities. Under this decision nostrum vendors may make all kinds of extravagant claims regarding the curative value of their wares without coming under the law, provided that statements made on the label regarding the composition of the remedy are not false.

The suit was brought under Section 8 of the Act of June 30, 1906, which declares that food or drugs shall be deemed misbranded, the labels of which shall bear any statement regarding the article or ingredient which shall be false or misleading in any particular. The government contended that the statement made by the vendors that the remedy in question was a cure for cancer was false and misleading and came within the meaning of the act. The case first came to trial in the United States Circuit Court in Missouri, where judgment was given for the defendants. The government took an appeal to the Supreme Court of the United States, which on Monday, May 29th, upheld the decision of the lower court, taking the ground that the law contemplates only misstatements regarding the character of the ingredients, and not regarding their curative qualities.

Our readers will be both surprised and grieved to learn of this decision, which practically removes all the supervision which the government has exercised over the fraudulent claims for curative qualities, and goes far toward a completion of the emasculation of the law begun by the decision of the Remsen referee board overruling the board of food and drug inspection which had prohibited the use of sodium benzoate in foodstuffs.

This decision by the Supreme Court of the United States is conclusive so far as the present law is

concerned. But the law can and should be so amended as to place in the hands of the executive authorities power to prevent fraudulent misrepresentations regarding curative qualities of medicines. But to draft a law which will do this satisfactorily and still avoid creating a dictatorship in medicine will prove a more difficult task than many realize. There are a vast number of nostrums which practically all will agree in denouncing, but there are many medicaments put forth concerning whose curative qualities there is an honest difference of opinion even among the most competent authorities. When this matter of claims for therapeutic qualities comes before an executive board it might easily happen that the claims which are fully conceded by certain physicians might be disapproved of by the particular board in power at the time, with the result that really helpful medicines might be excluded from the market. In commenting on this phase of the subject one of the justices in a lower court said that any consideration of therapeutic claims would involve testimony from opposing experts the truth or falsity of which would be difficult if not impossible to determine, their testimony being matters of opinion rather than of fact. Notwithstanding this difficulty, it is to be hoped that some amendment can be drafted to the food and drugs act which will enable the authorities to prevent at least the grosser forms of misrepresentation regarding therapeutic qualities.

DEATH AFTER THE USE OF SALVARSAN.

Professor Ehrlich has insisted upon receiving reports of deaths following the use of salvarsan from the physicians who administered the drug; only some of these have been published in the literature. Dr. K. Martius has investigated these eighteen reports with special reference to the influence of salvarsan upon diseases of the heart and vessels. He finds that, among all the deaths so far known, only seven could be attributed to detrimental influence of salvarsan upon the heart or vessels. In five of these seven cases, the post mortem examination showed luetic aortitis, coronary sclerosis, and myocarditis. In one case only a hypoplasia of the heart and aorta could be demonstrated, while in another severe changes of other organs were found which would have been followed by death. In four of the seven cases, clinically objective signs of lesions of the heart or vessels could not be shown; in three of these four patients existed no subjective complaints. The author comes to the conclusion that, therefore, the before mentioned three sequelæ of syphilis, luetic aortitis, coronary sclerosis, and myocarditis form an absolute contraindication to the use of salvarsan, while angina pectoris without disease of the heart muscles is benefited through the use of salvarsan. The entire report, which is extremely interesting, may be found in the *Münchener medizinische Wochenschrift* of May 10th.

CHILDREN'S PLAYGROUNDS.

It is interesting to note that the movement to set aside idle property for the use of city children as playgrounds, which started in Flatbush, where on account of the lack of heavy traffic in the streets it might be said to be least important, is steadily gaining ground throughout the five boroughs. The summer vacation is at hand to take its toll of little ones forced into crowded thoroughfares, and some immediate action should be taken either by the authorities or by private citizens to throw open at once every available vacant space. Railings might be erected around many an unused roof; it is a pity to see the vast roof acreage of New York go to waste, for the air, even if surgically suspicious, is vastly cleaner than at the surface.

BACK TO THE LAND.

The popular slogan of "Back to the land," which is being made use of to sell many worthless volumes and much suburban real estate, makes a strong appeal to the physician from a hygienic point of view. One of the most valuable aspects of this work is its economic bearing on the question of congested population. In the gardens on the Astor estate, in the northern part of New York city, whole families of Italians from the congested districts have made temporary homes, the result being a marked improvement in health as well as a gain in returns. This movement should be fostered by physicians in all the larger cities, but care must be exercised to avoid legal complications, which have sometimes followed the temporary occupation of land where the occupant has resisted removal when the land was required for building purposes.

JOHN SHERWOOD, IRONMASTER.

We are sure this delightful personage would be welcomed gladly by all novel readers, even if he lacked the prestige of creation by our distinguished colleague, Dr. S. Weir Mitchell. The ironmaster is the most admirable sort of American, of hard exterior but of internal qualities of the finest, generous, sympathetic, deeply poetic, and religious in the best sense. The heroine is of unusual fibre. The moral, that social service is the surest road to happiness, is very unobtrusively drawn. We think all our friends will like the story.

Obituary.

STANFORD EMERSON CHAILLE, M.D.,
of New Orleans.

Dr. Chaillé died in New Orleans on Saturday, May 27th, in his eighty-second year. He was born in Natchez, Mississippi, in 1829, of a Huguenot family, graduated at Harvard University in the academic department in 1851 and from the medical school of Tulane University in 1853, subsequently spending three years in Europe in medical study and research. He was Surgeon General of Louisiana during the Civil War as well as personal physician to Jefferson Davis. In 1885 he became dean of the medical department of Tulane University, a position he held until his death. Dr. Chaillé was president of the Havana Yellow Fever Commission and a member of the National Board of Health. He was author of *The Origin and Progress of Medical Jurisprudence* and editor of the *New Orleans Medical Journal*.

News Items.

Changes of Address.—Dr. [illegible] Gates Avenue, Brooklyn.

Dr. A. Samuels, to 1928 Eutaw Place, Baltimore.

Dr. Charles Dumey, to 437 Throop Avenue, Brooklyn.

The Jefferson Medical College Commencement.—The eighty-sixth annual commencement of the Jefferson Medical College, Philadelphia, will be held on Monday, June 5th. The address will be delivered by Surgeon General Charles F. Stokes, United States Navy, and his subject will be The Aims in Medicine.

The West Tennessee Medical Association, which met at Dyersburg, Tenn., on May 11th, has elected the following officers for the ensuing year: President, Dr. J. A. Crisler; first vice-president, Dr. Biggs; second vice-president, Dr. I. W. Griffin; secretary, Dr. I. A. McSwain, of Paris, who was reelected for the twentieth time. Memphis was selected as the next place of meeting.

The State Medical Association of Texas held its forty-third annual meeting in Amarillo on May 9th, 10th, and 11th. Dr. David R. Flynn, of Amarillo, was elected president, and three vice-presidents were elected as follows: Dr. Wiley H. Freeman, of Lockney; Dr. A. L. Lincecum, of El Campo, and Dr. J. H. McCracken, of Mineral Wells. The secretary and treasurer were reelected, and Waco was selected as the next place of meeting.

Women Physicians Hold Banquet.—The annual dinner of the alumnæ association of the New York Medical College and Hospital for women was held on Saturday evening, May 27th. Dr. Emily C. Charles presided, and Dr. Mary Fleckles, president of the association was the first speaker. Others who spoke were Dr. Florence A. Black and Dr. L. A. Cort. More than one hundred and fifty guests were present, including several men physicians.

The American Laryngological Association.—At the thirty-third annual congress of the American Laryngological Association, held in Philadelphia on May 29th, 30th, and 31st, the following officers were elected to serve for the ensuing year: President, Dr. James E. Newcomb, of New York; first vice-president, Dr. F. C. Cobb, of Boston; second vice-president, Dr. B. R. Shurly, of Detroit; secretary and treasurer, Dr. H. Smith, of New York; librarian, Dr. Joseph H. Bryan, of Washington.

A Stamp Tax on Proprietary Remedies is proposed in the Sherley bill, which has been introduced into Congress. The bill differs from the last stamp tax law in that the tax is to be paid on all proprietary medicines whether patented, secret, or nonsecret. The phraseology resembles the English law and would include many remedies not taxed under the law of 1898. Protests against its passage have already been made by various drug trade organizations.

American Dermatological Association.—At the thirty-fifth annual meeting of the American Dermatological Association, held at the Hotel Lenox, Boston, Mass., May 25, 26, and 27, 1911, the following officers were elected for the ensuing year: President, Dr. Grover W. Wende, of Buffalo; vice-president, Dr. James S. Howe, of Boston; secretary and treasurer, Dr. James M. Winfield, of Brooklyn; councilor at large, Dr. William A. Pusey, of Chicago. St. Louis was selected as the next place of meeting.

Personal.—Dr. Jay F. Schamberg, of Philadelphia, professor of dermatology in the Philadelphia Postgraduate Medical School, was the guest of honor at a dinner given by the Wayne County Medical Society, in Detroit, Mich., on the evening of May 22d.

Colonel William Gorgas, of the Medical Corps of the United States Army, chief sanitary officer of the Isthmian Canal Zone, received the honorary degree of LL. D. from Tulane University at the annual commencement held on May 17th.

The Medical Society of the County of Kings.—The one hundred and seventeenth regular meeting of the Section in Pædiatrics of this society was held on Wednesday evening, May 24th. Dr. Alexander Spingarn reported a case of epidemic meningitis in a three months' old infant treated with the Flexner serum. Dr. Louis C. Ager read a paper entitled Fresh Air Schools and Fresh Air in Schools. Dr. William A. Northbridge read a paper entitled Observations on Electrified Milk and Its Use in Infant Feeding. Dr. Alexander Spingarn is chairman of the section, Dr. Paul L. Parrish is vice-chairman, and Dr. Frank Bethel Cross is secretary and treasurer.

The Southwestern Kentucky Medical Association met at Paducah on May 16th, 17th, and 18th. Addresses were delivered on the Early Recognition and Treatment of Tuberculosis by Dr. W. F. Boggess, of Louisville, and on Complications and Sequelæ of Tonsil Enucleation, by Dr. O. A. Pfingst, of Louisville. Arrangements were made to entertain the Kentucky State Medical Society, which will meet in Paducah on October 24th to 26th. The following officers were elected for the ensuing year: President, Dr. W. G. Kinsolving, of Eddyville; first vice-president, Dr. T. A. Frazier, of Marion; second vice-president, Dr. O. R. Kidd, of Paducah; secretary, Dr. H. G. Reynolds, of Paducah; treasurer, Dr. Vernon Blythe, of Paducah.

The Medical Association of the Greater City of New York.—A special meeting of this association, under the direction of the chairman for the Borough of Richmond, will be held at the Staten Island Club, St. George, on Monday evening, June 5th, at 8:30 o'clock. The following papers will be read and discussed: Two Hundred Cases of Varicocele Treated by the Suprascrotal Operation with Ligature of the Spermatic Artery, by Dr. Evan Styles Potter; Top Milk and Whey for Infant Feeding with Some Observations on Milk Purity and Preservation, by Dr. Ransford E. Van Gieson; The Use and Abuse of Digitalis in the Treatment of Heart Disease, by Dr. Robert Abrahams.

The East Side Physicians' Association.—At the regular meeting of the East Side Physicians' Association of the City of New York, held on the evening of May 25th, Dr. S. W. Shapira gave a demonstration of a universal cystoscopic outfit, and the following papers were read: Papilloma of the Bladder and Its Treatment, by Dr. Edwin Beer; The Diagnosis of Incipient Pulmonary Tuberculosis, by Dr. Bruno S. Horowicz; A Résumé of the Vaccine Treatment in Typhoid Fever, by Dr. James G. Callison. The papers were discussed by Dr. S. Adolphus Knopf, Dr. Maurice Fishberg, and Dr. Robert Abrahams. It was decided at this meeting to change the name of the organization to The New York Physicians' Association.

Minimizing Danger of Infection in Paris Theatres.—A committee has been instructed to submit to the Paris police a scheme of regulating or minimizing the danger of the dissemination of infectious diseases at theatrical performances. It is proposed, that all theatres shall be disinfected after each performance by means of sawdust wetted with an antiseptic. It is also recommended that windows and doors should be kept wide open in the intervals between the performances; that the cushioned seats should be sponged with antiseptics, that the cloakroom attendants should undergo regular medical inspection, and that the air of the house should be carefully sterilized once a week, by means of steam charged with formaldehyde.

The Iowa State Medical Society met in annual session at Des Moines on May 18th and 19th. Burlington was chosen as the next place of meeting, and the following officers were elected: President, Dr. L. W. Littig, of Davenport; first vice-president, Dr. H. A. Leipziger, of Burlington; second vice-president, Dr. Van Buren Knott, of Sioux City; secretary, Dr. V. L. Treyner, of Council Bluffs; treasurer, Dr. W. B. Small, of Waterloo.

The Maritime Hospital of Berck-sur-Mer.—This institution, situated on the Strait of Dover and containing 1,100 beds, will organize a summer course of twelve lectures on tuberculosis of the bones, joints, and ganglia, by Dr. Ménard, surgeon in chief, Dr. Andrieu, and Dr. Calvé, assistant surgeons. The lectures will be delivered from August 7th to 20th, will be clinical in their nature, and accompanied by practical demonstrations. Price of admission to the course, fifty francs (ten dollars); address Dr. Calvé or Dr. Andrieu, Berck-Plage, France.

Arkansas Medical Society.—The thirty-fifth annual meeting of this society was held in Fort Smith, May 2d to 5th, under the presidency of Dr. R. C. Dorr, of Batesville. The following officers were elected: President, Dr. Morgan Smith, of Little Rock; first vice-president, Dr. James B. Roe, of Calico Rock; second vice-president, Dr. William W. York of Ashdown; third vice-president, Dr. John W. Webster, of Siloam Springs; secretary, Dr. Clinton P. Meriwether, of Little Rock; treasurer, Dr. John S. Wood, of Hot Springs. Hot Springs was selected as the next place of meeting.

The Medical Editors' Association.—Final arrangements have been made for the forty-second annual meeting of the American Medical Editors' Association, which is to be held at the Alexandria Hotel, Los Angeles, on June 26th and 27th, under the presidency of Dr. Joseph MacDonald, Jr., of New York. Sixteen papers are listed on the programme on subjects of interest to medical editors, and the meeting gives promise of being instructive as well as entertaining. The annual banquet will be held on the evening of Monday, June 26th, at the Alexandria Hotel.

Antityphoid Vaccination to be Offered to Beneficiaries of the Service.—To aid in the prevention of typhoid fever, the officers of the Public Health and Marine Hospital Service have been instructed to offer antityphoid vaccination to the beneficiaries of the service. The beneficiaries are those employed on board in the care, preservation, or navigation of any registered, enrolled, or licensed vessel of the United States or in the service on board of those so engaged, the officers and crews of the Revenue Cutter Service, the officers and crews of the Lighthouse Establishment, seamen employed on the vessels of the Mississippi River Commission, seamen employed on the vessels of the Engineer Corps of the Army, keepers and crews of the United States Life-Saving Service, officers and seamen on vessels of the Coast and Geodetic Survey, and seamen employed on United States Army transports or other vessels belonging to the Quartermaster's Department when not enlisted men of the Army

Annual Meeting of the Missouri State Medical Association.—The annual meeting of this association was held in Kansas City on May 16th, 17th and 18th. The attendance was above the average, and the meeting was in every way a great success. On Wednesday evening, May 17th, the visiting members and their friends were the guests of the Jackson County Medical Association, at a banquet given at the Coates House. Dr. Herman E. Pearse, of Kansas City, the retiring president of the State association, was toastmaster, and among those who spoke were Dr. C. L. Hall, of Kansas City; Dr. A. McAlester, of Columbia; Dr. O. B. Campbell, of St. Joseph; Dr. Willard Bartlett, of St. Louis, and Dr. Franklin Murphy, of Kansas City. The alumni associations of the medical departments of St. Louis University and Washington University held their annual dinners at the Coates House on the same evening. Sedalia was chosen as the next place of meeting, and officers for the ensuing year were elected as follows: President, Dr. Robert H. Goodier, of Hannibal; secretary, Dr. E. J. Goodwin, of St. Louis; treasurer, Dr. J. F. Welch, of Salisbury; vice-presidents, Dr. W. J. Ferguson, of Sedalia; Dr. J. H. Amerland, of St. Louis; Dr. C. H. Lester, of Kansas City; Dr. G. W. Vinyard, of Jackson; Dr. J. M. Stone, of Harrison County.

The Michigan State Homœopathic Society.—At the recent annual meeting of this organization, held in Ann Arbor, the following officers were elected: President, Dr. R. Milton Richards, of Detroit, to succeed Dr. D. W. Myers; first vice-president, Dr. E. C. Kinsman, of Saginaw; second vice-president, Dr. A. D. Holton, of Mount Pleasant, to succeed Dr. J. M. Griffin, of Detroit. Dr. C. G. Jenkins, of Lansing, was reelected general secretary, and Dr. L. N. Tuttle, of Holland, succeeds Dr. F. E. Thompson, of Detroit, as corresponding secretary. Dr. D. S. Sinclair, of Grand Rapids, was reelected treasurer; Dr. William M. Bailey, of Detroit, necrologist, and Dr. O. R. Long, of Ionia, member of the board of control.

Resolutions on the Death of Dr. Edward Gamaliel Janeway.—At a stated meeting of the Medical Society of the County of New York, held on April 24, 1911, the following resolutions were passed on the death of Dr. Edward Gamaliel Janeway:

WHEREAS, It has pleased God to bring to a close the life of our associate and fellow member, Dr. Edward Gamaliel Janeway, on the tenth day of February, nineteen hundred and eleven; and

WHEREAS, The life and career of Dr. Janeway was such in his unwearied, painstaking work, his brilliant attainments, the respect and esteem in which he was held by his colleagues and his friends, as to make him an honor to his profession and to this society as well as to the city and State; be it

Resolved, That we, the members of the Medical Society of the County of New York do express our sense of loss in the death of a revered colleague who was truly a great man and a great physician; and be it further

Resolved, That these resolutions be spread upon the minutes of the society and published in the New York *Medical Record* and the New York *Medical Journal*.

H. SEYMOUR HOUGHTON, M.D.
FREDERIC E. SONDERN, M.D.
KARL M. VOGEL, M.D.

Resolutions on the Death of Dr. Percy D. Littlejohn.

We, the members of the New York Urological Society of the American Urological Association, assembled at our stated meeting, this day, April 5, 1911, record with deep sorrow the death of our fellow member, Dr. Percy D. Littlejohn, of New Haven, Conn.

Dr. Littlejohn was a member of this society for seven years, during which time he made many friends through his genial and attractive personality. He was a hard student, a close observer, and was possessed of the true scientific spirit. These attributes, together with the high character of his work, have made him known and respected by all of the members of this association.

We feel that Dr. Littlejohn's untimely death has deprived us of a sincere friend and a most able fellow worker and that his death is a great loss to our association, as well as to the profession in general.

Resolved, That we express our heartfelt sympathy [illegible] sorrowing and bereaved family.

Resolved, That a copy of these resolutions be sent to the family of the deceased; to the *American Journal of Urology*, the *New York Medical Journal*, the *Medical Record*, and the *Boston Medical and Surgical Journal*.

RAMON GUITERAS, M.D.
COLIN LUKE BEGG, M.D.
CLARENCE R. O'CROWLEY, M.D.
Committee.

Resolutions on the Death of Dr. Charles H. Lewis.—The Hospital Graduate Club, of New York, desires to record the sense of loss sustained in the recent death of Dr. Charles Henry Lewis, which occurred after an illness of only a few hours on the thirty-first day of March, nineteen hundred and eleven. Dr. Lewis became a member of the club in November, 1887, and was its president during the year 1905. From the beginning he was most loyal in his interest and support, attending the meetings with great regularity, and contributing to its proceedings from a well stocked mind, evidencing a broad professional culture. Added to this was an honesty of purpose, an upright life, and a geniality which made him universally beloved. He was a musician of no mean order, and no estimate of his character should omit this feature of his charming personality. No one of our entire membership will be missed from our meetings more than he. Therefore, be it

Resolved, That this minute be entered in full on the Records of the Club, and be it

Resolved, That we "mingle our sorrows at the loss of an honored and beloved associate with the greater sorrows of those nearest and dearest to him, assuring them of our tender sympathy in their afflictions," and be it

Resolved, That a copy of this minute be sent to the family of our late colleague and published in the medical journals of our city.

JAMES F. NEWCOMB, M.D., Chairman.
CORNELIUS G. COAKLEY, M.D.
H. SEYMOUR HOUGHTON, M.D.

Medical Practitioners in Germany.—In a recent issue of the *Daily Consular and Trade Reports*, Deputy Consul-General Ulysses J. Bywater, of Dresden, gives a statistical survey of the medical profession in Germany in 1910. The practising physicians numbered 32,499, or 5.01 doctors for each 10,000 of population, an increase of 480 over 1909. A still further growth may be expected, the number of medical students having risen from 9,239 in 1909 to 11,125 in 1910. The increase in number of physicians was mostly in the cities. For each 10,000 inhabitants Berlin has 12.32 doctors; Wiesbaden, 22.6; Munich, 16.6; Stuttgart, 9.7; Dresden, 9.2; Leipzig, 8.3; Chemnitz, 5.6; Plauen, 4.8, and Gelsenkirchen, 4. The number of women doctors has risen from 55 in 1908 and 69 in 1909 to 102 in 1910; of these Berlin has 32; Munich, 6; Frankfort, 6; Dresden, 6, and Hamburg, 4. The number of women medical students has risen from 371 to 512.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the two weeks ending May 20, 1911

	Week ending May 6, 1911		Week ending May 13, 1911	
	Cases.	Deaths	Cases.	Deaths
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

May 25, 1911.

1. The Occurrence of Infantile Paralysis in Massachusetts in 1910, Reported for the Massachusetts State Board of Health,
   By Robert W. Lovett and Philip A. E. Sheppard.
2. Anterior Poliomyelitis. Attempt to Transmit the Disease to Monkeys by Inoculation with the Nasal, Pharyngeal, and Buccal Secretion of Eighteen Human Cases,
   By M. T. Rosenau, Philip A. E. Sheppard, and Harold L. Amoss.
3. An Experimental Study of Tendon Regeneration,
   By James Warren Sever.
4. Tendon Suture, By F. L. Richardson.

1. Infantile Paralysis in Massachusetts.—Lovett and Sheppard conclude their report thus: "The disease in Massachusetts was nearly as prevalent in 1910 as in the previous year, and affected 153 cities and towns instead of 136 as in 1909. But one must remember that a much larger proportion of cases are now recognized and reported in Massachusetts than was formerly the case, so that probably the apparently relative prevalence of the disease in Massachusetts when compared to other States, the total number of cases in the State, and the apparent spread are in some measure due to the alert attitude of the medical profession of this State in recognizing and reporting cases. A large epidemic centre existed in Springfield, with 148 cases in the city and a large number in the surrounding towns, the distribution appearing to be radial from Springfield. Another epidemic centre existed in Fall River, with eighty-nine cases in the city and more or less radial distribution to contiguous towns. It is evident that the disease has existed in all classes in the community, and not only among the lower classes, from the report on the sanitary conditions under which the patient lived, and also that it exists under all conditions of sewage disposal and with all kinds of water supply. Our researches in the last two years have failed to show an excessive amount of dust in affected localities. The proportion of affected houses in which contemporaneous sickness, paralysis, or death existed in domestic animals or birds still seems larger than one would naturally expect. The occurrence of six cases in the colored race is of importance in connection with the data of other investigators, who have found the race rarely affected. The facts given with regard to communicability are to be regarded as important, forty-two such histories having been obtained in 200 cases. No definite information as to any one factor is to be found in the antecedents of the attack, since bathing, falls, exposure to heat, overexertion, etc., are common occurrences in children of the affected age in the summer season; nor in the study of diet does there seem much of importance except for the existence of the disease in four nursing babies. The fact has been commented on that the disease was a little more prevalent this year in older children than in 1910. The study of the immediate antecedents of the attack and the early symptoms show nothing of especial present interest except the very common occurrence of pain and tenderness, and the information as to its duration is of value. The distribution of paralysis was made by a skilled investigator in a group of cases carefully studied, and it is important to note under those conditions the comparatively frequent involvement of the back, abdomen, neck, and face—a matter often overlooked. The proportion of total recoveries from the paralysis within a period of six months and less after the attack was 13.5 per cent. in 200 cases as against 16.7 per cent. in a similar class of cases in 1909."

2. Anterior Poliomyelitis.—Rosenau, Sheppard, and Amoss undertook to determine whether the virus of epidemic poliomyelitis might be demonstrated in the nasal, pharyngeal, and buccal secretions of patients in various stages of anterior poliomyelitis, in convalescents, or in suspected cases. They had eighteen patients, and they state that the fact that the virus of epidemic poliomyelitis was not demonstrated in the buccal and nasal and pharyngeal secretions of the eighteen cases is not proof that it may not have been there. In any event, the virus would have been greatly diluted, owing to the relative large amount of salt solution used to wash the mucous membrane. Furthermore, under the conditions of the experiment, the virus may have been so attenuated as to be incapable of infecting monkeys. It is well known that a considerable quantity of the virus from the central nervous system of man is sometimes required to initiate the infection in monkeys.

3. Tendon Regeneration.—Sever reports his experiments in tendon regeneration. There were performed thirteen operations on as many cats, eleven of which turned out satisfactorily, but two could not be used for his purpose, on account of the animals dying too soon after the operation for purposes of useful study. The first cat was killed at the end of a week, the second at the end of two weeks, and the third was kept in a plaster cast for four months; then he was allowed to run about without the cast for four weeks more before being killed, so as to permit active use of the muscles and tendons. The fourth cat was kept in a plaster cast, applied only to the leg operated upon, for four months and then killed. The fifth was killed at the end of fourteen weeks, after having had the leg in a plaster cast, but being allowed to run about, as, in fact, all the cats were while in and out of the casts. The sixth was killed at the end of eight weeks, and the seventh at the end of a similar period. The last four were all killed at about three weeks after operation for purposes of control study to the work which we had previously carried out. He draws the following conclusions: Silk or linen thread is an excellent material to use to lengthen tendons in suitable cases. The growth of new tissue will penetrate and permeate the silk only slightly, and in some cases not at all, and does not absorb it. When the peridesmium and tendon sheath have been removed, some foreign body, such as silk, is essential for regeneration, to serve as a director for the new growth. With the sheath and the peridesmium present and sutured, no foreign body need be inserted. In this case the new growth is true tendon tissue. Without the presence of the sheath and the peridesmium no true tendon tissue can be regenerated. Such tissue is merely fibrous tissue.

lacking elasticity and subject to stretching. The new "tendons" are apt to be larger and stronger than the resected ones, especially when silk has been used to replace the resected portion. Provided the sheath and peridesmium are preserved and function allowed early, adhesions may not occur. Without the sheath, adhesions may and do occur much more frequently.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

May 27, 1911

1. Cooperation in Establishing Standards of Medical Education, By John A. Witherspoon.
2. The Poisons of the Tropical Toad, Bufo Agua, By John J. Abel and David I. Macht.
3. Equipment and Instruction of the Laboratory Year, By E. P. Lyon.
4. Entrance Examinations, By Thomas S. Fiske.
5. The St. Louis Hospital, By Douglass W. Montgomery.
6. The Teaching of Visceral Anatomy or Organology, By Jeremiah S. Ferguson.
7. The Educational Function of the Hospitals and Hospital Year, By James B. Herrick.
8. A Teaching Hospital, By W. M. L. Coplin.
9. The Micrograph: A Preliminary Report. An Instrument That Records the Microscopic Movements of A Diaphragm by Means of Light Interference, By Albert C. Crehore and Frank S. Meara.
10. Pulsating Exophthalmos Due to Aneurysm of the Internal Carotid, By W. E. McClellan.
11. The Excretion of Salicylic Acid and Hexamethylenamine in the Sputum, By J. L. Armstrong and E. H. Goodman.
12. An Obscured Alcoholic Multiple Neuritis in a Case Apparently of Frank Opium Addiction, By C. C. Wholey.
13. Myasthenia Gravis, By Frank W. Acker.
14. Operation for Pedunculated Exostosis of the External Auditory Meatus, By S. B. Muncaster.

2. Bufagin.—Abel and Macht have made experiments with the milky secretion of the "parotid" glands of *Bufo Agua*, a tropical toad, when the animal is greatly excited. This secretion contains a venom which owes its efficiency as a poison in a large degree to the presence of a digitalislike substance, although the large amount of epinephrin present is an important auxiliary in this action. And it is to the former constituent or to substances closely allied to it, such as have been described by Faust, that toadskins owe their efficacy as a cure for dropsy, a method of treatment which would perhaps still be in vogue had not William Withering, in 1775, introduced for this very purpose the foxglove, the active constituent of an old wives' remedy. Now that science has begun to study the ancient remedy, toadskin, we may confidently expect further discoveries in this field, possibly with results of value for practical medicine. They have named the digitalislike substance "bufagin" in order to have a short term sufficiently indicative of its origin. Isolated, bufagin is found to contain no nitrogen and to consist only of the elements, carbon, hydrogen, and oxygen. Its melting point is 188° C. The substance is easily soluble in chloroform and acetone, fairly soluble in absolute alcohol, but only very little soluble in petroleum ether and carbon tetrachloride and also but little soluble in cold benzine. It is a "neutral" compound insoluble in alkalis or acids and in this respect, as in most of its solubilities, it resembles the bufonin which Faust has isolated from the skin of the common toad. It belongs to the digitalis series and exerts a vasoconstrictor action when an aqueous solution is applied to the conjunctival sac. This action is also well demonstrated in perfusion experiments with the pithed frog or with the pithed toad, *Bufo agua*, only that in this case a large dose of bufagin is required since the toad shows a high degree of immunity toward its own poison. Injected intravenously into a decerebrate cat whose spinal cord was destroyed, a pronounced rise of pressure was obtained. The marked action of bufagin on the heart, its vasoconstrictor action, and its powerfully stimulating action on the cardioinhibitory centre (an action which is completely annulled by section of the vagi and by atropine) class this drug with the most effective members of the digitalis series. In two out of six experiments on dogs, in which large quantities of the drug were injected intravenously and in which heart standstill was induced, this organ was found, on opening the chest, to be firmly contracted in systole. Stoppage of the heart in systole in mammals after bodies of the digitalis series is an uncommon experience in their observation except in experiments in which the organ is transfused by the Langendorff method, and they mention the fact as an evidence of the marked action of bufagin on the heart muscle.

9. The Micrograph.—Crehore and Meara describe an instrument which has many practical applications not only in physiology, but in physical science. Briefly stated the instrument magnifies the minute motions of a diaphragm similar to that of a telephone about 50,000 times and records these movements on a moving photographic film. It is well known that these movements are not perceptible to the unassisted eye, and they are so small that for a time it was supposed that there was no real motion of the diaphragm as a whole, but that the effect was molecular. A microscope which magnifies 2,000 times is considered a high power microscope, but the magnification obtained in this instrument is twenty-five times this figure. The phenomena of the interference of light waves is made use of for the purpose of obtaining not only the high magnifying power, but something which, by the use of photography, can be made to make its own record by means of the light on a photographic film. The complete apparatus thus consists of two distinct parts, the instrument proper, and the additional portion required when photographs are to be taken. The instrument may be applied to the study of any subject in which it is possible to communicate the phenomena to be studied to the diaphragm so as to induce in it a motion corresponding to that being studied.

11. Excretion of Salicylic Acid and Hexamethylenamine in the Sputum.—Armstrong and Goodman find that salicylic acid is excreted, if at all, in the sputum in such small quantities as to make it useless in the diagnosis of pulmonary conditions. Hexamethylenamine, when given by mouth, is excreted in the sputum of tuberculosis, pneumonia, bronchitis, and asthma. There seems to be no selective action in the excretion of the drug, and the detection of formaldehyde in the sputum cannot be used diagnostically.

MEDICAL RECORD

May 27, 1911.

1. The Medical Side of the Army Manœuvres in Texas, By N. S. Jarvis.
2. Dreams and Their Analysis in Reference to Psychotherapy, By H. W. Frink.
3. Functional Sexual Disorders Proceeding from the Genitourinary Tract. By Terry M. Townsend and Julius J. Valentine.
4. A Few Remarks on the Value of Doing Nothing, By Richard P. Francis.
5. Herpes Zoster, Acute Poliomyelitis, and Zinc Phosphide, By William Francis Waugh.
6. Treatment of Neurasthenia, By F. H. Barnes.
7. Pneumonia, By C. S. Webb.
8. A Case of Transposition of the Heart, By Nathaniel P. Brooks.

2. **Dreams.**—Frink remarks that it is true that Freud and his followers have made errors, and it is certain that the last word on psychoanalysis has not yet been said, but it is equally true that they have presented us with a method of treatment that promises much, that appears to have cured many, and that deserves investigation. There are few who doubt that psychoanalysis cures some cases, for we have testimony to that effect from men whose veracity and soundness of judgment are unquestioned; it remains to be seen in what percentage of cases it is successful, and how this percentage compares with older methods of treatment. This can be established only by statistical reports from a large number of unprejudiced observers who follow out the technique carefully and consistently, and who record both failures and successes. If this is done, it will be shown that the importance of the sexual has not been overestimated and that the method of psychoanalysis is a most valuable addition to our therapeutic armamentarium.

3. **Functional Sexual Disorders from the Genitourinary Tract.**—Townsend and Valentine state that impotency or sexual disorders are present in 6.5 per cent. of all genitourinary cases. Sixty-four per cent. of sexual disorders are due to or originate in peripheral nerve irritation emanating from the prostatic urethra or the colliculis seminalis. Lithæmia, oxaluria, and phosphaturia are present in twenty per cent. of these patients and their relief should not be overlooked. The train of symptoms usually attributed to neurasthenia is real, having a definite cause and requiring definite measures for relief. The treatment is in great part that of chronic gonorrhœal urethritis in which optimism should predominate.

6. **Neurasthenia.**—Barnes observes that practising physicians of this day and generation probably come in contact more frequently with this affection than with any other form of nervous disease. Their brains are often taxed to the limit to supply the treatment best adapted to neurasthenic patients. As a class neurasthenics are very amenable to suggestion and are always looking for some one to comfort them in their affliction. Naturally, they turn to all manner of creeds and cults, which makes it doubly hard for the physician, as he not only has to contend with the general phases of the disease but has the added work of getting the patient to forget the advice of all these so called mind healers, faith curists, etc. Suggestion has a strong place as a therapeutic measure when controlled by a conservative medical man, and with this class of patients it can be used to advantage. Many of these patients change physicians because busy practitioners refuse to listen to a detailed account of their symptoms, telling them that they are well and only imagine they are ill, to get busy with their work and they will be all right. Nothing hurts a neurasthenic more than to be told that he is not ill, as he wants sympathy and will get it some way, even if he has to go from doctor to doctor to do so. Ofttimes serious organic disease exists under the mask of neurasthenia, and can only be distinguished by diagnosis. Hydrotherapy is a very useful measure. Some of these patients do not like cold baths, but most of them will tolerate a cold douche to the spine after the hot bath, which douche has a stimulating effect. Good results will follow a warm shower, gradually cooling the water to a point of toleration by the patient, followed by a thorough rubbing with a rough towel. Pressure treatments from the hose, which can be had only in some of the bath establishments or cures, are very effective, and induce quick reaction. Salt rubs given by trained attendants are very grateful to the patient, and aid materially in diverting the attention during the treatment. All measures which cause the patient to forget his worry help. During the heated term sea bathing not only supplies a therapeutic adjunct, but is also helpful in giving the patient proper exercise. Stimulants of all kinds should be forbidden; if permitted, they must be taken in moderation. Have the patient drink plenty of good spring water, four or six glasses each day. Massage is very beneficial to most cases, but should not be given forcefully in the anæmic type. Static electricity before the patient retires will cause him to sleep better and should be given simply as a breeze current from the head spray. Where the patient complains of severe bodily pain a high frequency current applied to the affected part causes temporary relief. (This may be entirely mental.) In extreme insomnia veronal and trional can be used in from five to ten grain doses. The bromides in small doses are often sufficient. Hammond recommends proper exercise. Sanatoria are very helpful in the treatment of neurasthenia, as the patient is under constant medical supervision and in care of nurses or attendants trained to carry out a regulated daily life best adapted to the individual. Patients who have morbid fears feel that they are protected from harm; others feel that they have moral support in combating their worries and some one to whom they can reveal their thoughts, so that sympathy will be given them in their affliction. In a short time they have confidence in those who care for them, which aids materially in persuading them to do what is necessary on their part to carry out the plan of treatment mapped out for their daily routine.

BRITISH MEDICAL JOURNAL

May 20, 1911.

1. Observations on the Nature of the Immunity Reaction, By C. J. Bond.
2. The Hulton Colliery Explosion, By W. A. Hatton.
3. Two Cases of Severe Injury near the Knee, By Rushton Parker.
4. Vaginal Hysterectomy for Endometritis, By F. P. Sturm.

5. A Case of Traumatic Pneumothorax and Pleural Effusion Successfully Treated by Resection, By F. S. Rhodes.
6. Duodenal Obstruction as Shown by Radiography, By Alfred C. Jordan.
7. Standardization of Preparations of Indian Hemp, By C. R. Marshall and J. H. Wigner.
8. The Effect of Salvarsan on *Treponema Pallidum*, By [illegible]
9. Suppression of Urine, By E. R. Mansell.
10. Gunshot Injury Involving Right Elbow Joint, By A. W. B. Livesay.
11. Erythema Nodosum, By James C. Craig.

1. Immunity.—Bond concludes a scholarly discussion of this difficult question by pointing out that the old question which Lamarck and Darwin set themselves to solve in the world of species still confronts us in the world of the individual organism. They were struck by the sharply accentuated discontinuity between species on the one hand, and they were troubled by transitional forms on the other. They asked the question, How does one specific character arise out of, merge into, and give rise to another specific character? Lamarck answered the question in one way, Darwin in another. Modern bacteriological attitude to the evolutionary process as it affects the different varieties and different capacities of defensive cells is still in the Lamarckian stage, and the problem, moreover, is rendered even more obscure and more difficult by reason of the very fact that in the case of the body cell and the disease organism we are dealing with component parts of the individual organism, which are themselves unicellular organisms, and in such organisms the continuity between cytoplasm and nucleus is much more perfect than the continuity between body cells and germ cells in the multicellular organism. Hence in unicellular organisms, such as the defensive cells, environmental change exercises through the cytoplasm a much more direct influence on nuclear activity. Hence variation assumes a more directly adaptive character. Hence, also, the greater difficulty in distinguishing between "innate variation" and variation due to "use acquirement." Hence the great probability that they are both a process of variation and selection—one *intercellular*, one *intracellular*—and the further probability that the one process has arisen out of the other. But the analogy between the progress of evolutionary thought in the ontogenetic and phylogenetic field goes deeper still. Confronted by the difficulties to be surmounted in accounting for "spontaneous" variation—that is in associating germ cell variation directly with somatic cell variation, the result of environmental change—Weismann fell back on variation and selection among the different determinants which he had already assumed in the germ cells, as forming the material basis of variation and hereditary transmission—that is, he fell back on variation and selection of an intracellular kind. In like manner Ehrlich, confronted with the difficulty of accounting for direct adaptational response in defensive cells, has assumed the existence of a complex machinery of "receptors" in the defensive cells to explain the manner in which the immunity response to disease organisms is brought about. There is, therefore, some precedent for going a step further and assuming, as we have now done, as a working hypothesis, a process of variation among the physiologically differentiated parts which compose the cell itself, together with a selection of the more favorable of the variations so occurring. The result of the foregoing examination into the conditions under which acquired immunity occurs tends to show that the process by which the defensive cells acquire new characters and new capacities of offense and defense is a process of variation and selection, partly of an intercellular and partly of an intracellular kind. It tends to suggest, in fact, that "use acquirement" is a form of adaptation to environmental change brought about by variation and selection among intracellular units instead of among individual cells.

8. Salvarsan and Treponema Pallidum.—Balfour states that he has observed the spirochætæ actively shedding granules after an injection of salvarsan, probably in an effort to resist total annihilation. He points out that the Yamikoffs find it advisable in treating infection with *Spirochæta duttoni* in rats and mice by salvarsan, to administer a second dose soon after the first. Thus is prevented the storing up in the internal organs of resistant forms which will ultimately cause relapse. If this is a good idea in tick fever, why not also in syphilis? Balfour believes this second injection to be well worth trying, especially in view of its ease of performance.

LANCET

May 20, 1911.

1. Postoperative Lung Complications. By W. Pasteur.
2. Mental Disorders and Suicide, By G. H. Savage.
3. The Treatment of Malignant Growths by Radium, By C. Mansell Moullin.
4. The Radium Treatment of Cancer, By N. S. Finzi.
5. Diffuse Lipoma and Animals; Pubic Lipomata in Man, and Nuchal Lipomata in Man and Animals, By Sir Jonathan Hutchinson.
6. A Case of Thrombosis of the Superior Vena Cava and Great Veins, By F. C. Davies.
7. Our Inability to Diagnosticate Gross Lesions of the Appendix, By Edred M. Corner.
8. A Case of Ovarian Cyst in a Nyasaland Woman, By Hugh S. Stannus.

1. Postoperative Lung Complications.—Pasteur concludes his article by stating that he has endeavored to prove that deflation of the pulmonary bases, resulting from reflex inhibition of diaphragmatic movement, is an essential, if not the chief, factor in the causation of postoperative pneumonia, and that the rôle of the anæsthetic is only a very secondary one. These after effects are far from rare, and, in the present confused state of our knowledge concerning them, mistaken diagnoses are probably of frequent occurrence. If we are ever to clear up the complex nature of these accidents and to arrive at a more reasonable classification of postoperative lesions it is absolutely necessary that the lungs should be carefully examined by a competent observer, and the exact position of the heart beat noted before every abdominal operation. In this way alone will it be possible to appreciate the slight changes in the breath sounds, in the respiratory movements of the chest, or in the position of the apex beat, which indicate the onset of trouble, and often give a sure indication of its nature. Pasteur is convinced that a good deal can be done in the way of preventing or alleviating many

of these troubles, but before this can be achieved with any hope of success the present slipshod diagnosis of after effects must be replaced by something more accurate. Abdominal section is a hit below the belt. The patient is always winded by it more or less, and that is the real reason why abdominal operations are so often followed by lung trouble.

2 and 3. **Cancer and Radium.**—Moullin believes that, so far as our present knowledge is concerned, with the small quantities that we have at our command, radium can only be relied upon, and that to a limited extent, in cases of malignant disease in which growth is slow and the degree of malignancy relatively slight. On the other hand, it is of the greatest value in what may be called the premalignant stage—that is to say, in removing growths which not infrequently become malignant as age advances, without an operation and what is very important, not merely for cosmetic but for clinical reasons, without leaving much of a scar; and there is good reason to hope that if the small quantities we possess now are capable of dealing with growths of relatively mild malignancy, larger amounts, when we can get them, will prove equally successful in circumstances of greater difficulty. ——Finzi avers that the general health has a strong influence over the progress of malignant disease. Everything should be done to increase the patient's resisting power, by outdoor life, good food, etc. In using radium, we must remember that rays are given out in all directions and their intensity, like that of light, varies inversely as the square of the distance. Of the three kinds of rays, the beta and gamma, only, affect neoplasms. Deep growths can be treated as satisfactorily as superficial ones. The first symptom of improvement is usually diminution of pain, but shrinking and suppression of discharge and fœtor begin early and are at their maximum in four or five weeks. Epitheliomata of the tongue and vulva do not respond to radium, nor do other neoplasms if there is marked cachexia. As to principles of treatment, the whole tumor should be treated as well as the site of any possible metastasis; the rays should be properly filtered through metal screens; as much radium as possible should be used; too much radium cannot be given to cancer cells as long as the surrounding tissues remain uninjured. Finzi describes several ingenious forms of apparatus he has devised and concludes as follows: 1. That in cases which would otherwise be doomed, complete local disappearance of the growth occurs in 12 per cent., relief of pain or other symptoms in 62 per cent., and no relief in 25 per cent. 2. That these statistics would be improved if cases were excluded which were treated for relief only. 3. That every local inoperable growth of suitable type should be treated with radium. 4. That prophylactic treatment should be used after every operation for cancer. 5. That 10 per cent. of successes means 90 per cent. of ultimate failures or partial failures, and that therefore no judgment can be formed in small numbers of cases as to final results. 6. That it is necessary to use large quantities of radium and metal filters at least 1.5 mm. thick of lead or platinum. Since he has used 205 mg. of radium in his later cases his results are showing promise of being very much better than when he used only 50 mg. 7. That treatment must be thorough.

PRESSE MÉDICALE.

May 10, 1911.

1. The Domain of Psychiatry, By Ballet.

May 13, 1911.

2. New Statistics of Cancer, By Bertillon.
3. Traumatism and Tuberculosis, By Ribera y Sans.

1. **Domain of Psychiatry.**—Ballet says that this science must not be separated from neurology; it is useful not only in the treatment of the insane, but in all cases of heredity and emotion, and in the disorders of nutrition, intoxications, and infections which are connected therewith.

2. **Cancer.**—Bertillon offers a study of the occurrence of cancer throughout France and in some foreign countries, and points out its comparative frequency in certain localities. In thirty-five years, in both Amsterdam and Paris, there was an increase in cancer of the digestive organs only. Cancer is rare among the Jews of Algiers and of Amsterdam. The writer asks why.

3. **Traumatism and Tuberculosis.**—Ribera y Sans recalls the undoubted connection between these phenomena. In his opinion, a strumous subject has a series of tuberculous bacilli in his ganglia; these bacilli affect bone marrow. Thence they pass into the bony tissue where they remain inactive as long as circulation and vitality are normal. Traumatism modifies these normal conditions, the local defenses are broken down, the bacilli become active, osseous lesions are produced, and, finally, the white swelling appears.

SEMAINE MÉDICALE

May 17, 1911.

Diagnostic and Therapeutic Value of the Knee Chest Position, By Cheinisse.

Knee Chest Position.—Cheinisse states that this posture, called by Tarnier the Mohammedan prayer posture, is valuable not only in gynæcological diagnosis, but in the diagnosis of other diseases. Cheinisse has found patients instinctively assuming the position when suffering from duodenal ulcer, pericarditis with great effusion, and spasmodic contraction of the duodenum; it is fair, therefore, to conclude that the posture may be prescribed with good results in such conditions. Probably, also, it will be found to give relief in floating kidney, ptoses, and other dislocations of internal viscera. It has given sudden relief more than once in biliary colic.

MEDIZINISCHE KLINIK

May 14, 1911.

1. The Theoretical and Practical Importance of the Electrocardiogram, By H. Winterberg.
2. Physiological Action of Carbonic Acid Baths, By Goldscheider
3. Spontaneous Recovery in Perityphlitis, By Ernst Ruge.
4. Salvarsan Treatment in Pregnant and Lying In Women, By E. Langes.
5. Foerster's Operation in Tabetic Gastric Crises, By Johannes Becker.
6. Therapeutic Use of Normal Serum of Pregnancy, By A. Mayer.

7. Treatment of Bronchial Asthma and Asthmatic Conditions by Vibratory Massage, By Wolfgang Siegel.
8. Note to My Article: Concerning the Use of Salvarsan in Two Cases of Variola Vera in No. 18 of This Journal, By R. Lenzmann.
9. The Condition of the Urine in Persons with Carcinoma, By Gross and Reh.

2. Physiological Action of Carbonic Acid Baths.—Goldscheider says that it is well known that carbonic acid gas produces a very intensive sensation of heat. This can be weakened by lowering the temperature of the water, but cannot be destroyed even by very low temperatures. The great sensation of heat obtained on the scrotum is to be ascribed to the sensitiveness of the nerves involved, as is shown by the fact that it is associated with a prickly sensation.

4. Salvarsan in Pregnancy.—Langes concludes that salvarsan may be used in pregnancy without injury and with good results. The intravenous administration seems to him the best method. It should be given as early as possible in pregnancy, for then the prognosis for the health of the child is very good. If treatment with salvarsan is not instituted during pregnancy it should be immediately after the delivery. By the treatment of the mother the syphilis of the child at her breast is favorably influenced. All children of such a mother, whether they show signs of syphilis or not, should be nursed by her. Colles's law seems to him to be erroneous.

DUBLIN JOURNAL OF MEDICAL SCIENCES.

May, 1911.

1. Cheyne-Stokes' Breathing, By James Little.
2. Tetany; with an Illustrative Case, By C. W. Chester Myles.
3. Diabetes and Pancreatic Secretion, By Roelof Adriaan Albertlin.

EDINBURGH MEDICAL JOURNAL.

May, 1911.

1. Retrograde Venous Embolism as a Cause of Acute Gastric and Duodenal Ulcer, By D. P. D. Wilkie.
2. Some Interesting Cases of Tropical Diseases Seen in Edinburgh during 1910, By D. G. Marshall.
3. Outbreak of Typhus Fever in the City of Carlisle, By Joseph Beard.
4. Heredity as a Causative Factor in Disease, By G. M. C. Smith.
5. "Ergotherapy" in Neurasthenia, By Arthur J. Brock.

1. Retrograde Venous Embolism.—Wilkie, from the results of his experiments, draws certain conclusions: Thrombosis of veins of the omentum is readily produced by mechanical, thermal, and bacterial agencies. From thrombosed omental veins emboli may frequently separate, probably owing to the periodical vasodilatation and contraction associated with the ingestion of food. Emboli from veins in the omentum may, under certain circumstances, be carried up gastric veins and become impacted in the venous plexus of the submucous coat of the stomach, and determine a gastric ulcer. Beyond this it is impossible to go at present, but these experimental results prompt certain suggestions in regard to the ætiology of gastric and duodenal ulcers in the human subject which can only be decided by prolonged and extensive clinical investigation. These suggestions are: That the hæmatemesis sometimes met with in cases of acute appendicitis is due to an acute gastric ulcer resulting from blockage of a gastric vein by a septic embolus from a thrombosed omental vein. That on similar lines the omental vessels may form the connecting link in the association of chronic gastric or duodenal ulcer with an inflammatory process in the lower abdomen. One might even go further and suggest that the relatively greater frequency of duodenal ulcer in the male is directly associated with his greater liability to appendicular trouble and consequent involvement of the right border of the omentum, while the relatively greater frequency of ulceration of the body of the stomach in the female is associated with her exposure to pelvic inflammatory trouble which may occur on either side and may involve any portion of the omentum. The ulcers which were produced experimentally were of the acute type, and they tended to heal up readily, for the animals used were healthy and lacked the very important factors which appear to determine the chronicity of gastric ulcers in the human subject, namely, the general irritability of the gastric mucosa and the altered secretory function of the gastric glands. The occurrence of embolism of veins in the pancreas, followed by hæmorrhages into the pancreatic tissue, after the injection of artificial emboli into omental veins, suggests the possibility of portal embolism playing a part in the ætiology of some cases of acute pancreatitis.

3. Typhus Fever.—Beard says that the ætiology of typhus fever is still unsettled, and the source of infection of its first case or cases of an epidemic is usually impossible to trace. Bacilli, micrococci, and protozoa have been described in connection with the disease, still the infective agent remains unidentified, and it is therefore not improbable that the pathogenic organism may be ultramicroscopic. In addition to the presence of the infecting agent the prevalence of the disease would appear to be dependent upon social squalor, poverty, overcrowding, filth, and also want of ventilation, the improvement of which has been accompanied by a correspondingly important decrease of the disease in communities among whose members it formerly exacted its heaviest tolls. Therefore, besides remedying defective and insanitary conditions and social submersion we must take such measures as will insure: 1. The avoidance of exhalations and excretions from the bodies of persons ill or dying from suspicious disease, as well as where the diagnosis of the disease is established; 2, a knowledge of the possibility of infection by vermin which may desert the body either during life or after death; 3, the impossibility of clothing and bedding harboring living vermin after being in contact with an infected person; 4, that contacts should be regarded as potential sufferers and therefore carriers; 5, that the public may be educated to the knowledge that the atmosphere of an apartment occupied by the sick person, when vitiated, may possibly determine the disease in others occupying it; 6, the knowledge that in some individuals, especially children, the disease may be met with in a very mild form.

GLASGOW MEDICAL JOURNAL.

May, 1911

1. Acute Pneumonia: Its Prognosis and Treatment, By G. A. Gibson.
2. Enucleation of the Tonsil for Chronic Disease, By W. S. Syme.
3. The X Rays in Treatment, By James R. Riddell.

1. **Pneumonia.**—Gibson states that there is really no one routine method of treatment for this disease. Each individual case must be carefully studied, and must be managed in accordance with the conditions which it presents. The employment of external applications in acute pneumonia does not, as a general rule, commend itself to us in modern times. It must be admitted, however, that when there is pain, due to any pleurisy accompanying acute pneumonia, external applications of heat are extremely soothing. It is better, under such circumstances, to employ small poultices, and change them frequently, than to envelop the patient in an extensive application. In certain cases of early acute pneumonia, in strong, robust individuals, the employment of cold, either in the form of the icebag or the cold water coil, will be found decidedly beneficial; and, lastly, when there is a high degree of pyrexia (and, still more, hyperpyrexia), the use of sponging and the wet pack—and even the cold bath—may be absolutely necessary. But above all present systems of treatment now in our hands, the best is vaccination. A good many years ago, some of the pneumonic patients under his care were treated by the administration of the defibrinated blood of patients who had just recovered from acute pneumonia, obtained with the most careful aseptic precautions. This method was adopted in accordance with the belief that the blood must contain some substance antagonistic to the organisms or toxines of the disease. As might have been expected, but little could be made out in the way of definite effect, as the method employed was eminently crude. In recent years, various sera, containing vaccines of dead pneumococci, have been employed. They undoubtedly produce considerable benefit in acute pneumonia; but they are far more efficacious in instances of unresolved pneumonia and in various pneumococcal infections of other parts of the body than in acute pneumonia itself. The influence of such stock sera is by no means equal to the effects of vaccines made from the patient's own microorganisms. But the trouble is that, in a very large number of cases, the disease is so severe and the course so rapid, that there is scarcely time to obtain a vaccine. So far as the facts at present obtained are able to guide us, we must conclude that in vaccination lies the chief hope for reducing the mortality of pneumonia in the future. In cases where there is severe toxæmia and great leucocytosis, much may be done by the employment of quinine. In several instances of this kind—in which the patients had even reached a stage of profound coma, with complete relaxation of the sphincters, and every evidence of imminent danger—the hypodermic use of quinine has produced the most remarkable effects. The best preparation for this purpose is the acid hydrochloride, which is extremely soluble, and which may be administered hypodermically in doses of two grains every two hours, or every hour. This method has produced the most gratifying results in his practice.

PRACTITIONER.

May, 1911.

1. On Mediastinal Growths, By Sir Richard Douglas Powell.
2. Some Anomalous and Obscure Symptoms Associated with Movable Kidney, By W. Bruce Clarke.
3. Plague in Northern China, By W. J. Simpson.
4. Appendicitis, By E. Stanmore Bishop.
5. A Review of Some Methods of Gastrostomy, By Edred M. Corner.
6. Acute Pyelitis, Pyelonephritis, Suppurative Nephritis, By J. W. Thomson Walker.
7. The Mode of Production of Apparent or Simulated Doubling of the Second Sound of the Heart, By E. H. Colbeck.
8. Œdema Occurring in the Course of Disease of the Gastrointestinal Tract in Infants, By Hugh T. Ashby.
9. Some Observations on the Use of Guipsine as an Apressor Remedy in Cases of High Arterial Blood Pressure, By O. K. Williamson.
10. Modern Views on the Causation and Treatment of Mucous Colitis, By Francis Hernaman-Johnson.
11. Some Points in the Diagnosis of Scarlet Fever, By A. Knyvett Gordon.
12. Some Practical Points in the Diagnosis and Treatment of Acute Suppuration in the Frontal, Maxillary, and Anterior Ethmoidal Sinuses, By J. Arnold Jones.
13. A Case of Retained Menses, By Ingham Cowen.
14. The Fluoroscopic Diagnosis of Direction by a Plane Mirror upon the Screen, By William Cotton.

1. **Mediastinal Growths.**—Sir Richard Powell, in speaking of the treatment of mediastinal growths, remarks that we can do something in palliation. One point to consider in a great many of these cases is what to do with the effusion. If we recognize that an effusion is a consequence of growth—as we commonly do with the first tapping, for instance—we will postpone a later tapping as long as we can, consistently without aggravating the distress of the patient. Undoubtedly, the pressure of a fluid effusion somewhat retards the activity of malignant growth. In the same view, when tapping such a case, we would not exhaust the pleura, but only draw off that amount of fluid which would give relief, because, if we produce a negative pressure in the chest, we would be liable to induce some hæmorrhage, or at all events we would aspirate the blood toward the growth and increase the rapidity of its formation. For the dyspnœa in these cases we may use oxygen inhalations. In such a case one would only use oxygen from time to time, in so far as it might relieve suffering. The pain in these cases, which is generally considerable in the earlier stages, can be relieved by the use of morphine. In a later stage it is distress and dyspnœa from which these people suffer rather than pain. There is one combination of drugs which he has found useful in these cases, especially in the early stage, namely, a combination of sodium iodide and chloral. Two or three grains of sodium iodide and five or seven grains of chloral, given every three, four, or six hours, undoubtedly do give relief to the dyspnœa. Possibly, the iodide has some effect in causing absorption, not of the tumor, but of the adventitious materials about the tumor, while the chloral is a valuable sedative and antispasmodic.

We must also take means to procure sleep for the patient, if necessary, by chloral or opium.

3. **Plague in Northern China.**—Simpson observes that the safety of Europe from plague will depend more on a superior and intelligent sanitary organization than on anything else. The delusion now entertained that plague is an Asiatic disease, and that Europeans are immune because it has not spread among them when introduced, should not be allowed to prevent timely preparation to meet the extension from east to west. How the influenzal type may arise is still unknown. Crowding together favors its spread once it has arisen, and open air treatment favors its amelioration and disappearance; but crowding *per se* can hardly be considered an important factor in its production, or the percentage of pneumonic plague in India and Southern China would have been higher. Nor can the origin of the pneumonic type be attributed to extreme cold, though the season of its spread is usually winter and spring. But it can spread in hot weather as well as cold. The climate on the Gold Coast, where pneumonic plague played such an important part in the epidemic of 1908, is equatorial in its character. Most of the medical men who have become infected in laboratories have suffered from the pneumonic type, possibly due to dealing with small animals whose lungs were pneumonic. One's personal experience is that the first pneumonic cases have usually been associated with an exceptional number of dead rats in the house, but this may have been merely a coincidence. There are, of course, the cases of secondary plague pneumonia arising from ordinary bubonic cases, and it may be that these are the main source of the small percentage of pneumonic cases, but they are, as a rule, on a different footing from what one may term the influenzal type. In the latter there appears no tendency, or if there is a tendency it is very small, to revert to the bubonic or septichæmic form. Further, the staggering gait and symptoms which are characteristic of the bubonic form may be absent altogether. The individual may not appear to be very ill, in fact he may say he is well, and yet in a few hours he may be dead, and while alive he is infective. It is in the existence of these undefined symptoms and generally unrecognized cases that the great opportunity is afforded for the spread of the disease.

5. **Gastrostomy.**— Corner favors Depage's method of gastrostomy, which consists of reflecting a rectangular flap of the anterior wall of the stomach, leaving it attached near the cardiac end of the stomach. The flap should be between half an inch and an inch wide, and about three inches long, if possible, the edges being then united by a continuous suture, so as to convert the flap into a tube. The edges of the wound in the stomach are then united by a continuous suture, which is reinforced by a further row of sutures uniting the muscular and peritoneal coats, at the same time burying the previous layer of sutures. A rubber catheter is then passed through this gastric tube into the stomach and secured in position by a ligature. The gastric tube is fixed to the posterior rectus sheath by some of the stitches which close the peritonæum. It is again secured to the anterior rectus sheath at its upper end by some of the stitches which unite it. It is again stitched to the upper angle of the wound in the skin. By these means it is fixed. The patient can be fed at once, provided the surgeon has the courage to rely on his suturing. Otherwise the case must be treated as gastroenterostomy. Corner emphasizes the following points: The success of the operation is almost entirely dependent on perfect union of the suturing used to make the gastrostomy tube. The edges of the mucous membrane of the stomach, after the flap has been raised, must be cut away and trimmed, otherwise the mucous membrane will bulge between the stitches, spoiling its neatness and seriously prejudicing union by first intention. Where the flap joins the stomach is a place where accurate suturing of the edges must be done most carefully, it being a place most liable to leak. Should it leak, it infects the gastrostomy wound from the top to the bottom, in some cases separating the edges of the flap where sutured to form a tube, leading to conversion of the tube to a flap or a scroll; destroying the operation and converting it into the historical method of Howse with its attendant disadvantages, the stomach communicating directly with the exterior and leaking in accordance. At the apex of the tube where the catheter is inserted the mucous membrane is prone to bulge. Hence, in this situation, healing is liable to be imperfect, the edges of the tube to become separated, opening out the tube to form a flap, and, perhaps, destroying the whole success of the operation.

Proceedings of Societies.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Special Queens Borough Meeting, Held at Long Island City, April 3, 1911.

Dr. Neil O. Fitch in the Chair.

Some Observations on Salvarsan ("606").—In this paper Dr. Edward L. Keyes, Jr., said that as the result of more extended observations, there had begun to appear, during the present year, reports concerning salvarsan which were of a very different character from the early ones. Relief of symptoms proved in the hands of many men to be but incomplete in quite a large proportion of cases, or, if the symptoms were entirely relieved, they soon returned. The influence of the drug upon the Wassermann reaction was found to be very unsatisfactory. In only about fifty per cent. of cases did this become negative, and when these patients were watched for eight or ten weeks after the injection ten per cent. or more of those whose reaction had become negative again showed a positive reaction; this return to the positive corresponded, in many instances, with a relapse of symptoms. At the same time, however, it had become gradually evident that the dangers to the nervous system from the drug had been exaggerated. Thus, in a number of cases salvarsan was administered to patients suffering from a commencing optic atrophy and other lesions of the nervous system without accentuating the symptoms, and in a few with apparent benefit.

Hence it followed that as yet we had only begun to test salvarsan. The wave of enthusiasm had come and gone, and the wave of reaction was now at its height. Deliberate judgment upon the many points in dispute was not yet possible. As to the effect upon the general condition, it was commonly conceded that, apart from the debilitating effect of the pain of injection, the drug had a markedly tonic action, but it had not yet been determined to what extent the improvement generally noted was attributable to the imagination of the patient, though the speaker was inclined to believe that this was principally due to the drug itself. On account of the rapid healing of chancres and disappearance of secondary lesions, salvarsan had been hailed in some quarters as the great sterilizer of syphilis, the remedy by which we might hope to cut short the infectious period of the disease to such an extent as to make marriage permissible within a few months. This suggestion seemed to him a most pernicious one, for personally he had seen cases in which infectious mouth lesions returned a few weeks after the injection of the drug, and similar instances had been reported by numerous other observers. It would appear, therefore, that no more reliance could be placed upon salvarsan for the permanent relief of these symptoms than upon mercury. It certainly had a marked curative effect on the early lesions, but it did not guarantee the patient against relapse. As to the effect upon tertiary lesions, in a patient with several old syphilitic ulcers, foul and sloughing, to whom Dr. Keyes gave an intramuscular injection of salvarsan, it was found that within two days the foul odor had disappeared and that in four weeks all the ulcers but two had healed, while these were reduced to about one sixth their original size. Here, however, the influence of the drug ceased. Although the Wassermann reaction had become negative, at the end of eight weeks, when the patient disappeared, the ulcers were no nearer complete cicatrization than they had been four weeks earlier. This case seemed to him quite characteristic of the brilliant but incomplete action of salvarsan. It did its work quickly, showing its maximum effect within three or four weeks, and if the lesions were then healed they were not likely to reappear; but if they were not healed by this time no further progress could be looked for. In paresis and tabes the drug appeared to have very little effect, even the pain in the latter being often uninfluenced.

In speaking of the evil effects of salvarsan he said that apart from the immediate reaction, local and general, the fact was not to be overlooked that in a number of instances acute syphilis had followed its injection. No fatal result, however, had, so far as he knew, been noted from this complication. Still, the possibilities of injury to the nervous system had not yet been determined. While it did not apparently affect the optic nerve, as was at first feared, permanent "nerve" deafness had been noted a number of times, and Alexander, of Berlin, and others considered this a grave danger. Rillé, who met with fourteen relapses in forty cases treated, had noted the following bad results in patients suffering from early syphilis, but otherwise apparently healthy: Deafness, facial paralysis, and choked disc in one case, bilateral optic neuritis and paralysis of the fourth, and seventh cranial nerves of one side in another; while a third patient became deaf. Only one of the three patients had recovered at the time of his report. Again, several instances of alarming collapse after the injection of salvarsan had been observed, and Ehrlich himself admitted one death from the drug.

Of the three methods of administration, the intravenous was the popular one, on account of its painlessness and the immediate results effected. Its disadvantages were the evanescence of its action and its dangerousness, since the full dose of the agent was injected directly into the circulating blood. It was also the most difficult to perform properly. The subcutaneous method was impracticable because it was so intolerably painful. The intramuscular injection was best borne if made into the erector spinæ muscles, at about the level of the top of the iliac crest. The salvarsan might be in alkaline solution, in neutral suspension, or suspended in some oily base. The last named, while the least brilliant in its effects, was also the least painful of the three. Indeed, it was the only form of intramuscular injection that any human being could be expected to undergo twice. Dr. Keyes said he preferred the oily suspension because it was the only form of injection which seemed free from danger, a circumstance doubtless due to the slow absorption of the salvarsan. At the present time the medical world might be said to be divided into three groups: 1, Those who, disgusted by the failure of the drug to maintain the high position which was claimed for it by its first promoters, refused to use it at all; 2, those who, influenced by its obvious efficacy in certain cases where mercury had failed, would employ it as an aid to mercurial treatment; 3, those whose confirmed optimism led them to hope for that assured success from two or more injections which they had failed to obtain from one.

In conclusion, Dr. Keyes said he had not been very strongly impressed in regard to the real benefit of the quick results observed from the use of salvarsan, and believed that the results from mercurial treatment compared favorably with those from this drug. To his mind the toxic effects of the latter afforded considerable ground for caution, and he thought we had not yet heard from all its dangers. Thus, if deafness resulted from a single dose, the consequences were likely to be more serious after more doses.

Dr. A. Ernest Gallant cited a case which he had referred to Dr. Howard Fox. The patient was a girl in the later stages of syphilis, who had contracted the disease in the Philippines four years before. She had a fluctuating mass situated at the junction of the clavicle with the sternum. Dr. Fox gave her an injection of salvarsan and followed the case up. In the mass there developed a pin point slough, which enlarged to the size of a silver dollar, and the opening then gradually closed. Dr. Gallant had taken from out this mass two small pieces of bone. A large lump also came in the lumbar region, and from this he removed a mass of sloughing tissue about two and a half by one and a half inches, and three quarters of an inch thick. He had not yet received the laboratory report in regard to the character of the latter.

Dr. Frank C. Raynor mentioned a case of tubercular syphilide of the lips and face in which the injection of salvarsan was followed by an apparently very brilliant result. Afterward, however, the patient had a complete relapse; so that he did not fare any better than when under the mixed treatment, which was always attended with improvement when he carried it out faithfully.

Dr. R. E. Van Gieson inquired of Dr. Keyes whether the dangers from salvarsan might not be avoided by giving at first but a small dose and then gradually increasing this until the maximum amount was reached.

Dr. Keyes said the question was extremely pertinent, but he did not feel qualified to answer it. Ehrlich had started out with the idea of getting some agent that would be destructive to protozoa, and as the result of his long and ingenious experiments had finally evolved his "606." His idea was to kill every spirochæta in the body, a matter requiring a very considerable dose of the remedy. Six decigrammes had been fixed upon as the standard dose, and it was said that this amount would destroy all the spirochætæ. It had been found, however, that such was not the case. Therefore, as it was asserted that unless the dose was sufficient to kill all of those the first time the remedy was of no value, the question arose: Shall we give a still larger dose, at the risk, perhaps, of endangering our patients' lives, or shall we give a number of small doses? So far as he knew, the only man who had adopted the latter plan was Lesser, of Berlin, who gave at the same time a course of mercurial injections. The problem was one yet to be worked out. In reply to a question by Dr. Gallant as to the similarity of the action of salvarsan in syphilis with that of quinine in malarial fever, Dr. Keyes said that while in malarial fever a large number of protozoa were to be found in the circulation, in syphilis there was only a small number at any one time. Moreover, the spirochæta did not appear to have a life cycle such as that of the malarial plasmodium.

The Diagnosis and Treatment of Œsophageal Obstruction.—Dr. Edward W. Peterson, having first spoken of the classification of this condition, said that the diagnosis was easy. In every case of organic obstruction there were three constant symptoms, though these naturally varied in degree in different instances, namely, increasing dysphagia, persistent regurgitation, and progressive inanition. The first became finally so great that even liquids were swallowed with difficulty. Whether the regurgitation of food was immediate or not would depend largely on the tolerance of the œsophagus above the point of obstruction, while inanition was due to the inability to take sufficient nourishment for the needs of the economy. In a patient with these symptoms it was a simple matter to determine, by means of bougies, the x ray, and the œsophagoscope, the presence, the location, and frequently the exact nature of the occlusion. In the attempt to pass a bougie the greatest caution and gentleness should be observed, as it was very easy to penetrate the wall of the gullet; and repeated examinations were often required. The x ray was of great service. By administering a thick bismuth paste and placing the patient before the fluoroscopic screen one could obtain accurate knowledge of the location of the stenosis and of the calibre and course of the œsophagus above. This agent was invaluable in locating foreign bodies. In selected cases the œsophagoscope should be employed. Its introduction was not unattended with danger, but by means of it, in expert hands, it was possible to obtain an exact picture of the œsophagus and to determine the presence of a new growth, ulceration, cicatrization, spasm, extraœsophageal pressure, etc., as well as to remove tissue for examination and to perform many operations under the direct guidance of the eye. Before making the routine physical examination it was well to secure a careful history of the case, to assist in making a distinctive diagnosis. Thus, the gradual development of symptoms without cachexia pointed to cicatricial stenosis; intermittent stenosis, in a neurotic subject, would suggest cardiospasm or spasmodic stricture, and a spontaneous onset, in a patient past middle life, with rapidly increasing cachexia out of proportion to the degree of stenosis, would indicate malignancy.

The anatomy, structure, and surgical relations of the œsophagus were described, after which the speaker stated that the treatment of cicatricial stenosis was usually difficult and always protracted. The treatment recommended in cases in which the cicatrization was not extensive and the stricture yielding was the systematic passage of ordinary flexible bougies and the hollow guide bougie. Previous strictures not yielding readily to the divulsion methods should be treated by internal œsophagotomy, which was best accomplished by the Dunham string œsophogatome. The guide bougie was passed through the stricture, and an olive larger than the stricture engaged, after which, by the sawing movement, the string chafed through the stricture without danger of hæmorrhage. This procedure was to be repeated at intervals of a few days. In cases where the introduction of an instrument was impossible it was possible, if the patient could swallow water, to wash a thread through the stricture into the stomach. This having been accomplished, by means of an ordinary drinking tube, a thread, and a glass of water, a temporary gastrotomy was performed, and the thread drawn out through the incision. A double linen fish line was attached to the thread and drawn up through the œsophagus into the mouth, and with one of these lines wire spindle bougies were drawn up, beginning with the smallest size, until a spindle was arrested. The wire was made taut, thus putting the stricture on the stretch, and the other fish line was then pulled to and fro until the stricture was chafed through and the spindle allowed to pass up into the mouth. The string should be left in place, and the procedure repeated at intervals until sufficient dilatation had been secured. The string was then removed and the gastrostomy wound allowed to heal spontaneously.

In connection with the paper Dr. Peterson presented a patient who had been cured by this method of a very bad cicatricial stricture produced by swallowing fuming nitric acid, which was taken by mistake.

Having stated that in impermeable strictures, where all attempts at divulsion had proved unsuccessful, a permanent valvular gastrostomy should be

established, he called attention to the following special points: 1. Forcible introduction of bougies, rapid instrumental divulsion, internal œsophagotomy with sharp, cutting instruments, etc., are positively dangerous, and should not be employed. 2. Before attempting any dilatation of an œsophageal stricture a guide bougie or string guide should be passed. 3. The treatment did not end with the operation. Strictures were prone to relapse; therefore, vigilant supervision should be maintained in each case until such tendency had disappeared.

In speaking of the removal of foreign bodies he said the old fashioned probang and coin catcher was rather a dangerous instrument, but with proper care it could be manipulated successfully. He had adopted the plan of first getting a radiograph and then proceeding according to circumstances. In one instance in which an opened safety pin was lodged in the gullet he had succeeded in getting it closed by means of a tonsil snare; after which its removal was simple. Diverticula of the œsophagus, he said, should, as a rule, be operated on in order to prevent the starvation of the patient. Moreover, if allowed to remain they sometimes underwent malignant degeneration, and he cited a case in which epithelioma developed in the pouch. He then described his plan of procedure, and presented two of these pouches which he had removed. One of them had a capacity of about an ounce and the other of four ounces. Malignant tumors of the œsophagus, he went on to say, were the most nearly benign of any cancerous growths in the body; yet no sucecssful removal of an œsophageal tumor of this kind was on record. He felt convinced, however, that, with the advantages of positive and negative air pressure now at command, it would not be long before such growths could be operated on successfully.

Cases in which foreign bodies were removed from the œsophagus by means of the coin catcher were related by Dr. Lewis M. Silver and Walter G. Frey. In Dr. Silver's case, that of an infant, an x ray picture showed a penny lodged in the upper part of the tube.

Tuberculosis of the Spine.—Dr. Irving D. Steinhardt read an elaborate paper on this subject. The best results in this disease, he said, were attained when the diagnosis was made early, and the proper treatment at once instituted. In bone and joint tuberculosis the spine was first in frequency, and at a single large hospital in New York over 4,300 cases of Pott's disease had been treated in a period of twenty years. The dorsal division of the spine was most often affected; next came the lumbar portion, and then the cervical. In order to secure an early diagnosis it was advisable that the physician should get as complete a history as possible in the case of every patient presented to him and should also make a thorough examination of the patient. In this disease it should be the aim to make the proper diagnosis before deformity appeared, and thus be in the best position to prevent its occurrence. One should remember that the onset is insidious and that the disease is slowly progressive and chronic, though with acute exacerbations. Among the subjective symptoms, naturally, was pain. This was not, as a rule, constant, but brought on by missteps or sudden jars, and as it was often referred to various soft parts of the body, it was apt to be misleading. The location of the referred pain would depend upon the seat of the disease in the spine. Other symptoms described were, spinal tenderness, rigidity and weakness, night cries, stiff and awkward gait, avoidance of any spinal movement, and characteristic posture and other special signs dependent upon the location of the disease. Of course, when the distinctive knuckle, with its peculiar sharp angle, had made its appearance the diagnosis was simple.

In the distinctive diagnosis the following conditions were to be considered: Rotary lateral curvature of the spine, rachitis, typhoid, spine, anterior poliomyelitis, diphtheritic paralysis, torticollis, acute rheumatism, retropharyngeal abscess, pseudohypertrophic muscular dystrophy, hip disease, lumbago, sciatica, double congenital dislocation of the hips, spondylitis deformans, sacroiliac disease, syphilis, gonorrhœal infection, malignant disease, and injury. Rotary lateral curvature was a purely mechanical condition, unaccompanied by spinal tenderness or stiffness, and the other signs of Pott's disease. In rickets the spinal deformity was not constant and the mobility of the spine was unchanged, while the characteristic rachitic signs established the diagnosis. In anterior poliomyelitis we had the sudden onset, the actual paralysis, instead of merely muscular spasm, and change of electrical action. In torticollis of various kinds the onset was also sudden, and the condition usually followed exposure to draughts and was accompanied by some disorder of the upper respiratory tract, though it might be found in connection with glandular infection. It is well to remember that retropharyngeal abscess might be a manifestation of the cervical variety of spinal tuberculosis, but in simple retropharyngeal abscess we had previous catarrhal symptoms, with a sudden onset of obstructive breathing.

The prognosis as a life was in most instances fair. Cases diagnosticated early and patients put under proper treatment would under ordinary circumstances do well, provided the patient's vital resistance were not too much impaired. Abscess and paralysis were the two main complications to be guarded against. Abscesses were particularly dangerous, and in certain locations were liable to result fatally. The condition of actual hunchback was now a very rare one, and this was due to a better understanding of the disease and improved methods of treatment.

The patient should be placed under the most favorable hygienic conditions possible and should be given a highly nutritious diet. Nature might be further aided by tonic medication and the administration of bone salts, and Dr. Steinhardt had been favorably impressed by the action of tuberculin in these cases. The mechanical treatment, as was well known, consisted in immobolizing the spinal column in a position of complete extension. For this purpose, in the great majority of instances, the plaster of Paris jacket was preferable to a brace in the early part of the disease, as this rendered home interference impossible. Braces might be used in the convalescent stage. For very young children the Bradford frame was the best apparatus. In this the patient remained constantly, both day and night, being removed only for bathing. None of these patients

were ever allowed to stand erect without their plaster jackets or braces. The Galot jacket was now employed in the treatment of certain upper dorsal and cervical cases, replacing the jacket and brace with jury mast attachments. It was simply a plaster jacket which takes in the cervical spine and part of the caput.

Letters to the Editor.

MEDICAL ONOMATOLOGY.

NEW YORK, *May 31, 1911.*

To the Editor:

Permit me to express my pleasure and my great satisfaction that the onomatology question has been taken up seriously in the issue for May 27th of your esteemed journal. The article of Dr. Schaefer, Why Are We Opposing Reform in Medical Nomenclature?, gives food for thought to every one who has science at heart and high respect for our profession. It differs somewhat from the monotonous laudations of the presidential orations which we are accustomed to hear. I think it means an event in the history of medicine, especially since also an equally important publication from one of our most distinguished German colleagues, which is in press now, will animate the whole medical world and the world of science in general to consider reform of medical nomenclature. There is no exaggeration possible in speaking of the necessity of such reform and the benefit to science, the elevation of the profession which will be derived from it.

I, personally, do not deserve all the praise which my modest labors are receiving now, but I accept thankfully all, as being due solely to the great and noble cause to which I have devoted myself, and I am proud to have been called a Herald in the Fight.

I am more at ease to add, with your permission, a few words to your editorial, Medical Onomatology, in the same issue of your journal

You say that there is nothing holy about the os sacrum, but that the Jews, who called it *Luz*, had a veneration for it. But why refer to the Jews while a Christian explanation is much nearer at hand? The German name for os sacrum is *Kreuzbein*, because it has the form of a cross. The region of this bone is called *Kreuz*, and pains in that region are called *Kreuzschmerzen*. As to the term acne I beg to refer you to my book, *Medical Greek*, page 151, "Acne is a word which does not exist in any language, . . . the Greeks call that particular affection acmai."

What you say about conjunctivitis is somewhat humiliating to me; it shows that you have not read my book just quoted; on pages 211 to 220 you will find in a chapter on Berolinitis, a controversy which I had with the great medicophilologist, Professor J. Hirschberg, of Berlin, the author of a well known ophthalmological dictionary, to whom I furnished conclusive evidence that there exists and has existed in classical Greek already an undisputably correct Greek term epipsphycitis. Conjunctivitis, you say, is at least excusable in view of the fact that no acceptable equivalent is derivable from the Greek. After you have read the chapter Berolinitis, which furnishes quite some proof of the pains I have taken to establish the truth, you will agree with me that there exists no excuse for the term conjunctivitis. I beg to differ with you also about the meaning of the suffix *itis*. I have written a great deal on this subject, have quoted a great many Greek, German, and American writers who distinctly say *itis* is not affixed to mean inflammation, although it can under certain circumstances mean inflammation (*Medical Greek*, pages 202 to 203).

Your fear that efforts to disturb our onomatology, however faulty it may be, are doomed to failure is unfounded. Reading the medical journals, the catalogue of the Surgeon General's Library, you cannot help noticing that there is a strong tendency toward reform, and most of all, the two papers in your own journal of Dr. Schaefer and Dr. Pfender mean ἐξημερώσει!

A. ROSE.

[We yield to none in our admiration of the philological attainments of Dr. Rose, but he fails to convince us that our medical nomenclature will suffer any early change; a striking example is found in the word appendicitis, which forced itself by some engaging qualities into the most conservative British medical journals, which at first would have none of it. Where we have a word for an organ, it will certainly be used as a stem upon which to affix *itis* when it is required to denote inflammation of that organ; vaginitis, e. g., will persist as long as vagina and will not be ousted by colpitis until colpos becomes the popular medical term for vagina—never, probably. As to the suffix *itis* itself, no periphrasis will ever replace it. We are still convinced that acné is excellent French. We gave the history of *Luz* as antedating and, probably, acting as a basis for the Christian German tradition.—EDITOR.]

HODGKIN'S DISEASE AND PSEUDOLEUCHÆMIA.

NEW YORK, *May* [illegible]

To the Editor:

The impression seems to be prevalent that Hodgkin's disease and pseudoleuchæmia are identical, since the terms are often employed interchangeably by medical writers. For example, in America such observant students of Hodgkin's disease as Longcope and Reed have fallen into the error repeatedly, while in an editorial in the *Journal* for May 20th (page 994), the titles in question are used synonymously. On page 972 of the same number of the *Journal*, however, the statement occurs in an article on Certain Lesions of the Lymph Nodes, that ". . . pseudoleuchæmia is to be distinguished from Hodgkin's disease, since the latter is associated with histological changes which render its recognition practicable in almost any circumstance." (Symmers.)

In this connection permit me again to point out that pseudoleuchæmia and Hodgkin's disease are entirely different lesions, although sometimes resembling one another in their clinical aspects. Pseudoleuchæmia was described by Cohnheim as a lesion presenting the essential anatomical changes

of chronic lymphatic leuchæmia (lymphomatosis), but without changes in the blood. On the other hand, innumerable investigators have shown that Hodgkin's disease is histologically separable not only from pseudoleuchæmia but from the several other conditions with which it was previously confused. Thus, in contradistinction to the simple lymphomatosis of pseudoleuchæmia, Hodgkin's disease is characterized, histologically, by overgrowth of interstitial connective tissue, by proliferation of endothelial cells and the formation of multinucleated giant cells, by the occurrence of variable numbers of lymphoid and plasma cells and eosinophiles, and, finally, by areas of necrosis—a composite picture sufficiently unlike that of any other known lesion to render its recognition relatively simple.

DOUGLAS SYMMERS, M. D.

[If we erred in considering Hodgkin's disease to be identical with pseudoleuchœmia, we erred in good company. Tyson, Osler, and French, in their works on practice, McFarland and Adami, in their pathologies, Foster, Dorland, Gould, and the latest authority, Steadman, in their dictionaries, and, finally, the Index-Catalogue of the Library of the Surgeon General's Office, give pseudoleuchæmia as a synonym of Hodgkin's disease.—EDITOR.]

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Hygiene and Public Health. By LOUIS C. PARKES, M. D., D. P. H., Univ. of London, Consulting Sanitary Adviser to H. M. Office of Works; Civilian Sanitary Member of the Advisory Board for Army Medical Services, etc., and HENRY R. KENWOOD, M. B., F. R. S. Edin., D. P. H. Lond., Chadwick Professor of Hygiene in the University of London, etc. Fourth Edition, with Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xi-691. (Price, $3.50.)

This book contains a large amount of useful information, and gives a clear and simple account of the principles of public hygiene. It is therefore just the book for those about to take up public health work, and for medical students. The reviewer would criticise the discussions concerning the transmission of infectious diseases. Too much emphasis is laid, in his opinion, on fomites, and too little on more direct modes of transmission. There is no mention of transmission by common drinking cups, and the diagnosis of rabies by means of Negri bodies has been omitted. That in "all forms of purulent ophthalmia a pyogenic microorganism—the *Staphylococcus pyogenes aureus or albus*—is usually the active cause of the disease" is certainly incorrect, as it leaves out the gonococcus. Koch's views on the transmissibility of bovine tuberculosis are misrepresented. There is no doubt that human *pulmonary* tuberculosis is almost invariably due to the human type of bacillus. The following statement is open to question: "The evacuations of cholera, like those of enteric fever, are probably not possessed of any high degree of infectiveness at the moment of discharge. The virus requires to grow in contact with air before its higher powers of infectiveness can be developed." The discussion of the chemical and bacteriological examination of water is too meager to give a correct conception of this important subject. The value of a sanitary survey in connection with laboratory examinations is not brought out, nor is the interpretation of the laboratory findings discussed with relation to the class of water one is dealing with. When compared with the rest of the book, however, these are all minor faults, and we have no hesitancy in saying that a perusal of the work will prove interesting to physicians and health officers.

Die Aetiologie der Beriberi und die Stellung dieser Krankheit im nosologischen System. Von Dr. MAX GLOGNER, Regierungsarzt a.D. in Niederländisch-Indien. Leipzig: Johann Ambrosius Barth, 1910. Pp. 77.

Die Aetiologie der Beriberi unter Berücksichtigung des gesamten Phosphorstoffwechsels. Von Dr. H. SCHAUMANN. (Aus dem Institut für Schiffs- und Tropenkrankheiten in Hamburg. Direktor: Prof. Dr. Nocht.) Mit 41 Abbildungen im Text und auf 12 Tafeln. Leipzig: Johann Ambrosius Barth, 1910. Pp. 397.

Dr. Max Glogner, who was formerly government physician in the Dutch Indies, demonstrates in his little pamphlet that beriberi is no disease *sui generis* and has, therefore, no specific cause. He thus is opposed to the two theories which are at present prevalent, that is, the theory of a specific disease with a specific cause, and the other, a complex of diseases with a complex of causes. The author comes to the conclusion that beriberi belongs, anatomically, clinically, and ætiologically, to neuritis peripherica, so well known in America and Europe, and states that the peculiarities which have given beriberi the character of a specific disease do not belong to beriberi but are the results of other diseases.

Dr. H. Schaumann comes to the conclusion that beriberi is a disease of metabolism which attacks the general circulation through lack of organic phosphorus combination. This deficiency is caused, in the majority of cases, by the assimilation of material which does not contain the necessary amount of organic phosphorus combinations. In the minor number of cases it is caused by the inability of the human body to absorb the phosphorus combinations which have been introduced into the body in a quantity which would entirely suffice for its wants. In this case the reason for the impossibility of resorption can be found in the intestinal tract, where microorganisms or their toxines inhibit the normal action, or in the destruction of the organic phosphorus combinations in the chyme through microorganisms or their enzymes; both factors can act together.

[illegible] By JAMESON B. HURRY, M. A., M. D. (Cantab.), Ex-President, Reading Pathological Society. With Illustrations. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xiv-186. (Price, $2.)

The author has based this very interesting book upon the old maxim *qui bene diagnoscit bene medebitur*. The great secret of successful treatment is to be found in the logical conclusions to be drawn from the symptoms. The author explains the title of his book by stating that by vicious circle is meant "the morbid process in which two or more disorders

are so correlated that they act and react reciprocally on each other." He finds seven groups of such circles, which he exemplifies. He then takes up circles which are associated with the important systems of the body, all of which are caused by disease. The next chapter treats of artificial circles which are not caused by disease, but by such agents as alcohol, tea, tobacco, morphine and other drugs, restraint, etc. The three last chapters deal with the genesis and the breaking of the circle by treatment, whether this be by drugs, psychotherapy, operation, etc., and his conclusions.

Handbook of Diseases of the Eye. A Textbook for Students and Practitioners. By HARRY CALDWELL PARKER, M. D., Clinical Professor of Ophthalmology, Indiana University School of Medicine, Indianapolis, etc. Illustrated with 115 Text Engravings, a Half Tone Frontispiece and Five Full Page Chromolithographic Plates, with Twenty-six Figures. Philadelphia: F. A. Davis Company, 1910. Pp. xii-303.

Parker's book contains a good working sketch of the diseases of the eye and their treatment. More could hardly be expected in a work of this compass. Much saving of space has been effected by leaving out traditional views of merely theoretical import and laying stress on the results of recent practical investigations. Special chapters on the bacteriology and pathology of the eye, the relations of the globe and orbit to accessory sinus disease, and the eye in general disease, add to the value of the work. The illustrations are numerous and of a fair degree of excellence, artistic and mechanical.

Refraction and Motility of the Eye. With Chapters on Color Blindness and the Field of Vision. Designed for Students and Practitioners. By ELLICE M. ALGER, M. D., Adjunct Professor of Ophthalmology at the New York Postgraduate Medical School, Ophthalmologist to the New York Dispensary, etc. With One Hundred and Twenty-two Illustrations. Philadelphia: F. A. Davis Company, 1910. Pp. xi-380.

Alger's manual is a complete and readable guide for the estimation of ametropia and the correction of imbalance of the ocular muscles. The various objective and subjective methods of examination and the use of modern instruments of precision are described in clear and logical sequence. The preface is more than usually instructive and worth reading for its exposition of the problems of modern ophthalmology as applied, more especially, to eye strain and its influence on the growing organism. The subject is one which, as the author points out with emphasis, should interest the general practitioner and the pædiatrist as well as the ophthalmic surgeon. The field is an attractive one for the unscientific squatter, and education of the lay and professional mind is a prerequisite to clearing it for effectual and trained work.

Studies in the Psychology of Sex. Volume VI. Sex in Relation to Society. By HAVELOCK ELLIS. Philadelphia: F. A. Davis Company, 1911. Pp. xvi-656. (Price, $3.)

The sixth volume closes Havelock Ellis's great work, which on the appearance of the first volume became one of the leading textbooks on sexual psychology.

While in the previous five volumes the author has mostly dealt with the sexual impulse in relation to its object, he now speaks of the relationship of this impulse to third persons and the community at large. Like the other volumes, this one is the result of an immense amount of labor and industrious study. The author treats questions which others have avoided; the book is written in an absolutely scientific style and we hope will, therefore, not fall into the hands of a certain class of lay readers who would peruse it to satisfy a perverted appetite.

Our space does not permit us to go into detail, but we wish here to call attention to the treatment of the question of puericulture, which we find on page 18 *et seq.* Very clear also are the chapters on chastity and sexual abstinence. The question of prostitution, too, is one which should be well studied. How very little has been done in the conquest of venereal diseases is also plainly demonstrated. But these are only a few items which could easily be multiplied.

MEDICOLITERARY NOTES.

We have known Barry Pain for many years as an admirable writer of stories and as a humorist of a peculiarly subtle kind, and have often regretted that he was not better known in America. Mr. Pain has an excellent story in the June *Strand*, Burdon's Tomb, a production quite above the general level of popular magazine literature. In Mollie and the Editor, by E. R. Punshon, the young heroine has an idea that editors are old, bald, and crabbed, a most absurd idea, many editors being not so very old and merely bald or gray enough to confer a look of intellectuality on what would otherwise be too perfect features. A Follow My Leader Picture is a typical *Strand* article, embodying a sort of game by good artists similar to the parlor pastime of our youth, Consequences.

* * *

Bad Water *versus* Good Health, by Lewis Edwin Theiss, is an earnest effort in the June *Pearson's* to wake up the American people to the danger of drinking dirty water; our record in typhoid fever has never been equaled anywhere. With an approaching water famine to add to other dangers, New York had better be on its guard. We do not think there is any doubt that the carelessness concerning disease germs inculcated by the various so called new thought cults is responsible for much of the typhoid mortality. Then there is crass ignorance in many quarters; in many of the smaller villages of the United States it is impossible to get a serious hearing for advice on clean water. The attitude of the villager is one of either uncontrollable amusement or violent anger.

* * *

The hero of the tragedy in The Apaches of New York, by Alfred Henry Lewis, in the June *Pearson's*, was nicknamed Doc. We are glad to state that he was not a graduate in any university faculty, but was merely an unlicensed dentist, albeit of very great skill: according to his biographer, the fact that he was an outlaw endeared him to his clients, who were almost exclusively crooks of a low order. Doc was unfortunate enough to enter upon a *liaison* with a talented lady shoplifter which incurred the fatal enmity of another admirer. It is interesting to note the reappearance in various quarters of

proverbs that must be almost as old as the race. For example, we find *De mortuis nil nisi bonum* coming in this form from an acquaintance of Doc's: "When once a guy's been put to bed wit' a shovel, if youse can't speak well of him youse had better can gabbin' about him altogether."

* * *

The trousers or knickerbocker skirt is a sort of safe and sane modification of the harem skirt; it is an interesting coincidence that the drawings of this garment in the June *Ladies' Home Journal* are the work of a Mr. Musselman. The Right Reverend Arthur C. A. Hall, D. D., and Charles W. Eliot, LL. D., President Emeritus of Harvard University, write their approval of instruction of children in sexual matters by their parents as being superior to the present method, which consists solely in the distribution of obscene misinformation direct from child to child.

NEW PUBLICATIONS

Brickner, Walter M.—One Thousand Surgical Suggestions. Practical Brevities in Diagnosis and Treatment. Fourth American Edition. New York: Surgery Publishing Company, 1911. Pp. 227. (Price, $1.)

Shenton, Edward W. H.—Disease in Bone and Its Detection by the X Rays. With Illustrations. London: Macmillan & Co., 1911. Pp. xii-68. (Price, $1.60.)

Gilbert A. et Carnot, P.—Bibliothèque de thérapeutique. Médications générales par les Docteurs Ch. Bouchard, H. Roger, Sabouraud, Sabrazès, Pouchet, Balthazard, Langlois, Bergonié, Carnot, Marie et Clunet, Pinard, Apert, Maurel, Rauzier, Lépine, Albert Robin et Coyon, Chauffard, Widal, et Lemierre. Avec 42 figures dans le texte. Paris: J. B. Baillière et fils, 1911. Pp. xii-700.

Albu, A.—Sammlung zwangloser Abhandlungen aus dem Gebiete der Verdauungs- und Stoffwechsel- Krankheiten. Der gegenwärtige Stand der Pathologie und Therapie der Gallensteinkrankheit von Dr. Ludwig Arnsperger. III. Band, Heft 3. Halle a.S.: Carl Marhold, 1911. Pp. 79.

Mitchell, S. Weir.—John Sherwood, Ironmaster. New York: The Century Company, 1911. Pp. 316.

Murphy, John B.—General Surgery. Volume II of the 1911 Series of the Practical Medicine Series, under the General Editorial Charge of Gustavus P. Head, M. D., and Charles L. Mix, M. D. Chicago: The Year Book Publishing Company, 1911. Pp. 611. (Price, $2.)

Robin, Albert.—Thérapeutique du praticien. Deuxième série. Paris: Vigot frères, 1911. Pp. 531.

Transactions of the American Association of Genitourinary Surgeons. Twenty-third Annual Meeting held at the George Washington University, Washington, D. C., May 3, 4, and 5, 1910. Volume V. New York: Published for the Society by Frederick H. Hitchcock, 1911. Pp. 409.

The American Society of Tropical Medicine. Papers Read before This Society and Published under Its Auspices. Volume V, 1910.

Medical and Surgical Reports of St. Luke's Hospital, New York. Volume II, 1910. Pp. 253.

Transactions of the American Pædiatric Society. Twenty-second Session. Held at Washington, D. C., May 3, 4, and 5, 1910. Edited by Linnæus Edford La Fétra, M. D. Volume XXII. Reprinted from *Archives of Pædiatrics*. New York: E. B. Treat & Co., 1911. Pp. vii-[illegible]

Report from the Pathological Department of the Central Indiana Hospital for the Insane. Fiscal Years 1906-[illegible]

[illegible] und Land.—Der [illegible] in der Syphilisbehandlung im ersten Jahrzehnt des XX. Jahrhunderts und die jetzige Lage. Zur raschen Orientierung für den Praktiker bargestellt. Wiesbaden: J. F. Bergmann, 1911. Pp. vi-92. (Through G. E. Stechert & Co., New York.)

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von Monakow, C.—Ueber Lokalisation der Hirnfunktionen. Mit einer Tafel und 2 Textfiguren. Wiesbaden: J. F. Bergmann, 1910. Pp. 34. (Through G. E. Stechert & Co., New York.)

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Miscellany.

The Physician in the Code of Hammurabi.—C. L. Allen read a paper on the Dawn of Medicine, the Pre-Hippocratic Period, before the Los Angeles County Medical Association. In this paper he refers to the *Code of Hammurabi*. He says (*Southern California Practitioner*, May):

> The oldest definite mention of the medical man and his status is found however in the elaborate *Code of Hammurabi*, thought to date from about 2000 B. C. In this document, which embodies laws regulating in simple and common sense manner the relation of each man to his neighbor and to the state, the rights and responsibilities of the physican are set forth in the following paragraphs:
>
> "215. If a doctor has treated a gentleman for a severe wound with a bronze lancet and has cured the man, or has opened an abscess of the eye for a gentleman, with the bronze lancet, and has cured the eye of the gentleman, he shall take ten shekels of silver.
>
> 216. If he (the patient) be the son of a poor man, he shall take five shekels of silver.
>
> 217. If he be a gentleman's servant, the master of the servant shall give two shekels of silver to the doctor.
>
> 218. If the doctor has treated a gentleman for a severe wound with a lancet of bronze, and has caused the gentleman to die or has opened an abscess of the eye for a gentleman, with the bronze lancet and has caused the loss of the gentleman's eye, one shall cut off his hands.
>
> 219. If the doctor has treated the severe wound of a slave of a poor man, with a bronze lancet and has caused his death, he shall render slave for slave.
>
> 220. If he has opened his abscess with a bronze lancet and has made him lose his eye, he shall pay money, half his price.
>
> 221. If a doctor has cured the shattered limb of a gentleman or has cured the diseased bowel, the patient shall give five shekels of silver to the doctor.
>
> 222. If it is the son of a poor man he shall give three shekels of silver.
>
> 223. If a gentleman's servant, the master of the slave shall give two shekels of silver to the doctor."

Providing for the Unfortunate Patient of Moderate Means.—Boston, the source of many brilliant ideas, is going to see that well to do invalids begin to share the advantages too long restricted to the very poor. According to the *Boston Medical and Surgical Journal* for May 25th, public announcement has been made of a proposed hospital in Boston to be devoted solely to the care and treatment of private patients. It has long been an anomaly in our hospital system that the patient who is an object of charity has been provided with greater facilities for the completest treatment than the patient who is both willing and able to pay for such service. The tendency has been for the development of great hospitals under private or municipal control devoted to purely charitable ends. The

public interest in these hospitals has been such that their equipment has far surpassed anything hitherto possible in the small hospitals designed for the care of persons able to pay for their residence and treatment. In spite of their necessarily imperfect equipment, the demand made upon these smaller private hospitals has amply demonstrated the need of a larger hospital, in which may be brought under one roof and management the same facilities which are common to our great public charitable institutions. To this end a body of business men and physicians, representing on the one hand the financial interest and on the other the medical profession, and together acting as directors, have proposed and made public a plan to construct and administer a comprehensive hospital for private patients which shall place within the reach of the well to do the same advantages which are now offered only to the poor. An outline of the plan has already been published in the Boston *Evening Transcript* of May 22d, to be followed by a full prospectus within a week. It should be understood that this hospital, if constructed as designed, is to be thrown open freely to all reputable members of the medical profession, with the same privileges as apply to the physicians who act as incorporators. It is not to be questioned that the time is ripe for such an enterprise as this, and that such a hospital will fill a distinct need in the community, which is rapidly coming to a realization that many, if not all, forms of disease may be more adequately and successfully treated in a hospital than at home. The medical profession and the laity will doubtless look forward with equal interest to the consummation of this unique but entirely reasonable project.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending May 26, 1911.

Places.	Date.	Cases.	Deaths.
[illegible]	[illegible]	[illegible]	[illegible]
Straits Settlements—Singapore	Mar. 26-Apr. 8	2	
Portuguese Guinea	May 24	Present	

Plague—Foreign

Places.	Date.	Cases.	Deaths.
China—Mukden	Mar. 31	3	
British East Africa—Kismayu	May 19	Present	
[illegible]	[illegible]	[illegible]	[illegible]
Chile—Valparaiso	Mar. 30	Present	
[illegible]	[illegible]	[illegible]	[illegible]
Ecuador—Guayaquil	Apr. 22	1	
[illegible]	[illegible]	[illegible]	[illegible]
Germany	Apr. 23-May 6	20	
Great Britain—Liverpool	May 1-8	2	
[illegible]	[illegible]	[illegible]	[illegible]
Italy—Naples	Apr. 23-29	50	
[illegible]	[illegible]	[illegible]	[illegible]
Mexico—Chihuahua	May 1-7	2	
[illegible]	[illegible]	[illegible]	[illegible]
Portugal—Lisbon	Apr. 23-29	6	
Russia—Libau	Apr. 24-30	1	
Russia—Odessa	Apr. 9-22	4	
[illegible]	[illegible]	[illegible]	[illegible]
South Africa—Johannesburg	Apr. 1-8	2	
[illegible]	[illegible]	[illegible]	[illegible]
Straits Settlements—Penang	Apr. 2-8	2	1
Straits Settlements—Singapore	Mar. 26-Apr. 8	9	5
Turkey in Asia—Beirut	Apr. 3-22	6	
Turkey in Asia—Kharput	Apr. 16-22	6	
Zanzibar—Zanzibar	Apr. 27-May 2	1	

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending May 24, 1911.

ANDERSON, J. F., Passed Assistant Surgeon. Detailed to represent the Service at the annual meeting of the American Association of Medical Milk Commissions, to be held in Philadelphia, Pa., May 23 and 24, 1911.

BELL, J. M., Pharmacist. Relieved from duty at Savannah Quarantine Station and directed to proceed to Pittsburgh, Pa., and report to the medical officer in command, United States Marine Hospital, for duty.

BRYAN, W. M., Assistant Surgeon. Granted ten days' leave of absence from May 21, 1911.

CARRINGTON, P. M., Surgeon. Directed to proceed to Vancouver and Victoria, B. C., on special temporary duty.

GLENNAN, A. H., Assistant Surgeon General. Granted ten days' leave of absence from June 2, 1911.

KERR, J. W., Assistant Surgeon General. Detailed to represent the Service at the annual meeting of the American Association of Medical Milk Commissions, to be held in Philadelphia, Pa., May 23 and 24, 1911; detailed to attend the Ninth Annual Conference of State and Territorial Health Authorities with the Public Health and Marine Hospital Service, to be held in San Francisco, Cal., June 24 and 25, 1911; detailed to represent the Service at the Annual Conference of State and Provincial Health Officers of North America, to be held in Los Angeles, Cal., June 30 to July 1, [illegible].

KOLB, L., Assistant Surgeon. Granted three days' leave of absence from May 18, 1911, under paragraph 191, Service Regulations.

LAVINDER, C. H., Passed Assistant Surgeon. Granted four days' leave of absence from May 24, 1911.

LLOYD, B. J., Passed Assistant Surgeon. Granted one day's leave of absence, May 20, 1911.

Nydegger, J. A., Surgeon. Relieved from command of the station at Pittsburgh, Pa., and directed to proceed to the United States Marine Hospital, at Stapleton, N. Y., and report to the medical officer in command for duty and assignment to quarters.

Ott, C. P., Pharmacist. Granted one day's leave of absence, May 17, 1911, under paragraph 210, Service Regulations.

Rodman, J. C., Acting Assistant Surgeon. Granted four days' leave of absence from May 24, 1911.

Schereschewsky, J. W., Passed Assistant Surgeon. Detailed to represent the Service at a special Conference on Conservation of Child Life, to be held at Richmond, Va., May 22, 1911.

Stoddard, C. S., Acting Assistant Surgeon. Granted one month and fifteen days' leave of absence from June 1, 1911.

Vogel, C. W., Passed Assistant Surgeon. Granted three days' leave of absence from May 23, 1911.

Wertenbaker, C. P., Surgeon. Granted two days' leave of absence May 16 and 17, 1911.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending May 27, 1911.

Bell, Leonard P., Lieutenant, Medical Reserve Corps. Granted leave of absence to and including July 4, 1911.

Bushnell, George E., Colonel, Medical Corps. Promoted to be a colonel, with rank from May 1, 1911.

Crampton, Louis W., Colonel, Medical Corps. Granted leave of absence for four months, with permission to go beyond the sea, to take effect upon his relief from duty in the Philippines Division.

Davidson, Wilson T., Major, Medical Corps. Promoted to be a major, with rank from May 1, 1911.

Eliot, Henry W., Lieutenant, Medical Reserve Corps. Now at Fort McKinley, Maine, is relieved from further duty in the Army Transport Service, and will report to commanding officer of that post for duty.

Fisk, Owen C., Lieutenant, Medical Corps. Upon expiration of his present leave of absence, will proceed to the Army and Navy General Hospital, Hot Springs, Arkansas, for observation and treatment.

Heterick, R. H., Lieutenant, Medical Reserve Corps. Left Fort Brady, Michigan, on fifteen days' leave of absence.

Ireland, M. W., Lieutenant Colonel, Medical Corps. Promoted to be a lieutenant colonel, with rank from May 1, 1911.

Kean, Jefferson R., Lieutenant Colonel, Medical Corps. Will proceed to Los Angeles, Cal., to represent the Medical Department at the sixty-second annual session of the American Medical Association, to be held in that city, June 27-30, 1911.

Kilbourne, Edwin D., Captain, Medical Corps. Granted leave of absence for two months.

Powell, William A., Captain, Medical Corps. Reports from detached duty with troops, to Fort McKinley, Maine, to leave of absence for ten days.

Roberts, William M., Major, Medical Corps. Relieved from duty with the Manœuvre Division, San Antonio, Texas, and will proceed to Fort Thomas, Kentucky, reporting on arrival to the Adjutant General of the Army; orders to proceed to the Philippine Islands, June 5th, amended so as to direct him to sail from San Francisco, Cal., on July 5, 1911.

Slater, Ernest F., Lieutenant, Medical Reserve Corps. Now awaiting orders at New York City, will proceed to Columbus Barracks, Ohio, for duty.

Speissegger, Charles A., Jr., Lieutenant, Medical Reserve Corps. Ordered to active duty and will proceed to Fort Moultrie, S. C., for duty at that post; upon the return of Major Frank C. Baker, Medical Corps, Lieutenant Speissegger will stand relieved from further duty at that post and from active service in the Medical Reserve Corps.

Thomason, Henry D., Captain, Medical Corps. Ordered to proceed to Raleigh and Asheville, N. C., to assist in the reorganization of the sanitary troops of the State.

Vose, William E., Major, Medical Corps. Granted leave of absence for two months and fifteen days to take effect about July 15th; ordered to proceed to Jackson Barracks, La., about July 1, 1911, for temporary duty, and upon completion thereof and upon expiration of leave of absence, will proceed to the Philippine Islands for duty.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending May 27, 1911.

Asserson, F. A., Surgeon. Detached from the Naval Hospital, Boston, Mass., and granted sick leave for four months.

Kress, C. C., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *Celtic*.

Malkin, G. M., Acting Assistant Surgeon. Appointed acting assistant surgeon from May 18, 1911.

Riggs, R. E., Passed Assistant Surgeon. Detached from command of the Naval Hospital, Port Royal, S. C., and ordered in connection with fitting out the *Ohio* and to duty on board that vessel when placed in commission.

Rodman, S. S., Surgeon. Detached from the *Rhode Island* and ordered to the *New Jersey*.

Rossiter, P. S., Passed Assistant Surgeon. Orders of May 18th should read "Naval Hospital, Puget Sound, Wash.," instead of "Naval Hospital, Mare Island, Cal."

Thomas, G. C., Assistant Surgeon. Detached from the *Rhode Island* and ordered to the *Ohio*.

Births, Marriages, and Deaths.

Married.

Kuhn—Meinke.—In Detroit, Michigan, on Wednesday, May 31st, Dr. Charles F. Kuhn and Miss Ella Meinke.

Ricketts—McCoy.—In Clearfield, Pennsylvania, on Tuesday, May 16th, Dr. G. A. Ricketts and Miss Elizabeth McCoy.

Died.

Alexander.—In Hot Springs, Arkansas, on Thursday, May 18th, Dr. A. D. Alexander, of Mer Rouge, Louisiana, aged forty-five years.

Anderson.—In Oswego, New York, on Sunday, May 21st, Dr. Daniel S. Anderson, aged forty-five years.

Armstrong.—In New London, Pennsylvania, on Friday, May 19th, Dr. George D. Armstrong, aged ninety-six years.

Bell.—In Grantsburg, Wisconsin, on Friday, May 12th, Dr. Lester B. Bell.

Brubaker.—In St. Joseph, Missouri, on Monday, May 15th, Dr. A. Grant Brubaker, aged forty years.

Burgess.—In Cheyenne, Wyoming, on Sunday, May 14th, Dr. William A. Burgess, aged forty-six years.

Cooper.—In Indianapolis, Indiana, on Sunday, May 14th, Dr. Andrew G. Cooper, aged twenty-nine years.

Dakin.—In Gloucester, Massachusetts, on Monday, May 22d, Dr. E. Arthur Dakin, aged fifty-eight years.

James.—In Frankfort, Kentucky, on Monday, May 22d, Dr. S. E. James, aged fifty-seven years.

Langton.—At Atlantic City, New Jersey, on Saturday, May 13th, Dr. D. J. Langton, of Shenandoah, Pennsylvania, aged fifty-five years.

Prince.—In Byron, New York, on Thursday, May 18th, Dr. Alpheus Prince, aged fifty-four years.

Prince.—In Glen Iris, Alabama, on Wednesday, May 17th, Dr. Frank Prince, aged eighty-three years.

Reynolds.—In Lincoln, Nebraska, on Wednesday, May 17th, Dr. O. C. Reynolds, aged fifty-three years.

Rust.—In Brookline, Massachusetts, on Monday, May 15th, Dr. William Appleton Rust, aged eighty-seven years.

Stout.—In Chicago, Illinois, on Sunday, May 21st, Dr. Alexander M. Stout, aged fifty-eight years.

Todd.—In Pittsburgh, Pennsylvania, on Wednesday, May 17th, Dr. Fernandez Todd, aged sixty-one years.

Webb.—At Beatrice, Nebraska, on Sunday, May 14th, Dr. Joseph Luther Webb, aged seventy-four years.

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Original Communications.

A REVIEW OF METHODS OF EXAMINATION IN HEART AND BLOODVESSEL DISEASES, WITH SPECIAL REFERENCE TO THE DISCOVERY OF THERAPEUTIC INDICATIONS.*

BY LOUIS FAUGÈRES BISHOP, A. M., M. D.,
New York.

Clinical Professor of Heart and Circulatory Diseases, Cornell University School of Medicine; Physician to the Lincoln Hospital.

The examination of the cardiovascular system, until quite recently, consisted mostly in feeling the pulse and listening to the heart. These two procedures gave important therapeutic indications, but stimulation, in the sense of its literal meaning, "the application of a whip," and rest were the principal measures applied with the direct idea of treating the circulation.

To these methods of examination have been added the measurement of blood pressure, the more accurate observation of the wave motions in the blood current, the consideration of the properties of the blood, the x ray observation of the heart and the electrical study of its contractions, and last, but not least, the study of the chemistry of the body as influencing structure and functional disorder.

Of all the new procedures from which therapeutic indications are derived, that of taking blood pressure is now most universally used. The most elementary thing to be learned with regard to the therapeutic indications of blood pressure findings is, that low blood pressure must not necessarily be raised, and high blood pressure must not necessarily be reduced. In fact, the means at our disposal for the accomplishment of these results by drugs are so disappointing that one ceases to rely upon them.

However, high blood pressure has a profound therapeutic indication, namely, the limitation of the protein content of the food to the actual requirements of the body—from fifty to ninety grammes a day, according to the case. It is a strong inducement for ordering outdoor exercise and limitation of mental work and worry.

Low blood pressure, as an acute condition, calls, according to the nature of the case, for a vigorous attack upon some existing form of toxæmia—intestinal, bacterial, or otherwise; it calls for the conservation of nervous energy, as in conditions of shock; and in an acute case there is a call for attention to posture, and the use of true stimulants, such as external heat, saline infusions, ammonia, and alcohol.

In chronic cases the observation of blood pressure leads us to be more or less vigorous in our supervision. We establish a certain standard in each case for a possible approach to normal in blood pressure and try to adhere to it. Thus, a patient with low blood pressure may be comfortable with 105 millimetres of mercury, and a patient with very high blood pressure may be at a safe point when he gets down to 195. In either case there is no therapeutic indication the fulfilling of which would make the pressure 125.

The polygraph: The study of the jugular pulse in connection with the radial pulse shows us the relationship between the contractions of the auricle and the ventricle. In many cases of severe cardiac disease there exists a condition of the auricles which gives rise to a very large number of impulses which, being transmitted to the ventricle, whose capacity to respond is not equal to the many contractions, there results great irregularity. In this case, digitalis, by a process of retarding the transmission of impulses through the bundle of His, and stopping some of the impulses entirely at this point, brings about a slowing of the radial pulse and a functional improvement in the heart.

Dr. Cushny told us, in a series of lectures delivered this winter, that "fibrillation," which is the name given to this irregular auricular activity, exists in a majority of all serious heart cases found in hospital wards. While we cannot recognize this quite so often, still the cases are much more frequent than would be supposed, when this condition is not looked for.

Polygraph tracings enable us to detect extraauricular systoles and extraventricular systoles. These of themselves have no therapeutic indication, but they might be mistaken for other forms of irregularity.

The electrocardiogram: The electrocardiogram as to its therapeutic indications is much the same as the polygraph, but for some additional things, such as the detection of right sided hypertrophy by the inverted electrocardiogram. Such a picture would naturally lead to the treatment of a lung condition, particularly, or, perhaps, the recognition of a lung condition as a factor in causing trouble.

Examination of the urine and blood: The therapeutic indications discovered by the laboratory examinations of the urine, blood, and fæces I place on an equal basis of importance with examinations of the heart and bloodvessels themselves. In the laboratory we find the evidence of intestinal putre-

*Read before the Academy of Medicine, Section of Practice of Medicine, New York, April 17, 1911.

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faction which I believe to be the most usual cause of arteriosclerosis. The therapeutic indications are the use of castor oil at regular intervals, the use of the less fermentable carbohydrates, the insistence upon outdoor exercise, and the possible local treatment of the large intestine by irrigation, all these things being coupled with the low protein diet. The discovery of intestinal putrefaction indicates the avoidance of alkaline laxatives. The discovery of albumin and casts has no direct therapeutic indication in cardiac disease, but emphasizes the importance of this directed to diseases of the circulatory organs and its underlying cause.

In the blood we discover the compensatory increase of red blood cells in valvular disease in young people, particularly those with congenital lesions. We also find in many cases of arteriosclerosis a large increase of red blood cells accompanied at the same time with anæmia, in the sense of low hæmoglobin. This indicates that the body retains an abundance of nourishment which has not been distributed to the tissues, and is a strong indication for urging plain diet and outdoor life, avoiding all kinds of tonic drug treatment.

Treatment must be chiefly directed toward influencing the digestive tract and the composition of the blood. The necessity for treatment is discovered by the direct examination of the organs of circulation, but the character of treatment is in a great measure influenced by conditions of other organs. The direct examination of the heart and bloodvessels, however, gives us a criterion for deciding the great question of rest and exercise, but even this must be modified by careful tests of the effect. Among methods of testing the heart, the observation of the effect upon it of exercise is of great importance.

The x ray: The x ray has been of great value in the more certain diagnosis of the condition of the heart. It has been of particular value, in my opinion, in drawing distinctions between essentially valvular cases and cases secondary to arteriosclerosis. One would hardly believe the proficiency attained by some experienced observers in interpreting the clinical significance of variation in form, size, and location of the heart. I witnessed one instance where a very prominent man, who had been examined in many parts of the world and had been believed to have a mitral murmur, revealed so typical a picture of disease of the aorta that subsequently there was no question as to diagnosis. So, also, mitral stenosis is often proved where no murmur exists, and so forth. The therapeutic indications of such information are of profound importance.

Stethoscopic examinations: I once knew a woman who made her will and disposed of all her trinkets, but forgot to say anything about her money. We should be in the same position if we neglected to study the therapeutic indications to be discovered by inspection, auscultation, and percussion. These we will take up under the topic of stethoscopic examinations.

Inspection: By inspection we take in the general appearance of the patient, and this has a profound subconscious influence upon the therapeutics of the trained clinician. In cardiovascular disease, however, it must be discounted by actual tests. However bad a person may look on account of defective circulation, it is still possible for him to be in a very good condition of compensation and capable of standing a good deal. Inspection of the chest may show it bulged forward by a large hypertrophy of the heart, particularly in childhood; it may show an impulse, localized or diffused; an epigastric pulsation may be noticed; or an enlargement of the liver creating bulging of the abdomen. Inspection deals rather with the necessity of therapeutic measures than the indication of the exact procedures necessary.

Palpation: Palpation gives us much information as to the existence of hypertrophy or dilatation; and the existence of thrills. The same remark is true as of inspection.

Percussion: Percussion aids us in determining the size of the heart, and the existence of hypertrophy or dilatation would have a profound effect upon our therapeutic judgment.

Auscultation. The matter of cardiac sounds has been discussed by all writers. One of the best descriptions is that of Poynton, which I have abridged for the purposes of this paper.

Changes in the heart may affect either first or second sound and are: Alteration in length, alteration in intensity, and pitch, alteration in rhythm, and alterations in their relationship to one another.

When the ventricles are hypertrophied, and, in spite of this, are beginning to yield to peripheral high pressure, the first sound is lengthened.

On the other hand, in dilatation, it may be considerably shortened. It may also be short when the ventricles are weak and yet not necessarily dilated. This sign is of much importance in fatty degeneration of the heart.

In hypertrophy, the first sound is low pitched and dull, in dilatation, high pitched and clear.

Reduplication of the first sound is the result of a certain degree of asynchronism of the right and left ventricles. This may arise either from the two auriculoventricular valves not closing with exact coincidence, or possibly because the full tension of the cusps does not occur at the identical moment. This condition points to a commencing failure of the power of one or other ventricle, such as may occur in chronic renal disease or obstructive pulmonary disease.

The second sound may also show variations in duration, intensity and pitch, and rhythm. When the action of the heart is feeble and rapid, the second sound becomes shorter. When the tension of the pulmonary circuit is high, the pulmonary second sound at the base is accentuated and frequently reduplicated. Similarly, when the tension is high in the systemic arteries, as, for example, in renal disease, the aortic second sound may be accentuated. On the other hand a diminution in the intensity and clearness of the aortic second sound may be the earliest evidence of an endocarditis of the valve. In childhood, the pulmonary second sound is usually louder than the aortic; in adults, the reverse is often the case.

In mitral stenosis, there may be an apparent reduplication of the second sound of the apex. Upon auscultation the cardiac sounds give the impression

which is represented by the words, lub-tut-tut. The double sound, tut-tut, is, if persistent, an important sign that there has been some organic damage to the mitral valve, which interferes with its perfect mechanism.

The relation of the first to the second sound may be altered. In renal disease, for example, when the heart is beginning to fail before the high peripheral pressure, the systolic interval is prolonged at the expense of the diastolic, and the first and second sounds are equidistant. This is termed the tic-tac heart beat.

An ill omened occurrence is an approximation of the first and second sounds on account of the shortening of both the systolic and diastolic intervals. In extreme cardiac weakness, not only are these sounds short, but they are approximate to one another, on account of the inefficient systole and imperfect emptying of the ventricles.

Adventitious sounds. These are subdivided into two classes: Cardiac, arterial, and venous bruits; and friction sounds.

Cardiac murmurs or bruits. When, in the course of circulation of fluid through a series of tubes, a sudden constriction occurs at some point, there arises immediately beyond the point of constriction a fluid vein which gives rise to vibrations in the stream. These vibrations, if sufficiently powerful, are sonorous. In the course of the circulation of the blood, constrictions may arise, and are often irregular in form as a result of disease or imperfection of the valves. At these points, if the heart has sufficient power, sonorous vibrations result which are conducted through the wall of the heart and chest, and are recognized on auscultation as bruits or murmurs. Further, if these vibrations are sufficiently powerful, they can be recognized on palpation as thrills. This explanation of the production of cardiac murmurs is not wholly satisfactory, but it is difficult to improve on this generally received view upon the subject.

These murmurs are classified as: Organic; and inorganic or functional. The inorganic murmurs are divided in accordance with their position in the cardiac cycle into: Systolic, produced by the systole of the ventricles; presystolic, produced by the systole of the auricle, and synchronous with their systole; and diastolic, produced during the diastole of the ventricles.

The cardinal murmurs: For the sake of clearness, those murmurs which may be called cardinal will be taken first, and will be considered as they occur in valvular disease.

The results of valvular disease are to produce: Incompetence, or leaking of a valve; stenosis, or obstruction; and a combination of both conditions. The simple lesions, incompetence and stenosis, will be first dealt with. Either of these may occur in connection with each of the four valves, giving rise to: Mitral, aortic, tricuspid, and pulmonary incompetence; and mitral, aortic, tricuspid, and pulmonary stenosis.

In mitral incompetence the diseased mitral valve does not close accurately in the systole of the left ventricle, consequently at that time there is a leakage of blood through the aperture into the left auricle, and a fluid vein is caused at this point. A bruit results which is systolic in time.

In aortic regurgitation the damaged valve closes imperfectly; a leakage must then occur in diastole and blood pass back into the left ventricle through the injured valve. A fluid vein is formed at this point. The bruit is diastolic in time.

In tricuspid incompetence, the fluid vein occurs during the systole of the right ventricle at the point of leakage through the tricuspid valve. The result is a systolic murmur. In pulmonary incompetence the fluid veins occur in diastole when the blood leaks back into the right ventricle; and the result is a diastolic bruit.

Thus from incompetence of the valves these result: Two systolic bruits, mitral and tricuspid in origin; and two diastolic bruits, aortic and pulmonary in origin.

Turning next to the stenotic lesions: In mitral stenosis, the obstruction and fluid vein occur when the systole of the left auricle forces the blood from its own chamber into the left ventricle through the narrowed opening. This auricular systole immediately precedes the ventricular systole and the first sound, hence the bruit is presystolic in time. The murmur may be diastolic or middiastolic. In tricuspid stenosis, also, the bruit will be for similar reasons presystolic. In aortic stenosis, the obstruction makes itself felt when the left ventricle forces the blood into the aorta through the narrow opening, and the bruit is necessarily systolic in time. Lastly, in pulmonary stenosis, the murmur is also systolic.

Thus from stenosis of the valvular orifices there result two presystolic—mitral and tricuspid in origin, and two systolic—aortic and pulmonary.

The cardinal valvular lesions of the heart thus produce four systolic, two presystolic, and two diastolic murmurs.

Investigation of cardiac murmurs: In the study of these murmurs the first step is to ascertain their time in the cardiac cycle, and this should be done with the hand on the pulse.

The other points of importance in studying cardiac murmurs are: The position of maximum intensity and the direction of conduction of the murmurs; the character; the duration; and their relation to the cardiac sounds. The point of maximum intensity and the direction of conduction are of great assistance in differentiating the bruits that occupy the same position in the cardiac cycle.

The four systolic murmurs show these differences: The mitral systolic, pointing to mitral regurgitation, has its area of maximum intensity in the region of the impulse, and can be traced into the left axilla. It is often audible over the back of the chest, and may be traced directly around from the axilla, or heard there independently. The tricuspid systolic murmur, pointing to tricuspid regurgitation, is at its maximum in the fourth or fifth intercostal spaces on the left side, close to the margin of the sternum. It is conducted toward the right, but is usually a soft murmur with but a slight area of conduction.

The aortic systolic bruit, pointing to aortic stenosis, is at its maximum intensity at the inner end of

the second intercostal space on the right side, and is conducted upward into the vessels of the neck. The pulmonary systolic bruit, pointing to pulmonary stenosis, has its point of maximum intensity in the third intercostal space on the left side. The presystolic murmurs are usually audible over a remarkably limited area; the mitral presystolic—evidence of a mitral stenosis—is, as a rule, limited to the impulse; the tricuspid presystolic—evidence of tricuspid stenosis—has the point of maximum intensity at the fifth left chondrosternal junction.

The diastolic murmurs are very variable in regard to their points of maximum intensity and conduction.

The aortic diastolic murmur—pointing to aortic regurgitation—may be most audible,

First—In the classical position over the inner end of the second right intercostal space.

Second—In childhood, the maximum intensity is frequently in the second left intercostal space. It should be remembered a diastolic murmur in this position is much more often the result of damage to the aortic valve than to the pulmonary.

Third—The maximum may be immediately over the sternum.

Fourth—The maximum may be at the impulse.

This murmur, when the maximum is in the classical position, is often to be traced over a wide area down the right border of the sternum and upward into the large vessels of the neck. A pulmonary diastolic murmur—pointing to pulmonary regurgitation—is rare, and usually a result of congenital heart disease; the point of maximum intensity is in the third left intercostal space, and it is conducted down the left margin of the sternum.

Combined organic murmurs: The cardinal murmurs at a valvular orifice frequently occur together. It is, for example, unusual for a mitral stenosis to exist as a pure lesion, for in the process of thickening and contraction there must almost inevitably be a certain degree of incompetence. As a result a double murmur at the impulse, in part rumbling and presystolic, and part blowing and systolic, is of very frequent occurrence, and points to a certain degree of stenosis and regurgitation.

An occasional occurrence is a double murmur in the tricuspid region—partly rumbling and presystolic, partly blowing and systolic; this points to a combined tricuspid stenosis and regurgitation. A to and fro murmur at the aortic cartilage, which can be traced down the right margin of the sternum, is also of frequent occurrence. This murmur is partly systolic and partly diastolic. In some cases it points to a combination of stenosis and incompetence of the aortic valve.

A to and fro murmur over the pulmonary area which is not a conducted aortic murmur is very rare, but in some cases of patency of the ductus arteriosus there may be a loud systolic and diastolic murmur. A somewhat similar bruit is also met with when an aneurysm of the aorta ruptures into the pulmonary artery.

In some cases in childhood there occurs a to and fro mitral murmur, the diastolic element of which is blowing and not rumbling in character. In these cases there is practically no stenosis, but an almost pure regurgitant lesion, sometimes complicated by an adherent pericardium. Again in adults, a to and fro murmur may occur, and yet the lesion be in nature almost entirely regurgitant.

Cardiac murmurs the result of relative incompetence: These are murmurs, which are often associated with organic heart disease, but are not themselves the result of disease of the particular valve. Their explanation leads to a brief account of the behavior of the heart when its mechanism is impaired by the presence of any of the cardinal valvular lesions already enumerated.

The mechanical results of valvular lesions: First, mitral regurgitation. In mitral regurgitation, during the ventricular systole, blood is forced back through the incompetent valve into the left auricle, and as a result this chamber receives, in addition to its normal supply from the pulmonary veins, this extra amount which is the result of leakage. The auricle dilates and hypertrophies to cope with this increase.

The left ventricle also dilates and hypertrophies, receiving as it does a larger quantity of blood at each auricular systole, and having also to supply the system with a due quantity of blood in spite of the wastage at each systole through the incompetent valve.

The stream regurgitating into the left auricle, soon causes a difficulty in the pulmonary circuit, for the auricle forms but an imperfect barrier between the powerful left ventricle and the pulmonary circulation.

The pressure accordingly rises in the pulmonary circulation, and is met by hypertrophy of the right ventricle. This hypertrophy of the right ventricle is an event of very great importance, for by means of it the left auricle is supported in its struggle against the back pressure caused by the left ventricle, and when it is effectual the lesion is termed compensated. As the disease gains ground, the right ventricle may reach its limit of hypertrophy and commence to dilate. Should this dilatation reach a considerable degree, the tricuspid valve, though uninjured by disease, becomes, owing to the yielding of its ring, unable to close the auriculoventricular opening, and there now supervenes tricuspid regurgitation, and failure of compensation. This tricuspid regurgitation produces a systolic murmur in the tricuspid region, a result of relative incompetence of the valve.

The further steps in the process are that first this tricuspid regurgitation produces the same results in the right auricle, as did the mitral regurgitation in the left. The right auricle accordingly dilates, and to a feeble extent hypertrophies to meet with its difficulties. Lastly, the regurgitant stream through the right auriculoventricular opening tells back not only on the auricle, but upon the venous system beyond, and the results are fullness and pulsation of the large veins, enlargement, and even pulsation of the liver, and dropsy.

In mitral stenosis the difficulty that confronts the heart is the resistance in front of the left auricle due to the narrowed auriculoventricular opening. The left auricle hypertrophies to overcome this, but there is no call upon the left ventricle—as there is in mitral regurgitation—to hypertrophy, and later in the disease it may actually atrophy to some de-

gree because the small quantity of blood it receives through the stenotic opening does not require the force of a normal systole to discharge it into the systemic arteries. As the stenosis increases, the left auricle yields. The resistance is now felt in the pulmonary circuit, and is compensated by hypertrophy of the right ventricle. This hypertrophy is a more prominent feature in the history of mitral stenosis than it is in even mitral regurgitation.

When the right ventricle begins to fail the development of the course of events is comparable to that described in the preceding section. And here again there arises a murmur of relative incompetence upon the supervention of the tricuspid regurgitation.

In aortic regurgitation, the first results will be dilatation of the left ventricle to accommodate the blood that leaks back through the incompetent valve during diastole, and hypertrophy to cope with the large quantity that has to be discharged into the arterial system at each systole. Later this compensatory hypertrophy may begin to fail, and dilatation commence. Should this reach a high degree, the ring of the mitral valve is dilated, and the valve segments are unable to close the auriculoventricular opening. There then results a relative incompetence of the mitral valve, and mitral regurgitation. With the supervention of mitral regurgitation, there may follow all the results already detailed under that lesion, including relative tricuspid insufficiency.

In aortic stenosis, there is hypertrophy of the left ventricle in order to overcome the obstruction and later there is dilatation, and then a sequence of events comparable to that described in aortic regurgitation. The sigmoid valves, with their more rigid rings of insertion, are rarely the sites of relative incompetence, although occasionally an aneurysm may so dilate the aorta in the region of the aortic valves as to produce regurgitation, but even then the valves themselves are almost invariably damaged by the atheromatous process that produced the aneurysm.

Relative incompetence thus occurs almost exclusively in connection with the mitral and tricuspid valves. This incompetence may also arise from primary dilatation of the ventricles. Thus in simple dilatation of the heart, a systolic mitral or tricuspid murmur may appear without any organic valvular disease at all, the murmurs being the result of relative incompetence.

Multiple valvular murmurs: It is by no means a rare event, especially in the rheumatic heart disease of childhood, to find more than one cardiac valve attacked by disease. By far the most important of these lesions is a combination of mitral and aortic disease. Already, under the study of the mechanism of aortic regurgitation, it has been shown that a relative incompetence of the mitral valve may arise from the dilatation of the left ventricle produced by the primary aortic disease. In some cases, however, both valves are actually damaged, and the mitral generally suffers before the aortic is attacked. In such a case the usual result is aortic and mitral incompetence, and the two cardinal murmurs, the aortic diastolic and mitral diastolic, are evident upon auscultation. Again, mitral and tricuspid [illegible] or aortic stenosis and mitral disease. In all these cases the distinctive murmurs must be carefully differentiated.

Functional cardiac murmurs: These are met with most frequently in conditions of anæmia and debility. The valves are not damaged, and as these murmurs are most frequently basal, they cannot, as a rule, be classed with those which have already been referred to as results of relative incompetence. The most satisfactory explanation of their formation is the one that ascribes them to the result of fluid veins which are sonorous; and Foxwell's explanation will be followed here to explain the most common functional bruit, the pulmonary.

All functional murmurs are systolic in time, and may be pulmonary, aortic, tricuspid, or mitral. The pulmonary, according to Foxwell, is caused by dilatation of the conus arteriosus of the right ventricle. The ring of the pulmonary valve is thus rendered relatively narrow, and a fluid vein formed. In addition, the orifice of the pulmonary artery is, by this dilatation of the conus, dragged somewhat obliquely. The posterior half is fixed by its attachment to the aorta, and the anterior half moves upward in the process of dilatation. On this account the stream of blood impinges against the wall of the vessel, and may, in this way, produce sonorous vibrations.

The functional aortic murmur is explained by a relative stenosis of the valve, caused by the dilatation of the ventricle immediately below.

The mitral and tricuspid bruits are probably in most cases murmurs of relative incompetence, due to yielding of the auriculoventricular rings.

Potain is of opinion that the majority of functional murmurs are in origin pulmonary. These bruits are often much altered by the position of the patient, rising in intensity during recumbency.

Cardiopulmonary murmurs: These are of the nature of functional murmurs, but are dependent upon extrinsic causes, usually pulmonary, interfering with the normal relation of the heart. They are as a rule systolic. They may appear where the heart is much displaced, as in cases of severe rhachitic deformity of the chest, large pleural effusions, or cirrhosis of the lungs. Again, in some cases of mediastinitis, when the left pleura is adherent to the pericardium and the heart itself is shackled by adhesions, a systolic murmur may appear which varies with respiration.

In tuberculosis, lymphadenoma, or malignant disease, large glands may press upon the pulmonary artery, and produce a systolic murmur. These bruits are usually intensified in respiration and fade away in expiration. The apical bruit is, at its maximum, internal to the apex, and not actually over the impulse. There may be an interval between the first sound and the murmur, and lastly, they are modified by position, usually becoming fainter in erect position.

Prognosis of cardiac murmurs. Murmurs that are functional, or the result of relative incompetence, may vanish with the recovery of the patient. Organic murmurs may also disappear for one of two reasons: The damage may be so slight that there may be a true cure when the process of healing is completed. Both mitral and aortic les[illegible]

course. In organic valvular disease a breakdown of the heart from myocardial weakness may be a cause of the disappearance of murmurs, and this occurs notably in cases of mitral presystolic and aortic regurgitant bruits.

As an outcome of this latter fact, it is unwise to attempt to form an accurate opinion on a case of organic heart disease, when it first comes under observation in a condition of acute failure, for when the heart rallies, unsuspected murmurs may reappear.

The character of the various cardiac murmurs. The systolic mitral murmur is blowing, and sometimes musical; less frequently it is vibrant and gives rise to a thrill. The tricuspid systolic murmur is usually soft and blowing. The aortic systolic murmur is often loud, harsh, and vibrant, and accompanied by a thrill. The pulmonary systolic murmur also is often loud, and frequently accompanied by a thrill. In character it is generally blowing. As a rule, this murmur is generally congenital in origin, for acquired disease of this valve is exceedingly rare. The presystolic murmurs are rumbling and vibrant, and usually accompanied by a thrill. The characteristic præsystolic bruit of mitral stenosis rises in a crescendo to its termination in the first.

The aortic diastolic murmur is very variable in character. Usually blowing, it may be so soft that it is of all murmurs the one most easily overlooked. On the other hand, it may be so loud and musical that it may be audible to the patient, and in rare cases can be heard at a distance from the chest.

It must be remembered that a loud murmur does not necessarily mean a severe lesion. If a general rule can be formulated at all, it is that a loud murmur points usually to a slight valvular damage, and to a strongly acting heart, but there are important exceptions, such as the murmur produced by a ruptured valve which is loud and yet of serious import.

The duration of murmurs. Some occupy the entire interval between the two sounds, others a mere fraction of this interval. Of more practical importance is the relation of the murmur to the cardiac sound with which it is associated. If the murmur appears to replace partially or entirely this sound, the lesion is more severe than when the sound is left intact. The aortic systolic and diastolic murmurs are frequently audible in the carotids, and Poynton has heard a loud diastolic murmur conducted to radial and femoral vessels.

Attention must also be directed to the character of the cardiac sounds in the large arteries in the neck; thus in severe aortic regurgitation the second sound may be absent in the carotids. Another physical sign of importance is a low pitched, musical, second sound over the arch of the aorta. This points to general dilatation of the vessel or to an actual aneurysm.

Arterial murmurs. Arterial murmurs are occasionally met with; for example, a systolic murmur in the left subclavian artery may occur in anæmia, and in coarctation or congenital stenosis of the aorta, a systolic murmur may be heard posteriorly close to the vertebral column.

Venous murmurs. A venous hum, the *bruit de diable,* is frequently present in the neck, over the internal jugular. It is a continuous, humming sound, rising and falling with the respiratory movements. This can be heard most distinctly by turning the face from the side of the vein that is auscultated. This murmur is often, though not by any means invariably, associated with anæmia. A similar murmur is sometimes audible in the epigastrium when the inferior vena cava is constricted by a cirrhotic liver.[1]

Treatment in the presence of murmurs. The treatment in the presence of murmurs is influenced by the mechanical effect of the valvular lesions. In mitral regurgitation the only indication is the maintenance of the integrity of the heart muscle which has to pump part of the blood twice before it gets into the arteries. When the muscle can be kept in good condition by hygienic means, these are better than drugs. This is not the case, however, when we find the ventricle dilated. The development of a tricuspid murmur in a mitral case is always of serious import and indicates that rest in bed is imperative, together with most active treatment.

The study of the pulse. The study of the pulse is of much importance and gives many indications for treatment in cardiovascular disease. The tendency, however, of late years has been to place less reliance upon the judgment founded solely upon feeling the pulse but to modify the findings by the actual measurements of the sphygmomanometer, and the study of tracings. Even within my memory there was great attention paid to the weakness of the pulse, and it was customary to stimulate a person who had a weak pulse. Not very long ago, it was customary to treat systematically the high tension pulse with nitroglycerin to reduce it. A weak pulse with a low blood pressure reading does, in a general way, indicate that it should be strengthened but not directly by stimulation, provided there are no side symptoms of defective circulation. The reverse is true of the high tension pulse. We should not reduce the strength of it arbitrarily, but always by removing the cause.

Pleural effusion. The examination of the chest in cardiac cases often reveals pleural effusions. The indication is almost always for paracentesis because there is no good reason for allowing the chest to be burdened by effusions that can easily be removed. Moist râles at the base of the lungs in a case under examination for heart failure always indicate the necessity for active treatment to improve the cardiac competence.

In conclusion. Of the results of physical examination, it may be said, in general, that the indications disclosed are nearly always the regulation of cardiac functions, rather than stimulation. Weakness indicates either a depressed activity of the heart, which may be on the whole conservative, or exhaustion of the reserve of the heart, which renders stimulation a desperate resource. An exhausted heart needs rest, not stimulating. It may be necessary to overcome a loss of tonicity in the heart muscle by digitalis, but that is not stimulation in the true sense, and in some cases of chronic heart disease it may be best to continue its use almost indefinitely, but, where possible, improvement of condition by proper diet, exercise, and conservation of energy should replace drug treatment.

A review of methods of examination in heart and

[illegible]

bloodvessel disease must include necessarily many points not covered in this paper. I am sure the history of the patient could influence our judgment much in the advice we could give him, as would also the patient's personality and the measure of his resources.

It must be confessed that what I have accomplished in the examination of this subject is not great. The task was undertaken in response to a demand on the part of the profession for definite findings in technical examinations pointing to specific treatment. This is not often possible because the judgment of the physician must intervene between the findings of technical schools and specific advice. This is often called diagnosis. If medicine were all science, practice would be very easy. If it were all art, the best work would be easily recognized. Confusion arises from the mixture of the two. Technical scientific work must supply the basis upon which the art of therapeutics is founded, and it is because the combination of all the technical methods used in a case of heart disease go to form the mental concept of that case in the mind of the physician that they are valuable, and not because very many specific indications are pointed out.

A negative result is often as valuable as a positive result. Edison, the other day, was asked about an elaborate series of experiments that had led to failure, what justified such a waste of energy. Edison's reply was: "It was worth five thousand dollars to me to know that a certain plan would not work."

In the same way, it is worth something to know that the treatment of cardiovascular disease must be founded upon proper training and experience in the interpretation of our technical findings as a whole, and that it is not worth while to seek for very many specific indications in the finding of technical methods. This is my judgment, but others will, I trust, find otherwise.

54 West Fifty-fifth Street.

A POLYGRAPHIC MACHINE, RECORDING AUTOMATICALLY.

By Thomas E. Satterthwaite, M.D.,
New York.

For more than seven years I have been using in my office an automatic lever and spring recording machine, my first experiments with it having been made on March 4, 1904, when I had the assistance of Mr. John T. Hoyt, of the Department of Physiology, Columbia University.

The pen arm of the machine is actuated automatically by the levers and spring of the ordinary bathroom or office scales, on the platform of which the patient stands, sits, or lies horizontally on a raised seat firmly attached to the base. For the patient may sit or stand on the platform of the Chatillon weighing scales[1]; while by elevating the wings of the seat it is converted into a couch on which he extends himself at full length. The action of the heart and blood vessels is communicated to the special pen arm on the dial (Fig. 1, A), which is then able to record the cardiovascular waves automatically on the smoked paper of a revolving drum. (B.) The name cardiovascular is given to these tracings because they represent the action of heart and vessels conjointly. The pen arm, made of aluminum, is heavily shaded in the diagram. Below it, another pen arm, made of rye straw and tipped with platinum, celluloid, or tin foil, receives the impulse of the carotid or jugular, or liver pulse, or of the apex beat, as may be desired, through a brass receiver (D), and writes the curve on the same paper. Still below this, the metal pen arm of a Jaquet chronograph (C) or an electric time marker may register the time simultaneously on the drum in seconds or fractions of seconds.

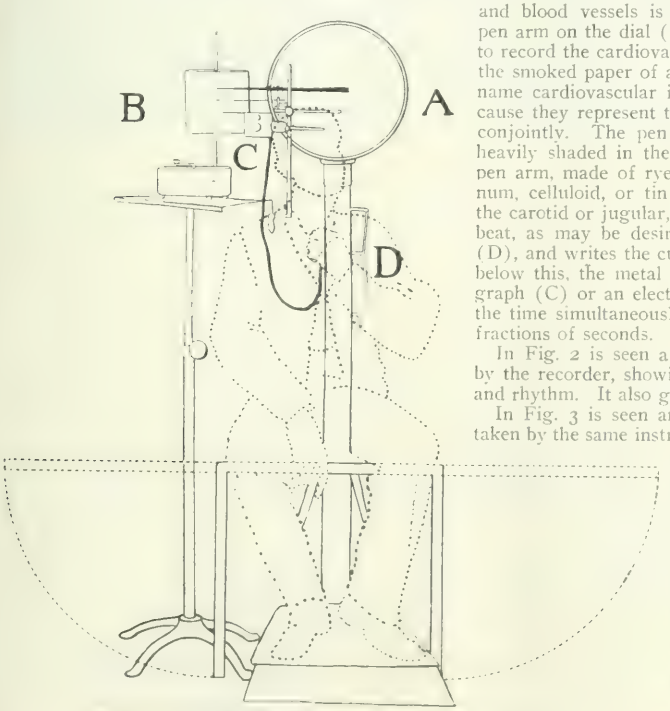


Fig. 1.—A [illegible] recorder.

In Fig. 2 is seen a cardiovascular tracing taken by the recorder, showing a pulse of irregular force and rhythm. It also gives the respiratory curve.

In Fig. 3 is seen another cardiovascular tracing taken by the same instrument, but three times larger than the original. An enlarged tracing is always obtainable where there is considerable cardiovascular force, delicate sensitiveness of the scales, and considerable speed of the drum.

If we accept Einthoven's explanation of the significance of the waves of the

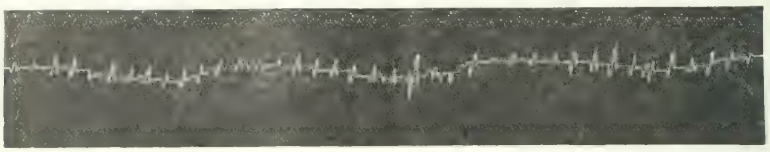
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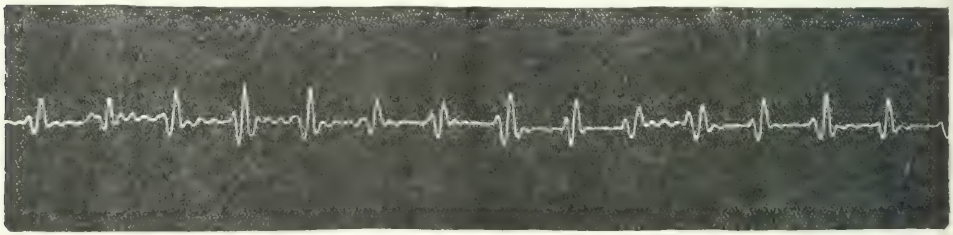
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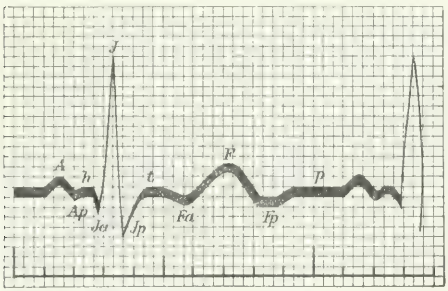
electrocardiogram, as given below (Fig. 4), the interpretation of these tracings is as follows: The tall or vertical stroke indicates the ventricular systole, the second also representing ventricular contraction, or the tidal wave; the third wave the end of ventricular contraction, or the dicrotic wave. The fourth and fifth waves represent auricular contraction. The sixth wave, if it exists, indicates the activity of His's muscle bundle.

It will be noted that there is a fair degree of coincidence between the general characteristics of the tracings made by the two machines.

While the automatic lever and spring instrument is capable of doing the work of an ordinary polygraphic machine, aided by the usual receivers, tubes, tambours, and pen arms of polygraphic machines, I have used it more especially in studying the effects of nicotine, spirit of nitroglycerin, and caffein on the human subject, in respect to the rapidity, duration, and force of their action on the circulatory system. In these experiments, polygrams are able to furnish with reasonable accuracy a graphic record of the rate and rhythm of pulse and respiration, and of their comparative force, before, during, and after the several experiments. The requisite measurements for the determination of these several items are taken with calipers and a millimetre rule. In this way also a comparison can be instituted between control experiments and the direct ones. In respect to the testing of drugs this recorder represents a new kind of instrument, particularly applicable to the study of pharmacodynamics. So far as I know, this and the electrocardiographic machines are the only instruments that register automatically the successive events in a cardiac cycle. The distinctness of the respiratory curve, as seen in Fig. 2, is also a noteworthy feature of this automatic recorder.







The rectangular rulings of this diagram enable the reader to estimate Einthoven's conception of the comparative dimensions of the several events in a cardiac cycle.

7 East Eightieth Street.

STETHOSCOPIC EXAMINATIONS.*

By Robert Abrahams, M.D.,
New York,

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The stethoscope as an instrument for the examination of the heart has stood the test of time. In one form or another, it was and is the handmaid of every practising physician. As a medium of conducting sound it excels its rival, the naked ear. While it is well to encourage the employment of both ear and stethoscope in the examination of heart and lungs, my observation, however, is that one physician in three hundred uses the ear in preference to the instrument.

There is one manifest, yet remediable, imperfec-

*This paper is a part of a "symposium" on Methods of Examination of Heart and Blood Vessels, presented to the Medical Association of the Greater City of New York, April

tion in most of the stethoscopes intended for the examination of the heart, namely, the chest piece is made too big. It should be just big enough to cover that part of the intercostal space singled out for examination. When large it necessarily rests on the adjoining ribs, air enters underneath it, and the proper conduction of the sound or murmur is interfered with.

The stethoscope is of excellent service in the diagnosis of an effusion in the pericardial sac. One of the methods in vogue in the diagnosis of this disease is percussion. You begin percussing at the nipples or beyond them. As long as you percuss over lung, the note will be vesicular; the moment you reach the distended pericardium, the note abruptly changes from vesicular to absolute flatness. This abrupt change in the percussion note is pathognomonic of an effusion in the pericardial cavity.

In normal, as well as pathological conditions of the heart, the vesicular resonance will gradually, almost insensibly, change to dulness. The latter is obtained when the borders of the heart are reached. These sudden and gradual changes in the percussion sounds help to differentiate pericarditis with effusion from a normally sized heart or from a heart that has undergone hypertrophy or dilatation from structural disease of the heart and valves.

For a long time I used the stethoscope to ascertain the presence of an effusion in the pericardium. Everyone is familiar with the immense value of the spoken voice and whispered sound in the examination of the lungs. Now, the voice, both spoken and whispered, is just as useful in determining an effusion in the pericardial sac.

The patient may remain standing, or he may be in the reclining position, the result is the same. Place the stethoscope one or two inches beyond the normal boundaries of the heart, laterally. Make the patient repeat "one, two, three," or "ninety-nine," either loud or in a whisper. The words will be heard clearly and distinctly as long as the instrument rests over lung. The instant it reaches the edge of the pericardial fluid both voice and whisper are cut off.

The change is striking and impressive. The amount of the effusion need not necessarily be very great to bring about this acoustic phenomenon. A moderate quantity of fluid will spread out in the pericardial sac, especially when the patient is placed in the horizontal position, sufficiently to abolish the spoken or whispered word. Without going into great detail, I confidently state that by adopting this method of stethoscopic auscultation one can, with very little effort, map out the normal heart, ascertain the dimensions of an hypertrophied and dilated heart, as well as determine the relative size of the superficial and the deep areas of the heart, both in health and disease.

The principle running through this is that the whispered sound or spoken word is clear and distinct over lung; it becomes less clear and distinct when the stethoscope reaches the border of the heart. This indistinctness will be evident over the part of the heart covered by lung. As soon as the [illegible] heart not covered by lung tissue the spoken word and the whispered sound disappear.

This principle was long ago recognized in the differentiation between pneumonia and pleurisy with effusion, or between healthy lung and pleuritic exudation, but I do not know whether it has ever been applied to pericardial effusions and to the outlining of the heart, but that it has many advantages over the method of percussion one can easily see in teaching physical diagnosis to undergraduates as well as to postgraduates.

There is such a great difference in the faculty of perceiving percussion sounds, even among physicians long in practice, that frequently one is at his wit's end to make students hear the difference between one percussion note and another. The average medical man perceives and appreciates respiratory sounds much better than percussion notes. To him, at least, the method here described will appear the better of the two, and he will therefore value all the more his hard worked stethoscope.

Lest this method of mapping out the size and shape of the heart be confounded with the old time method of auscultatory percussion, it may be stated that the latter is rarely resorted to nowadays, at least in this country; it is a clumsy procedure in skilled hands and more so in unskilled, and, finally, it always requires the attention of two persons: examiner and assistant, or examiner and patient.

The height of usefulness of the stethoscope is attained in the interpretation of sounds and murmurs of the heart. It is unnecessary to say that the first sound of the heart is louder and stronger at the apex, and that the second sound is louder and stronger in the aortic area. But it may not be amiss to state, as there is a general disregard of the fact, that, except in childhood, the aortic second is louder than the pulmonic second.

Bearing in mind the physiological difference between the two sounds, one can make clinical capital of it in disease of the heart. For, if the tables are turned, namely, if the pulmonic second exceeds in strength and accentuation the aortic second, other things being equal, mitral disease should be suspected and mitral disease will be found. This has hardly ever been known to fail. In the diagnosis of mitral stenosis this point is of especial value. In that disease the murmur is frequently absent, or it comes and goes, and the presystolic thrill may have never been present. However, the accentuation of the pulmonic second will give the signal. There are two features in this valvular disease which the trusty stethoscope will never fail to emphasize: the accentuated pulmonic second and the thudlike thump of the first sound at the apex.

The accentuation of the pulmonic second is not only an aid to the diagnosis of mitral disease, both insufficiency and stenosis, but it helps materially in prognosis and treatment. If the sound loses its customary and observed accentuation, it is a sign and signal of failure of the right heart, and if, under treatment, the sound again becomes loud and strong it is an indication of restored compensation. The pulmonic second, therefore, is a harbinger of good tidings or a messenger of evil foreboding.

I have used the qualifying phrase "other things

being equal." The pulmonic second sound is accentuated and exceeds in strength and audibility the aortic second in the following other diseases, substantive emphysema, chronic bronchitis, and incipient pulmonary tuberculosis involving the apices especially. These affections of the lungs must be ruled out before ascribing the accentuated pulmonic sound to mitral trouble.

The thing is as broad as it is long. If a loud pulmonic sound is present and mitral disease absent, it is safe to attribute it to a lung affection, and, as emphysema and chronic bronchitis are easily excluded, incipient pulmonary tuberculosis should be diligently looked for. I am sure that the seeking will be rewarded by finding.

There is a revolutionary tendency among some modern clinicians to dethrone the once all powerful monarch of heart disease, the *murmur*. This is treason. The murmur is surrounded by restrictions so exacting that, unless it comes up to specific requirements, it is not considered a sign of valvular disease. This is clinically unreasonable.

The doubtful significance of the murmur in valvular disease has arisen from the fact that clinical observation was frequently found to be at variance with post mortem findings. For example, a systolic murmur at the apex during life was held to warrant the diagnosis of mitral insufficiency. The autopsy disclosed no changes of the mitral valves. This may be true, yet none the less the case was mitral insufficiency, not due to organic changes in the valves, but resulting from an abnormally dilated mitral orifice which normal valves were not competent to close; thus insufficiency resulted. The mitral systolic murmur was present to indicate the existence of incompetency. Such cases are called "relative," and they are frequently seen in association with chronic dilatation of the heart following prolonged walking, climbing, rowing, wrestling, or from continuous application to hard work. This type of insufficiency can also be seen in long and lingering convalescence from wasting diseases. It is the custom to call the murmurs which are heard in such cases "functional," meaning that they result from functional disturbance of the heart. Now, I have a very strong conviction that no heart can be disturbed functionally for months and years without suffering structural injury to muscle and valve. When these "relative" cases come to autopsy, the disturbed relation, which existed between valves and orifice during life and which produced physical signs, will be abolished by rigor mortis and the diagnosis receives a "black eye."

This reasoning and this argument have served time and are commonplace, but yet there is one striking point to remember; that a post mortem diagnosis never benefited a patient, whereas a plausible clinical diagnosis is pregnant with therapeutic suggestions.

I may run the risk of being called a fossil or an old fogy, but I cannot resist stating my conviction that a heart murmur is a very material element in the diagnosis of heart disease. It is true that a valvular lesion can be, and frequently is, diagnosticated by physical signs other than the murmur, yet one feels disappointed if the murmur is not there to support or supplement the other evidences of disease.

Furthermore, I have a lurking suspicion that those clinicians who would silence the murmur as a thing belonging to the dark ages of medicine feel queer at not finding it. Or, to put it more unctuously, they feel as reassured as I do when the murmur is heard humming.

A few more stethoscopic gleanings and I am through. A systolic murmur which is heard over the pulmonic area should not invariably be designated hæmic, anæmic, or functional. Such a murmur may be a continuation of an aortic systolic murmur, due to aortic stenosis. It may be due to congenital stenosis of the pulmonary valves. These are probabilities.

The differential diagnosis is comparatively easy. The quality of a hæmic murmur is soft and its point of maximum intensity is slightly above its place of origin. In the great majority of cases such a murmur is transmitted upward toward the left clavicle, rarely downward along the left edge of the sternum. If the so called hæmic pulmonic murmur is a continuation of an aortic stenosis, then as the stethoscope is moved from the pulmonic to the aortic area, the murmur will increase in intensity. Finally, if it proves to be an aortic systolic murmur, you can follow it to the neck, from the neck to the upper part of the back of the chest, also along the spine, and, in some cases, away down to the coccyx.

Should the pulmonic systolic be abnormally loud and harsh, with a point of intensity directly over the pulmonic area and with little or no transmission, consider such a murmur the result of pulmonary stenosis. Mild pulmonary stenosis, of congenital origin, is of more frequent occurrence than is credited. It is seen especially in children and young adults. A good rule to go by in these cases is, that when a loud, harsh, and strong systolic murmur, heard at the left second intercostal space, close to the sternum, does not disappear under a reasonably long ferruginous treatment, then regard it as due to pulmonary stenosis.

Another and last stethoscopic finding may profitably be mentioned. A mitral systolic murmur, although not attended by displacement of the apex, should be considered an expression of mitral insufficiency. It is hæmic only when it follows some kind of hæmorrhage from any source. If such cases are watched, as I have watched them for years, they will be found in time to give all the objective and subjective signs of mitral incompetency. This type of mitral affection, that is, where we have no other sign to guide us but the murmur, is more often seen in children than in adults, in whom the disease is heir to rheumatic trouble. Such children, sooner or later, become victims of chorea.

Stethoscopic examinations are numerous and very interesting, but one can refer to only a few of them in a paper of limited length. This much can be said and should be said in favor of the time honored servant of the clinician: While all other instruments may come and go, the stethoscope will forever remain the handiest, readiest, and most trustworthy tool of the work-a-day practitioner.

257 West Eighty-eighth Street.

CIRCULATORY DISTURBANCES OF THE MESENTERIC VESSELS.*

By Howard D. Collins, M. D.,
New York.

Circulatory disturbances of the blood supply of the small intestine, that present themselves to the surgeon, are usually of such a character as ultimately to produce gangrene of the gut. Among these we have injury to the mesenteric vessels by trauma, constriction of the vessels by vovuli, intussusception, strangulated hernia, etc. The conditions present such a train of symptoms that diagnosis may frequently be made and surgical interference often check the evil before it is too late, and thus the parts be restored to normal, or what amounts to the same thing, a cure effected by resection.

In addition to these types, which we may call obstruction by external causes, there are those of internal causation such as emboli and thrombosis of the mesenteric vessels. It is usually taught that the mesenteric arteries like those of the brain are terminal in character and, as such, have little or no collateral circulation; hence an embolus or thrombosis of the mesenteric arteries will result in death of the intestine coextensive with the part supplied by the particular vessel or branch involved.

It would be a natural inference that a sudden occlusion of the mesenteric artery would result in an anæmic gangrene of the part supplied, and that a stoppage of the mesenteric vein would give a congestive or moist gangrene. Actual observation shows, however, that the moist gangrene is the only type observed, provided the artery alone or the vein alone is occluded.

Sprengel (*Archiv für klinische Chirurgie*, 1902) wrote an exhaustive paper on the subject of intestinal gangrene, and in his paper stated that anæmic gangrene occurred only when both the artery and vein were blocked. That anæmic gangrene does not occur when the artery alone is stopped is easily explained by the fact that the mesenteric veins have no valves and consequently the affected part is bathed in venous blood by a return engorgement from connecting veins.

The teaching that no anastomatic circulation exists in the mesenteric arteries must be profoundly modified by the experiments of Longcope.

Longcope and McClintoch (*Archives of Internal Medicine*, October 15, 1910) did a series of experiments on sixteen dogs to determine the effect of permanent constriction of the splanchnic arteries, and the association of cardiac hypertrophy with arteriosclerosis. The result of the constriction of the splanchnic arteries on the circulation of the intestine is the part of especial interest to us in connection with this paper.

Longcope placed the aluminum bands or constrictors devised by Halstead, (*Journal Experimental Medicine*, XI, 373, 1909) about either the superior mesenteric or superior mesenteric and cœliac axis. The idea was not to completely occlude the vessels, but to greatly reduce their calibre, thus simulating a condition of arteriosclerosis. Seven dogs died within the week, two from pneumonia, and five from infarcts of the intestine due to thrombosis of the arteries. Two more died in the second week (one from pneumonia, and one from phlegmon of the stomach) leaving seven that survived long enough to carry out the experiment. Of these seven the histories are as follows:

Case I. Superior mesenteric only had the band placed about it. Dog was killed at the end of five and a half months. The lumen of the superior mesenteric artery was patent but very small; all the organs normal.

Case II. This dog, anticipating his probable fate, ran away at the end of five months, apparently in good health. Superior mesenteric only experimented on.

Case III. Also only superior mesenteric constricted. This dog was killed at the end of four and a half months. The vessel proved to be but a fibrous cord, although the organs were normal.

Case IV. Superior mesenteric only. At the end of five months the superior mesenteric artery was but a fibrous cord. An injection of methyl blue in the femoral artery stained the small intestine before the color reached the stomach.

The remaining three dogs had bands placed about both the superior mesenteric and cœliac axis. They were killed between three and four months and in all the organs were normal. One showed the lumen of both vessels patent, but very small. The second showed the cœliac axis a fibrous cord, but the superior mesenteric had a pin hole lumen. The third had a pin hole lumen in both vessels.

Quoting Longcope we can say: "From these experiments we can conclude that extreme narrowing of the mouths of the superior mesenteric artery, or cœliac axis, or both, in dogs is soon compensated for by a collateral circulation, so that a gradual thrombosis of one or both vessels may take place without serious or obvious detriment to the health of the animal." Another conclusion, again to quote Longcope is, "That sudden occlusions of the superior mesenteric artery result in hæmorrhagic infarcts of the intestine."

Longcope believes from his observations that diminishing of the lumen of the superior mesenteric artery or cœliac axis has for its first effect a congestion and not anæmia; the blood coming through the narrowed lumen plus a slight collateral anastomosis with the inferior mesenteric. In time a normal blood supply is established by collateral arc. With sudden occlusion of the superior mesenteric the collateral arc does not suffice and necrosis develops.

If the analogy between dogs and human beings holds true, there must be cases where a slow occlusion of the superior mesenteric artery occurs with gradual, but more or less complete, cessation of blood supply by the normal channels to the small intestine and yet gangrene may be averted by collateral or anastomotic vessels.

One such case was discovered in the dissecting room and reported by Chieve (*Edinburgh Journal of Anatomy and Physiology*, III, 65, 1868). Doubtless in such cases the symptoms are mild and unrecognized and the patient gets well without aid.

In cases where the occlusion is sudden, the symptoms, though variable, are so severe as to cause the surgeon much anxiety; they usually lead to operation.

The principal symptoms are sudden pain of a marked degree, abdominal rigidity and tenderness, fever, either constipation of severity, or stools

mixed with blood. Hiccough is often present, and so is a leucocytosis of high count. Another symptom, on which much stress may be laid, is a doughy sensation in that part of the abdomen overlying the swollen gut; this doughy area moves about as the position of the gut is changed.

Later on, the gangrene produces a septic peritonitis with its marked symptoms. The treatment is obvious; the prognosis depends upon the amount of gut to be resected and the condition of the patient.

There is a third type of disturbance of splanchnic circulation to which our attention should be particularly drawn, for but few of these cases have been reported. This type presents as its pathological lesion single or multiple small hæmorrhages in the wall of the gut, usually the ileum, without any thrombosis or embolus of the superior mesenteric artery or vein while lying between the mesenteric layers of peritonæum.

The hæmorrhagic spots usually lie between the muscularis and serosa, or in the submucosa, and are placed diametrically opposite the mesentery. The areas vary from one to three centimetres in diameter.

In lieu of a better name the writer has called this condition intestinal apoplexy.

Maragliano (*Berliner klinische Wochenschrift*, March, 1894) describes three cases, all in young men in which the histories were those of recurring pain and constipation for several weeks before coming to his attention. When he first saw the patients they had septic peritonitis, and operation revealed one or more perforated points of the lower part of the ileum. All the patients died and autopsy showed not only the perforated ulcers, but other ulcers not yet perforated, and in addition several areas of hæmorrhage like those just described. Maragliano believed the three types of lesions to be but progressive steps starting in the hæmorrhagic areas, and considered the condition to be an acute infectious disease. He obtained by culture from parts of the affected ileum a microorganism that produced in animals a congestive peritonitis, and in one instance hæmorrhages in the wall of the ileum.

Sprengel also describes one case, which gave the signs of intestinal obstruction and which, on operation, showed some bloody serum in the abdominal cavity and numerous intramural hæmorrhages scattered throughout the small intestine. The patient died practically on the table and the autopsy showed thrombotic superior mesenteric veins, with arteries intact. The thrombosis puts this case out of the class we are describing, although the gross appearance of the small intestine resembles the intestinal apoplexies.

The writer has seen three cases illustrating this condition. In two of them the lesion was mild (only a single spot of hæmorrhage), while the third had multiple areas. All the patients subjected to operation and fortunately all recovered.

The histories are as follows:—

Case I. Miss S., single, born 1866. Principal of a large girls' school. Her previous history is negative, except that she had a tendency to albinism, with such defective vision that she had scarcely been able to read, all her education having been received by word of mouth.

In May, 1907, while attending a meeting of unusual import of the trustees of her school, Miss S. was under a severe stress from trying to control her excitement when suddenly she felt a sharp pain in the left iliac region. She nearly fainted, but was able to command her faculties until she could withdraw from the meeting. She went to bed noticing that her abdomen was markedly distended. The pain was so severe as to require hypodermic injection of morphine. She remained in bed the better part of three weeks during which time her abdomen was continuously distended, very tender all over, and particularly painful in left iliac region. For the first five days the bowels did not move, and after that a movement every day or two was obtained by cathartics and enemata.

During June and July she made several visits to my brother and myself, coming from her home up the Hudson. On these visits she reported herself as better, but still very languid and tired, with tenderness in left iliac region. She said she was losing weight and had no appetite. On examination we could always feel a decided resistance over the sigmoid on deep pressure, which produced sharp pain that lasted for several hours. There was no distention, urine normal, bowels costive, but regulated by medicine. We made a tentative diagnosis of malignant growth and advised operation. In August this diagnosis was concurred in by Dr. Gibson whom I asked in consultation. We agreed as to the size of the tumor, about three inches long by two inches wide. Her friends dissuaded her from operation and she did not report for two months. At the next visit, in October, my brother saw her alone and on examination he felt the mass as before, but the pain produced by pressure was much more severe than before and persisted intensely for two hours, when it suddenly ceased with an almost magical sense of well being. In a few minutes she had an uncontrolled passage per anum, soiling her clothing with what she described as bloody, very foul pus. After this she remained perfectly well for four months, enjoying and active in her work. Our diagnosis was a suppurative inflammation of a diverticulum of the sigmoid or an intramural abscess that fortunately had burst into the lumen of the gut.

At the end of the four months of health, that is in February, 1908, nine months after the onset of her illness, she noticed a slow ill defined failing in her health and about April 1, 1908, she began to have general dull pains all over her body, but especially in the abdomen, with some distention; bowels irregular, headache, and prostration. Temperature began to rise, reaching as high as 104° F. on April 18th, and for the next week her temperature fluctuated moderately, often reaching 103° F., falling as low as 101° F. Her symptoms persisted. I saw her for the first time in this attack on April 25th. She was much emaciated, looked very sick. Abdomen somewhat distended, doughy on manipulation, and generally tender, with the pain slightly accentuated just below the umbilicus. The symptoms resembled those of the previous attack and fearing a second abscess, for which we might not anticipate so favorable an outcome, an operation was advised.

Accordingly, the abdomen was opened by a small intermuscular cut over the site of the old mass in left iliac region. Everything looked normal. The belly was next explored through a subumbilical incision. The most prominent object seen was a loop of small intestine, somewhat congested for about two inches of its length, and, on the margin distal to the mesentery, was a spot, the site of an intramural hæmorrhage one centimetre in diameter. The peritonæum over this area was dull and it seemed to me it was only a question of time before a perforation would take place. Two inches of the small intestine were resected, end to end suture.

After operation, all pain ceased, temperature fell to normal, patient making a prompt and uneventful recovery. The piece of resected gut was examined only grossly. The hæmorrhage was in the muscularis; the mucous membrane was apparently intact. The patient now enjoys good health.

Case II. Pat. M., age twenty-four years, admitted to J. Hood Wright Hospital, March 3, 1909. Denied syphilis and tobacco, but moderate user of alcohol. His symptoms began five days before admission with stiffness in one knee, next day some abdominal pain. The abdominal symptoms increased until admission when he presented

the appendix [illegible] This abdomen was distended, very tender all over, hiccoughs, bowels had not moved for five days. Temperature, normal; pulse, 92; respiration, 24. In addition he had marked œdema and stiffness of both hands and wrists, which he said had appeared twenty-four hours earlier. Enemas were ineffectual. Operation for supposed obstruction was decided upon. When about to start anæsthesia, the bowels moved several times freely with mucus and blood. Operation postponed. For two days he was kept under observation during which time his bowels moved freely, but abdomen remained distended and tender. Numerous petechial spots appeared in the skin and patient seemed to be losing ground. (I have a distinct recollection that the leucocyte count was high, but fail to find the record.) On the third day after admission (the eighth after onset of the disease) the abdomen was opened by a median incision, a piece of small gut was found, about five inches long, markedly cyanosed, no sign of peristalsis; peritoneal covering dull. This piece was resected; end to end suture. Numerous other areas about one centimetre in diameter were seen scattered throughout the small intestine as well as on the parietal peritonæum. These areas seemed to be ecchymoses similar to the petechial in the skin. None seemed in danger of perforation. Abdomen closed. Patient had a slow recovery. The abdominal symptoms promptly disappeared, but the œdema and stiffness of arms hung on for a long time. Discharged April 14, 1909, apparently well.

On examination by Dr. Welch, the resected gut showed all the layers swollen with serum. Exudate of polymorphonuclear leucocytes throughout. Bloodvessels congested and cloudy swelling of their walls. No thrombi or emboli found. Epithelium of mucous membrane intact.

Case III. George P., German, single, age forty years. Admitted to City Hospital, November 16, 1909; service of Dr. N. B. Potter.

Had been a heavy drinker in the past. Denied syphilis. Three weeks before admission felt sudden pain in epigastrium which had persisted. Worse on exertion. No vomiting, but nausea and retching. Very constipated.

On examination he showed temperature of 101° F., pulse 84, moderate tension. Abdomen full and rigid, but not distended, painful to pressure in epigastrium. In a hot bath the abdominal rigidity let up somewhat and an indefinite mass could imperfectly be made out in left hypochondrium. After several consultations, at the end of a week, his condition being unchanged, an operation was advised.

Under ether, when all rigidity was lost, we thought we could make out a small nodule internal to the spleen. Median incision showed the mass to be in the layers of the mesentery at first few inches of jejunum and consisted of two tumors about three centimetres in diameter. Close to the duodenojejunal junction a spot of hæmorrhage, a centimetre in diameter, lay in the outer border of the jejunum. This hæmorrhagic spot was dark purple in color and, although I realized that it might break down, the dread of the difficulty of a resection at this point determined the procedure. Accordingly the two nodules were shelled out of the mesentery and a large cigarette drain led down to the suspicious spot in the jejunal wall. One week after operation the site of hæmorrhage in the jejunum became perforated, but thanks to the sinus established by the drain, the intestinal contents were received in the dressings. The patient made a slow but uneventful recovery. The sinus gradually closed and he was discharged in six months.

A pathological examination of the nodules removed was made by Dr. Oertel, who reported the masses to be composed mostly of fat infiltrated with necrotic tissue, recent granulation tissue, pigment, and mature fibrous tissue. Dr. Oertel believed the areas to have been the seat of hæmorrhage but not very recent.

In reviewing these cases it might properly be argued that the symptoms in Cases I and II were out of all proportion to the lesion found, but on the other hand the cessation of symptoms after operation was very remarkable.

It might also be questioned whether these patients would not have recovered without operation —the hæmorrhagic spot resolving without perforation. The reply is that the impression left on the mind of the operator was that perforation surely would have occurred and resection presented the most trustworthy way to forestall that accident.

I have nothing to offer as to the ætiology of these cases and the number collected is as yet too limited to serve as a basis for formulating the symptomatology.

50 West Thirty-third Street

THE RADIOGRAPHICAL EXAMINATION OF THE GASTROINTESTINAL TRACT.*

By Russell H. Boggs, M. D.,
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The Röntgen rays examination of the gastrointestinal tract is of much value to the clinician and many realize the importance of this branch. A Röntgen ray examination should be not only radiographical and fluoroscopic, but also cinematographical. The last is not practical at present as a routine procedure, on account of the expense of the equipment and also on account of the time consumed in making the examination. It is the representation of the movement of the organ by a series of skiagraphs taken during a single cycle. It is necessary to have an equipment by which twelve or thirteen plates or films can be changed and exposed during a single peristaltic contraction of the stomach, the normal duration of which is about twenty-two seconds. The fluoroscopic method is dangerous to the operator even with the best possible protection. It requires considerable time and experience, as well as the continued use of the fluoroscope, in order for the operator to interpret what he sees just as in radiography. The physician who only uses the fluoroscope occasionally, and who has not examined a large number of normal as well as abnormal stomachs, will certainly misinterpret what he sees and will draw false conclusions.

One of the great disappointments to the medical profession is that röntgenology has not been made easy. Most of the work in this country has been done radiographically as most operators are afraid of the continual use of the fluoroscope. Although radiographing the gastrointestinal tract after a bismuth meal can be successfully done by any competent radiographer, its accurate interpretation is by no means easy and requires a considerable amount of experience, study, and careful consideration. A normal stomach is a difficult thing to describe, not only from a radiographical standpoint but also from an anatomical, as the organ is subject to considerable variations in regard to position, size, and shape. It is necessary for us to be familiar with the usual variations, before it is possible to determine the abnormal by a radiogram. Probably no other organ varies so much in size and shape as the stomach. From a clinical standpoint the normal stomach is one that empties itself in a normal time without untoward symptoms.

In studying a stomach after a bismuth meal it is

necessary to observe the cardiac and pyloric ends, the greater and lesser curvature, the position, the size, and the shape. On account of the secure attachment of the cardiac end, it is usually a fixed point and is on the left side of the tenth and eleventh dorsal vertebræ. The pyloric end of the stomach varies in normal individuals and changes its position at different degrees of distention. It is usually situated at about the level of the first lumbar vertebra and a little to the right of the median line. Under the influence of distention it may reach as far as two inches to the right of the median line. The nearest fixed point is that of the second portion of the duodenum to the spine, on the right side, at a level with the first lumbar vertebra.

The normal stomach is outlined by the x ray as slightly oblique from left to right. It is almost entirely to the left of the median line, the pylorus usually crossing to the right. The cardiac end hugs the diaphragm and contains a bubble of gas, known as the *Magenblase*. The greater curvature of the stomach varies in different individuals and with different degrees of distention. The lower level is usually above the third lumbar vertebra and umbilicus.

The stomach, under normal conditions, when filled with a bismuth meal, gives the following picture:

The fundus being the highest and widest part of the organ, rises above the level of the cardiac opening, which becomes more tubular as the pyloric end is approached. The greatest variations in the shape are apt to be found in the pyloric extremity. Most commonly the lower pole of the pylorus is tilted upward obliquely, the pylorus being several inches higher than the lower pole. Reider terms this the fish hook type.

Holzknecht found this to be true in about ninety per cent. of the cases and described the type which represents about the other ten per cent., in which the pylorus itself constitutes the lower part of the stomach, that is, the path from the upper part of the pylorus is an oblique curve. He considers this normal, and terms it the cow horn type.

Before making a diagnosis of ptosis from a plate it is important to know whether the stomach is empty or distended, as a stomach empty is more vertical than when full. Unusual distention, dilatation, or a growth on the liver or pancreas might cause the stomach to assume an abnormal position.

In ptosis of the stomach the pylorus is usually found lower than normal and in extreme cases it is often as low as the fourth or fifth lumbar vertebra. In retention it is important to know the position of the pylorus on account of the possibility of the cause being due to a pyloric "kink." It is difficult, at times and in some instances, to show either the pylorus or duodenum. This is especially true in gastroptosis of an extreme degree. The difficulty arises from insufficient bismuth in the part, on account of the position of the stomach causing a "kink" or lack of motility. A radiogram with the patient in another position, especially the right lateral recumbent, allowing the stomach to fall over and leaving the pylorus uncovered, will often show the latter. Besides the cardiac end the second portion of the duodenum is also firmly fixed. Normally, at the junction of the first two portions of the duodenum there is a sharp turn, and when the pyloric end of the stomach draws on this sharp bend, it may cause a "kink," which interferes with the outflow of the gastric contents.

In gastroptosis there is also more or less ptosis of the transverse portion of the colon, although the flexures may not be much displaced. The hepatic flexure is found more often to be displaced than the splenic.

In studying the stomach radiographically it can often be determined, when the greater curvature is below the umbilicus, whether this is due to dilatation alone, or to ptosis, or to both. When a stomach is only dilated, the greater curvature is usually below the umbilicus, but instead of assuming the vertical position it still retains a more oblique position and the hepatic and splenic flexures are usually in their normal position.

Dilatation and ptosis, no difference which precedes, usually soon coexist, as one is a cause of the other, but it is often important to determine whether a dilatation has caused the ptosis or has resulted therefrom.

Irregularity of the contour of the stomach, when the stomach is filled with bismuth along the greater or lesser curvature, often assists in the diagnosis from the clinical symptoms.

A globular and contracted stomach would suggest ulcer. A tumor anywhere in the greater or lesser curvature may cause indentation. A tumor in the anterior or posterior wall of the stomach would not show unless the examination was made by the screen. Pressure of the displaced abdominal viscera may be the cause of indentation. The form of the stomach may be changed by adhesions drawing it out of its normal position or by a puckering of scar tissue following an ulcer. The normal indentation of the spleen should always be observed. An enlarged spleen would produce an abnormal indentation.

The clearance of the stomach depends upon its mobility, the position of the greater curvature, the position of the pylorus, pyloric stenosis, pyloric inefficiency, and hourglass contractions.

Obstruction to the passage of the gastric contents through the pylorus may be due to adhesions caused by scar tissue of ulcers, due to growths in the pylorus, to pressure of growths or enlarged glands outside, or to a pyloric "kink," caused by ptosis of the stomach.

Since the cardiac end of the stomach is a fixed point Groedel has suggested the term pyloroptosis instead of gastroptosis.

Pancoast, in examining over 100 cases of gastroptosis, found the pylorus uniformly low. In speaking of a low pylorus Lang states: "A low pylorus, or rather a pylorus at the lower pole of the stomach, is according to Holzknecht, Goldammer, and Pfahler, the criterion of a normal stomach, using the most advantageous state of affairs for the prompt emptying of the organ. But in gastroptosis, since the cardia is a fixed point, a dropping of the pylorus can occur only by stretching of the stomach musculature and a consequent impairment of tonus. Although the pylorus is low in these cases of ptosis the greater curvature usually sags lower and this inter-

feres with rather than aids the passage of the food into the duodenum."

Crane has pointed out the value of using a pain marker when radiographing the gastrointestinal tract, on account of the variations in position of the visceral organs. He advises the operator to place the letter P over the site of pain. The pain marker, which often ought to be placed over the appendix, will coincide with the pylorus when examining the plate. Again, the lead marker for pain indicator may coincide with the duodenum or other portions of the small intestines, some parts of the colon, spleen, liver, gallbladder, kidney, ureter, or urinary bladder. In some instances, at least, the pain marker may be of some service in arriving at a correct diagnosis.

Jordan states: "From the duodenum the intestinal contents containing bismuth move through the jejunum and ileum at a rapid rate, approaching two inches a minutes, and the bismuth becomes so widely scattered that no picture of any part of the small intestines beyond the duodenum is obtainable in a normal subject. At the lower end of the ileum, in the last twelve inches before the ileocæcal valve, the greater part of the bismuth reaccumulates, and here some very valuable information may frequently be obtained as to the condition of the terminal coils of the ileum and of the ileocæcal valve in relation to the cæcum itself."

He states further that in his experience he has found that instead of giving two ounces of bismuth carbonate it is necessary to give five or six ounces, as in such cases the bismuth remains in the ileum from one to two hours longer than when two ounces are given.

Obstruction in the large intestines cannot often be shown after a bismuth meal. Of course, whether the obstruction is due to new growths in the bowel, to a tumor pressing upon the intestines from without, or to cicatricial contractions, cannot be decided by the Röentgen rays alone.

EMPIRE BUILDING.

A PRELIMINARY REPORT UPON THE DESTRUCTION OF SURFACE AND CAVITY NEOPLASMS BY DESICCATION.

*A New Electrical Effect.**

BY WILLIAM L. CLARK, M. D.,
Philadelphia.

The object of this paper is to show a means whereby tissue may be destroyed by rapid depletion of its fluid element. As applied to living animal tissue, heat effects range in degree from hyperæmia to burning. Somewhere between the two extremes there is a point, the effect of which is more than hyperæmia and less than burning, which may be called the desiccation point. The idea is to produce, control, and sustain a degree of heat sufficient to cause rapid desiccation of the part to be treated, sterilizing and converting it into an inert mass.

The term desiccation is used nearly to express the effect produced, and to differentiate it from coagulation necrosis produced by certain bacterial toxines, and the cooking caused by the application of the actual cautery. The cautery brought in contact with the surface of the body produces superficial searing and does not penetrate to any depth unless the cautery knife is plunged into the tissue. An example of this is steak broiled over very hot coals. The exterior is coagulated, and the interior remains raw. A less intense degree of heat has more penetrating power. Steak exposed to a slow fire is cooked throughout.

It is obvious that if destruction were produced by desiccation, it would be more desirable than cooking by the cautery. The production and control of this effect in a practical way appeared to be a difficult matter, until a series of experiments with electric currents of high potential paved the way, and now demonstrable evidence is at hand, that an effect which appears to be desiccation of living tissue is not only possible, but subject to such control that morbid tissue the size of a pin point may be destroyed without infringement upon the normal tissue, as well as a growth of large size. This may, moreover, be done with one application, even though of considerable depth. A bloodvessel may be desiccated throughout without spilling a drop of blood.

Desiccation is obtained by a specialized, true oscillatory, high frequency current, concentrated to a fine metal point, and delivered in sparks of great frequency through an air space to the tissue. The principle of resonance as employed in wireless telegraphy is here utilized. The first experiments were with the induction coil, with the usual accessories for giving the high frequency current, but this current has been discarded as impracticable on account of the necessary interruptions and irregularity of discharge, which render impossible an absolutely constant thermic degree. Experiments with the oscilloscope show this irregularity.

Fulguration, as practised at home and abroad for several years, is obtained from the coil, and has its value, but it is not desiccation, the thermic degree being too high and the impact against the tissue too severe.

The static current was next tried, and theoretically appeared to be ideal, on account of its smoothness of flow and absence of interruption and magnetic lag, giving what is known as a circuit of free oscillations, but the output of the ordinary machine was not sufficient for the effect desired. A static machine of large output was procured. A five horse power motor was used to drive twelve revolving plates of special construction for strength and durability, capable of 2,000 revolutions per minute, giving about twenty times the output of the ordinary static machine. By varying the size of Leyden jars and resonators, all thermic effects were obtained, from hyperæmia to cauterization. I experimented with my own hand for the milder effects, and with an ordinary cake of soap for higher degrees of heat. A balance was struck when it was possible to desiccate a piece of soap through a sheet of paper without charring or discoloring the paper, and, by extracting the plug and crushing it between the fingers, it was pulverized. The soap immediately surrounding the desiccated area was very wet, as the moisture could not evaporate on account of the paper, and condensed on the soap. When no paper

*Read at a meeting of the Philadelphia County Medical Society, February 8, 1902.

was used, small droplets condensed upon the surface of a small mirror held in close proximity. It was found that the same effect was obtained with raw liver and potato. This seemed good proof that the exact degree of heat for desiccation was attained and could be sustained without increasing and without danger of burning.

Small warts and moles were successfully treated, after which I became more daring and cautiously applied it to epithelioma, exuberant granulations, cutaneous pigmentations, hæmorrhoids, tattoo marks, acne pustules, x ray keratosis, lupus, and in one case of bladder papilloma, aided by the catheterizing cystoscope. Its applicability in various other conditions will suggest itself. By slightly increasing the intensity of the current and bringing the metal point in closer contact, a destructive effect may be produced through fluids, as is necessary in the case of tumor of the bladder. The technique, with observations upon the primary and secondary reactions, and the probable reasons for such cause and effect, are as follows:

A static machine of large output is used (three to six milliampères) with a pair of field regulators, devised to give instant and perfect control of the current, even when the speed of the plates is high, and which can be regulated at will without interfering with the speed of the plates. The accessories are, Leyden jars, the capacity of each being 0.00042 microfarad, used in connection with a resonator attuned to the capacity. One end of the resonator coil is grounded. It makes no difference which end, it being a true oscillatory current, therefore with no polarity, and no electrolytic action. A metallic instrument with a fine point is attached to an insulated handle with a contrivance for make and break, and also to a wire at the other end of the coil. The unipolar method is employed. The resistance or spark gap is regulated to a point of what is known as "critical resistance," which can be determined by the characteristic appearance of the discharge. The speed is regulated until the machine generates from 2.5 to 3.5 milliampères of current, more or less, depending upon the effect desired. A discharge from a metal point against a target of tissue will cause an immediate change in the tissue, which is apparently desiccation, the penetrability depending upon the time of exposure and regulation of resistance or spark gap. It is possible with this current to destroy growths of large size and great depth with one application, if this seems desirable, or it may be accomplished in a number of different sittings. There is an immediate blanching of the tissue under treatment if the lesion is dry, or a blackening if it is open with oozing blood, followed by a characteristic shelllike aspect. Complete or partial desiccation depends upon the time the discharge is sustained. There is more or less inflammatory reaction beneath and surrounding the desiccated zone on account of the heat and traumatism, which is observed whenever there is a foreign body in living tissue. This is desirable, as it promotes a positive chemotaxis. It is possible to remove the crust by using a little force immediately after the treatment, but it is best to wait two to five days, when it may be removed by gentle prying with a groove director, or it may loosen and drop off itself. The crust acts as a natural dressing and promotes a lymphorrhœa between the healthy tissue underneath and the crust. In most cases when the crust comes away regeneration is well advanced, repair having taken place beneath the crust. Treated now by ordinary surgical means, complete repair is rapid. I believe this is due to sterilization, and probably migration of an excess of leucocytes to the part. In from one to three weeks, depending upon depth and size of the lesion, granulations have filled up the depression. Depending upon the character of the lesion in regard to its size and depth, new skin, scar tissue, or a combination of both has formed. This is the macroscopic appearance only. The cosmetic effect is good after the slight redness has faded away. When the area is large and deep there may be a slight bleaching, as the skin pigment is destroyed. As a rule no anæsthesia is required. A few preliminary short flashes are usually sufficient to blanch and anæsthetize the nerve endings, so that the subsequent treatment is bearable. In very supersensitive individuals, local anæsthetic measures may be employed, but I make it a rule never to use the needle where there is a suspicion of malignancy. The cataphoric method of diffusing a four per cent. solution of cocaine is satisfactory. A one per cent. solution of quinine and urea hydrochloride infiltrated into the tissue, or a fifteen per cent. solution touched to the part, has recently been used with success. Nitrous oxide may be employed, as the time required for desiccation is short. I found this necessary in two cases of multiple x ray keratosis where extreme hyperæsthesia existed. To give an idea of the length of time required for desiccation, a section of tissue one quarter inch square may be depleted within a fraction of a minute. The rapidity of action seems to be directly proportional to the density of the tissue. Mucous membrane responds quickly, while a callosity requires a longer exposure.

The results of my experience with 317 lesions in seventy-eight patients, has made me feel that this preliminary report is justified.

Epithelioma	15	X ray keratosis	58
Lipoma	2	Chancroids	4
Pigmentations	3	Condyloma	10
Granulating ulcerations	3	Bladder papilloma	1
Hæmorrhoids	12	Lupus	4
Tattoo marks	4	Moles	60
Acne	10	Verruca	122

Case I. E. W., female, aged forty-eight years. Ulcerated growth, size of egg, of five years' standing, angle of right scapula. Diagnosis, epithelioma. Desiccated May 16, 1909. In five days slough came away. Ulceration healed in two months. Area slightly bleached. No recurrence to date. Twenty-one months since treatment. (Referred by Dr. Samuel E. Walker, of Philadelphia.)

Case II. E. K., female, aged sixty-five years. Rodent ulcer, size of twenty-five cent piece, middle posterior surface, right thigh. Twenty years standing. Desiccated May 14, 1909. In three weeks new skin had formed, and has not opened up since. Twenty-one months since treatment. (Referred by Dr. Samuel E. Walker, of Philadelphia.)

Case III. J. W., male, aged eighty-five years. Epithelioma, left temple, size of half dollar. Ten years' standing. Desiccated May 16, 1910. Slough came away in four days. New skin had formed in three weeks, and patient discarded a covering which he had worn for several years. I have learned recently that there is a slight recurrence in the centre. Patient living out of town, and on account of advanced age unable to return to office. I may say I desiccated superficially in this case; had I gone deeper I think there would have been perhaps less chance for recurrence. (Referred by Dr. Samuel E.

Case IV. Referred by Dr. W. C. Hollopeter, of Philadelphia. M. S., female, aged eighty-six years. Large epithelioma, springing from the median line just above the nose, well back on the scalp to the middle of the temple back over the eye. Granulating surface, the size of a large hand. Intense odor and much pain. Desiccated whole area one application, July 8, 1910. This was done with the idea of palliation, and Dr. Hollopeter reported to me that the odor and pain was much lessened. She did not return for further treatment.

Case V. Referred by Dr. Albert Parke Good, of Philadelphia. A. F., male, age forty-three years. Epithelioma on nose, one inch by three-quarters of an inch in size. Two years' standing. Desiccated October 5, 1909. Entirely healed in three weeks with practically no scar. No recurrence sixteen months after treatment.

Case VI. G. H., male, aged forty years. After irritation to his lip from constant cornet playing since boyhood, a small keratosis appeared, about three years ago, on the mucous membrane of his lip, slightly to the right of the median line. It gradually grew to the size of a pea, deep into the tissue, and became hard and painful. Unquestionably, in my opinion, a malignant growth. Desiccated March 16, 1910. In three weeks there was perfect healing. No recurrence to date, eleven months after treatment.

Case VII. R. W., male, aged thirty-eight years. Four large protruding internal hæmorrhoids. Intense spasm of sphincter ani. Satisfactory anæsthesia by ionic diffusion of cocaine. Good exposure with speculum of rubber with wide longitudinal groove. Desiccated February 15, 1910. Ulcerations healed rapidly. Rectum returned to place. Spasm disappeared. Last examination three months ago, result satisfactory.

Case VIII. E. V., male, aged fifty years. Dessicated large mole with flat base exactly on the margin of the upper eyelid, leaving no scar, nor the slightest suspicion of contracture.

Case IX. W. F., aged twenty-five years. Tattoo mark of an eagle the size of a small hand on the forearm. Desiccated whole area one application. Kept moist for several days with bichloride solution, when I was able to easily curette away every vestige of ink. In two months, a combination of new skin and scar tissue had formed. At the present time there are some irregularity of surface and slight bleaching of the skin. In two small tattoo marks previously treated the result was almost perfect.

Case X. Referred by Dr. Edward Martin, of Philadelphia, and treated in conjunction with Dr. B. A. Thomas, of Philadelphia. I. G. A., male, aged sixty-five years. Inoperable papilloma of the bladder size of a hen's egg near the trigone. First symptoms appeared eight months ago and bleeding commenced, which was very profuse and appeared at each evacuation of the bladder. He became very weak and anæmic. By using a catheterizing cystoscope, Dr. Thomas was able to pass an insulated wire through the instrument, the bladder being inflated with boric acid solution. The wire could be perfectly controlled and brought into contact with any part of the growth desired. First operation October 1, 1910. Treatments averaging two weeks apart. Bleeding very much diminished after the first treatment, and entirely ceased after the second. Papilloma rapidly decreased in size, and at the present time there is no evidence of the growth, other than a small scar. Patient has recovered health and strength and is attending to his business.

I shall insert here a history of multiple x ray keratosis and epithelioma, written of his own case by a well known New York röntgenologist.

Case XI. Aged thirty-nine years. "Began Röntgen ray in 1896. In 1897, small keratosis appeared on left hand. I never had any acute burn of the skin, but the condition resembling senile keratosis progressed steadily until about three years ago. During this time various methods of treatment by ointments, arc light, incandescent light, and lotions were tried without any benefit. A very few keratosis growths were removed by salicylic acid collodion. By 1907, three or four of the keratosis growths had broken down, become ulcerated, and refused to heal under ordinary methods of dressing. At this time thirteen excisions were made by Dr. [illegible] of Boston, and the areas were skin grafted. Two of the ulcers excised proved to be epithelioma by microscopical examination. All of the grafts grew well into place and recovery was very satisfactory. In the spots treated in this way there was no recurrence, except at the margins of the grafts, three or four of which developed new keratosis at the margin. During the next two years a number of keratosis growths, probably twenty or thirty, were removed by freezing with liquid air and with carbon dioxide snow, by Dr. H. H. Whitehouse, of New York. This treatment removed most of the recurrent keratosis at the margin of the skin grafts, and a few other growths that were isolated. This treatment, although very painful in the case of the areas that were near the phalanges, and especially those over the finger joints, was very satisfactory. A few spots recurred, but these were readily controlled by a second freezing. The cosmetic effect of the freezing was perfect when the areas treated were surrounded by healthy skin, and very satisfactory in all cases. The treatments covered from one to six spots at each sitting. The duration of the treatment of liquid air or carbon dioxide snow, was from ten to forty seconds. The time for complete healing averaged about two weeks.

On June 3, 1910, about six cases were treated by Dr. William L. Clark, of Philadelphia, and these had entirely healed over in two weeks, the reaction and the end result being very similar to that obtained with the freezing. This method has the advantage that it can be applied in certain situations where it would not be practicable to apply the pressure necessary for the freezing. The condition of the hands was accompanied by a supersensitiveness, which made the application far more painful than it would have been with normal skin. It was therefore decided after successful outcome of these preliminary treatments, to apply the same method of treatment at one sitting to every keratosis on the left hand. Under general anæsthesia by nitrous oxide gas, on June 18, 1910, twenty-seven of these areas were treated within a period of four minutes. After five weeks, every one of the lesions treated was healed up satisfactorily."

The foregoing will serve to give an idea of this destructive agent. I do not deem it prudent at this time to make any claims of permanent cure in cancer, although the freedom from recurrence of from one year to twenty-one months in several cases has made me hopeful. What I do wish to claim and emphasize is that there is no doubt that accessible growths may be destroyed in an easy and refined way, and that desiccation should be adopted as a valuable addition to our armamentarium, used alone or in conjunction with surgery.

The following experiments were performed to prove the sterilizing property of desiccation in the Pepper Laboratory of the University of Pennsylvania, by Dr. B. A. Thomas: Two cultures taken from ulcerating carcinoma of pharynx prior to treatment showed *Streptococcus pyogenes* and *Micrococcus aureus*. Two cultures taken from same identical area immediately after treatment, showed no growth. This was verified in the case of two infected leg ulcers in the laboratory of St. Agnes's Hospital, by Dr. P. H. Wood. *Staphylococcus pyogenes* was found before treatment, and there was absence of bacterial growth after application. In one of the latter cases a cover glass preparation was made from the ulcer after treatment for a study of cell changes, and microscopical examination revealed nothing but disintegrated epithelial cells, showing that the life of the cells was destroyed without entirely losing their identity.

Malignant growths may be destroyed without opening blood or lymph channels, thereby preventing further metastasis or the inoculation of healthy tissue in adjacent parts. In cancer of the breast,

where there is involvement of the axillary or cervical glands, a surgical procedure is indicated on account of inaccessibility of the involved structures, but on the first appearance of recurrence there would be a great possibility of arresting activity. In cancer of the cervix, I believe it to be more desirable than the curette and cautery. It is sterilizing, destructive, styptic, deodorant, and penetrating, and can be done with a minimum degree of danger and discomfort, and I believe it might offer a chance of cure if taken early. It is very effective in exuberant granulations, and there is reason to believe that it would be successful in trachoma. Sluggish ulcers may be stimulated to repair. It simplifies the treatment of hæmorrhoids and other neoplasms of the mucous membranes. Employing the endoscope as an aid, cavity lesions may be successfully treated. Its applicability in the bladder has been shown, and I believe the future will show that it is possible to apply it deeply into the rectum, the interior of the uterus, the throat, the œsophagus, and even the stomach. In warts, moles, pigmentations, and in certain other cutaneous lesions, the destruction is a simple matter and the cosmetic effect is good. Fulguration produces its effect by a coarse kind of mechanical, superficial charring, while oscillatory current desiccation produces a refined, penetrating devitalization by drying, and possibly some biological effect in addition, which I cannot define at the present time.

Conclusions:

My work up to the present, would appear to justify the following conclusions:

1. A current from a static machine of large output with properly attuned accessories, when applied with correct technique and care, is capable of producing a superficial or a deep destruction of tissue by desiccation, or rapid depletion of its fluid element, which breaks up and disintegrates the cells.

2. It has sterilizing, deodorant, styptic, penetrating, and stimulating properties.

3. This specialized current has no particular affinity for abnormal tissue over the normal, but it is a simple matter to keep the destruction well within bounds on account of refinement of control.

4. It is operative in all accessible lesions where destruction is desirable, and works from without inward.

5. Living tissue is destroyed by this means almost as readily as dead tissue (raw meat).

6. The rapidity of action appears to be directly proportionate to the density of the tissue.

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DISEASES OF OCCUPATION.*

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While there are occasional hints in the writings of the ancient Greeks about the "diseases of the slaves," it was not until the close of the seventeenth century that occupation was recognized as a distinct factor in disease production. Modern industry has developed a whole arsenal of diseases with which to bruise, maim, disfigure, poison, and paralyze the workers, and modern medicine is concentrating its attention more and more upon these diseases. With the substitution of the machine for the hand tool, the factory for the small shop, the city for the village, disease has ceased to be an individual matter. It has become a social affair.

Labor flocked to the factory where the unprotected machines, the whirling dust, the poor light, the inefficient ventilation, the monotonous din and terrific "speeding up" sent its thousands to sick beds and graves. Then, too, the machine no longer required skilled labor. The cheaper labor of women and children was utilized and, being less resistant, they succumbed easily to industrial diseases. The industrial revolution swept aside the personal element and placed man completely at the mercy of environment. This environment consists of the home and the work place. The home is merely the worker's bedroom. It can be dismissed with the observation that it is usually a miserably lighted, ill ventilated, thoroughly unattractive, and unhygienic place.

The work place is where he spends the greater part of his waking hours; where the best that is in him should be brought into play to produce useful things, where the work necessary to energize his system should elevate and ennoble. Instead, it is a stuffy mill roaring like Niagara and laden with irritating dust; a factory where lead causes paralysis and phosphorus produces necrosis, or a mine full of noxious gases, likely to snuff out life at any moment. Worst of all, the consciousness of being a mere appendage to the machine, the uncertainty of unemployment and the eternal, unchanging grind, crush the spirit of the worker and make him hate the work, the employer, and himself. This, combined with the feverish intensity and mad speeding up of the work, ravage the mind and nervous system. The increase in nervous breakdowns and the premature aging of the men, women, and children of the working class are due directly to these factors.

Before the advent of the present industrial system, the worker could adjust the work more or less to his individual requirement. Did a certain line of work not agree with his health, he could vary it accordingly. He lived and worked closer to nature and occupation diseases were practically unknown. To-day, the worker must be adjusted to the social urge of the machine. He must keep pace with the machine or quit. The workers, irrespective of age, sex, race, color, or creed tend the same machines, in the same factories, turn out the same products, work the same hours, eat the same food, read the same papers, and see the same amusements. The everlasting sameness of it all is maddening and drives countless thousands into asylums, psychopathic wards, and suicides' graves. Aside from the psychic effect of the work place, there must be considered the effect of fatigue, irritative dusts, poisons, injuries, and female and child labor—all associated with modern industry.

Muscular work means mental work. For every amount of muscular energy expended, an equal amount of nervous energy is lost. The pleasure of manual work is mental. This is strikingly seen in the joy of the skilled mechanic or artist in his

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finished product. This principle is used to advantage in schools for the feeble minded. The child's brain is first developed by training its hands.

Likewise the misery of manual work is mental. The joyless faces of the workers as they troop to and from their labor bears sad witness to this fact. Tired muscles mean tired nerves and a tired brain. When the body is worked beyond its capacity—when, in other words, it becomes fatigued—it is not merely the muscles, but the nervous system and brain that become wearied. That is why exhausting toil causes the individual to feel "tired all over."

Investigations have shown that when the work capacity of the body is taxed, fatigue products or toxines are elaborated and that these toxines circulating in the blood and acting upon the brain and muscles are responsible for that tired feeling. When the blood of a fatigued animal is injected into a healthy one, the latter soon becomes fatigued. The theory is also advanced that these fatigue toxines act like the diphtheria toxine and that the body overcomes them by an antitoxine. This is why athletes withstand fatigue better than untrained individuals; their bodies have elaborated antitoxines.

Unless fatigue is checked by rest or abstinence from hard, intense work, there ensues a condition which may be termed chronic fatigue. The worker is continually tired. If he is a mental worker he finds that he has lost interest in his work; he feels flabby, dispirited, and cannot concentrate his mind upon any particular subject. If a manual worker he becomes enervated, his muscles lose their customary skill, resulting in botched work or accidents; he is "all in."

Chronic fatigue creates a craving for stimulants. Alcohol, tobacco, tea, coffee, heavy dinners, and trashy amusements—in short, "the pace that kills"—is not the result of sinfulness or depravity, but of a tired body and mind. These things are taken in the hope of instilling energy into a rebellious body, just as a horse is "doped" for a race.

Chronic fatigue is responsible, in a large measure, for degeneracy. Vagrancy and vice are the legitimate offspring of weariness. Exhausting work breeds the opposite extreme of abhorrence of work. The men become tramps and the women prostitutes and both in turn become criminals; they commit crime for the mere excitement of it, just as a child will set fire to a house to see the engines run.

Aside from the general effects of fatigue, there are many localized lesions which are quite troublesome. The most common of these affections is the so called writer's cramp or scrivener's palsy. This painful affection afflicts those who use their fingers a great deal, such as clerks, bookkeepers, authors, typists, telegraphers, seamstresses, and violin players.

Next to fatigue in its insidious influence upon the body comes occupation dust. Dust acts mechanically and chemically. Mechanical dust such as "fluff" of cotton mills, the flour of bake shops, and the minute particles of coal, iron, steel and stone act as direct irritants. "Fluff" and flour dust clog the air passages and lungs, inducing colds which terminate in chronic catarrhs. The sharp pointed particles of coal, iron, steel, and stone lacerate the delicate bronchial and lung tissues, bringing on bronchitis, asthma, emphysema, pneumonia, and tuberculosis.

"Miner's asthma," "grinder's asthma," "chimney sweep's con.," and "potter's rot" are popular terms for conditions which, perhaps not tuberculous in the beginning, usually end that way. In such cases the lungs are laden with lumpy dust, their expansion is diminished, and they become fertile soil for the tubercle bacillus.

Chemical dusts, such as lead, arsenic, phosphorus, antimony, mercury bichromate, and copper, are distinct poisons. They enter the system through the skin, lungs, stomach, and intestines and produce serious symptoms, such as spongy gums, vomiting, colic, diarrhœa, and paralysis. The blue gums, colic, and wrist drop of lead, the puffy eyes, pimply skin, and peripheral neuritis of arsenic, the black, loosened teeth, fetid breath, salivation, and muscular tremors of mercury, and the ulcerated jaw of phosphorus workers are striking trade marks of toil. Women and children are more susceptible to the action of chemical poisons than men.

Animal products, such as horsehair, used in brush making, frequently inoculate the workers with the malignant pustule of anthrax. Wool sorters and rag pickers also contract this deadly disease. Furriers, who scrape rabbit skins in the manufacture of artificial furs, are liable to a peculiar disease of the nails. A groove forms on the nail which gradually becomes deeper until the nail drops off. Flax, cotton, and jute workers are subject to various skin troubles, of an itchy, eczematous character.

The hazardous nature of dusty trades can readily be appreciated by a glance at mortality rates. As the gathering of statistics in this country, especially in regard to industrial diseases, is done very crudely and is therefore almost worthless, we shall depend on those of England for comparison. Dr. John Tatham, of London, compiled a table in which he shows that there are twenty-two occupations in each of which deaths from tuberculosis and other lung troubles are more than double those among farmers. Furthermore, these twenty-two include nine (potters, cutlers, file makers, glass, copper, iron, steel, zinc, and lead workers) in which the mortality rate is from three to four and a half times that of farmers.

Poisonous gases, vapors, high temperature, and caisson and compressed air are responsible for many ailments and deaths. Carbon dioxide or carbonic acid gas (CO_2) is present in badly ventilated living rooms, factories, and work shops. It is a much weaker poison than carbon monoxide, to which, fortunately, people are less subjected. When exposure to carbon dioxide is continued for some time, vitality is weakened and the system becomes an easy prey to disease. In ordinary atmospheric air carbon dioxide is present to the extent of 0.04 per cent., but it requires much larger quantities to produce headaches, vertigo, buzzing in the ears, intense drowsiness, and unconsciousness.

Carbon dioxide is given off from vats in breweries, in starch works, paper works, sugar refineries, lime kilns, unused cellars, and mine galleries. It is always present in the air of workshops and

factories owing to the exhalations of the body, the processes of production, and artificial light. A certain tolerance to the gas is established, but it is a constant source of the headache and malaise complained of by workers.

Carbon monoxide or carbonic oxide (CO) is evolved in the incomplete combustion of carburetted gas, coal, and explosions. It is present in coal mines where blasting is done by dynamite or gunpowder, in blast furnaces for smelting iron, in the manufacture of illuminating gas, in the Leblanc process of soda manufacture, in cement and brick works, and in tunnel building. It forms from seven to ten per cent. of illuminating gas and gives the blue flame seen in ordinary coal fires. It is an odorless and colorless gas and has an affinity for the blood from 140 to 250 times greater than oxygen. Owing to the fact that it forms a stable compound with hæmoglobin, it is extremely poisonous. The presence of 0.1 per cent. in air induces annoying symptoms and when the percentage reaches 0.4 it endangers life.

Hydrogen sulphide (H_2S) is a deadly poison. It acts upon the respiratory centre. There are no premonitory symptoms. Death is painless and sudden. Workmen employed in sewers, especially in those that become blocked, are subject to this menace. This gas is present in privies, the mud of marshes, and in filth manure. In industry it is met in chemical and gas works, the black bronzing of metals by means of sulphide of arsenic, boiler cleaning, soap making where much fat is decomposed, and in the preparation of Prussian blue.

Then there are carbon bisulphide (CS_2) a colorless, volatile liquid with a nauseating odor, used in the manufacture of waterproof goods and the vulcanization of rubber, and acetylene gas, methylated or petroleum spirits, and benzin used in rapidly drying paints and for cleansing purposes, all of which cause disagreeable symptoms and pave the way for disease by reducing the resistance of the body.

Caisson and compressed air is a source of serious symptoms and many fatalities. The effects occur when the men are undergoing pressure and during or after leaving pressure. In a short while, sometimes hours, after coming out of the air lock the men suffer severe pains in the muscles and in the knee, elbow, and hip joints, which they term "bends." The pain is frequently agonizing and may continue for two or three days at a stretch. Vertigo is not unusual and they staggger about as though intoxicated. Paralysis of the legs sets in, which may be temporary or permanent. Pearl divers, salvage divers, and sponge seekers also suffer from paralysis, due to too sudden decompression.

Injuries and accidents, while not "diseases" of occupation in the ordinary sense, must be included under this head to demonstrate the destructiveness of modern industry. Mr. Holmes, chief of the technical branch of the Department of the Interior, reports the loss of 23,000 lives in the United States through mine explosions during a period of less than eighteen years. Ten thousand lives are lost annually on our railroads alone. The total mortality from accidents to wage earners in the United States is 35,000 annually. The nonfatal accidents amount to over 200,000. Most of these accidents are due to improper precautions, lack of safety appliances, and unprotected machines.

The effect of occupation upon women and children is highly important from both a medical and sociological standpoint. Here we are dealing with the very foundation of the race, and it is incumbent upon us to approach this problem not only as physicians, but as humanitarians.

The wonderful inventions at the end of the eighteenth century and during the nineteenth century took such useful industries as weaving and spinning out of the home into the factory. The women and children, who should have remained at home, followed the work into the factory. Steam revolutionized industry and turned the home worker into the factory "hand." The factory system made the machine more and more human and the human more and more of a machine. This necessarily brought about physical, mental, and moral deterioration of the working classes.

Statistics show that there is a close relation between occupation of married women and infant mortality. The textile and pottery towns of England and the United States show a much higher infant mortality than other towns. Physical and mental fatigue, strain and stress, long hours, and poor food have a decided effect upon both mother and child. In the mother it induces congestion of the reproductive organs, with their trail of ills popularly known as "female troubles." In the child it is the cause of premature birth and a devitalized constitution that makes the infant a ready victim for all the diseases of infancy which usually carry it off before the fifth year.

Certain industries have a decidedly destructive effect upon the reproductive organs of women. Chief among these stands lead. In England, where large numbers of women are employed in lead factories, abortions are so frequent that it is rare for a woman to have a live infant. Constantin Paul has published the results of 123 pregnancies where the father and mother were lead workers. Of these sixty-four were abortions, four premature confinements, five were still births, and twenty of the infants born alive died within the first year. Dr. Thomas Oliver mentions a few interesting cases.

Mrs. H., aged thirty-five years, had four healthy children born at full term. She went to work in a white lead factory and was there six years. During that time she had nine miscarriages and no living child. Mrs. M., aged thirty years, has had seven children and three miscarriages. All the miscarriages occurred after going to the lead works. Mrs. K. had four children before going to the factory and two children after. She then had six miscarriages in succession, when she came under his care in the Royal Infirmary, having become the victim of plumbism and lost power in her arms and legs. She made a slow but good recovery and did not return to the lead works. In her next pregnancy she went to full term and gave birth to a living child.

It is highly injurious both to herself and offspring for a pregnant woman to work through pregnancy and up to the time of labor as most working women do. It is no uncommon thing in factories where women are employed for a woman suddenly to leave her machine with a cry and be delivered of a baby on the floor or in an anteroom.

The last two months of labor are the most im-

portant time for the fetus, as it then gains from three and a half to seven and a half pounds. Pinard demonstrated the effect of employment upon the weight of a child by weighing 500 infants in each of the following classes: (a) 500 infants of women working right up to the time of labor, 3,000 grammes; (b) 500 infants of women who spent the last few months in a lying-in hospital, 3,290 grammes, and (c) 500 infants of women who spent the whole of pregnancy in a hospital, 3,368 grammes.

There are over four million women engaged in gainful occupations in the United States. Of these fully half are married. In many cases the woman becomes the chief bread winner, owing to illness on the part of the husband or the fact that her cheaper labor has displaced him. Apart from the fact that she loves the man, a woman marries primarily for a home. Among the working class, poor wages and high prices compel both the husband and wife to go into the factory to keep the imitation of a home together. The two million married working women means that there are two million homes broken up, where no family life is possible and where the children are left to grow up as best they may. Then, too, the working girl, seeing her friend return to the machine the day after marriage, hesitates long about marriage, with the result that there is a great increase in immorality with its trail of sexual diseases.

Woman's place is in the home. It is she, who by nature and generations of training, is best fitted to raise the child. At present she must tear herself away from the home owing to economic pressure. She does not do so from choice. The fault is in the system. An industrial system that cannot furnish every man willing and able to work with a livelihood sufficient to support himself and family stands condemned as a failure.

The same thing applies to the children. There are 2,500,000 children from the age of six years up working in the mines, mills, and factories of this great land of ours. These children not only contract the same diseases and vices of the adults, but they become stunted in growth and prematurely aged. In short, the race deteriorates. A few more generations of child labor and we shall become a race of weaklings and degenerates. A child's place is in the school and play ground. It should have fresh air, sunshine, and joyous companionship, instead of being forced into a mine, mill, or factory. A nation which permits child labor to exist cannot call itself civilized. It must at once abolish child labor or give up the pretence of being progressive.

The cure and elimination of diseases of occupation does not lie in the physician's office or on the drug store shelf. We must trace them to their cause in the mine, mill, and factory. The physician here must become hygienist and sanitarian. Also, besides being physiologists and pathologists, we must become sociologists. We must realize that since disease is a social affair, having a social cause, it must be fought socially. Otherwise we will be giving merely temporary relief, while the diseases remain to confound us.

The causes of industrial diseases immediately suggest their cure. Fatigue can be eliminated by employing two or three shifts, instead of ten or twelve hours for one long shift, and by the abolition of the speeding up system. The danger of dusts and poisons can be done away with by the erection of clean, sanitary work places, the introduction of machine for handwork, the introduction of the wet instead of the dry processes of production, continuous removal of dust by special ventilators, isolation of the worker from the dust process, frequent rests, frequent changes of air, use of masks and respirators, and the instruction of the workers in personal cleanliness.

Injuries and accidents can be reduced to a minimum by protecting the machines, using all possible safety appliances, proper instruction, and the employment of skilled labor only.

Women should not be permitted to work at injurious trades; they should have shorter hours and longer rests, and should stay at home during pregnancy. In some European countries the pregnant woman is sent home or to a lying-in hospital and her wages go on just the same. Child labor should be absolutely and unconditionally abolished.

Meanwhile, before the present irrational, destructive system is replaced by a rational, constructive system, we should do everything in our power to safeguard the lives and health of the men and women whose labor keeps the world going and makes life worth living.

[illegible] COLUMBIA AVENUE.

INVOLVEMENT OF THE TRACHEA, LUNGS, AND PLEURA IN GRIPPE.*

By ROBERT E. COUGHLIN, M.D.,
Brooklyn.

In all probability there is no disease in general medicine which in itself is so simple, but which has so many varied, serious, dangerous, and fatal complications as grippe. In almost all forms of the disease we have some involvement of the trachea, but this in itself is of trifling moment. When we consider involvement of the pleura, which is not uncommon, we must be on our guard respecting the future outcome of the condition.

A simple, dry pleurisy in connection with grippe is rather insignificant, but when we have under observation pleurisy with effusion or empyema, another situation confronts us, namely, the development of pulmonary tuberculosis. Investigations show that seemingly sterile, straw colored serum from the pleural cavity will produce tuberculosis in the guineapig, while the tissue destroying and lung crippling power of pus in empyema is well known.

Most cases of grippe have some bronchitis present, and when this condition does not continue for too long a period little attention need be given to it. On the contrary, however, any bronchitis accompanied by a grippal cough, which continues beyond six weeks, should be viewed with the utmost suspicion. A guarded prognosis should be rendered and steps taken at once to prevent the possible invasion of our patient with the germs of pulmonary tuberculosis. A negative sputum report should not cause us to cease treating the case as one of tuber-

*Read before the Long Island Medical Society, May [illegible]

culous disease. A better plan would be the injection of the sputum from these patients into guinea-pigs. Should these animals die with all the symptoms of tuberculosis our diagnosis is probably confirmed, but, if the animals do not succumb, one should remember that negative evidence is the poorest of all.

Given a patient who does not appear to improve after his attack of grippe, a physical examination will without doubt reveal the presence of apical catarrh or signs of consolidation of the lung, provided the cough continues troublesome.

Look with suspicion on all cases where there are râles heard near the apex of the lung at the end of inspiration or after the act of coughing. There may not be any restriction in the movement of the chest, vocal fremitus may not be increased, there may not be dulness on percussion, the bronchial voice may not be present, expiration may not be prolonged, but, if you find these characteristic râles persistently present, do not be afraid to make a diagnosis of tuberculous disease. Nothing can be lost in putting the patient in a position to resist the inroads of such a dangerous malady and we may save many by so doing.

Many cases of tuberculosis have their inception in an attack of grippe, where the bronchitis and grippe cough are lightly regarded by both the patient and practitioner. When one considers the low resisting powers in the average grippe case one can readily explain how these persons may be victims of the tubercle germ when other conditions are favorable.

Another sequela of grippe is the development of what is commonly called grippe pneumonia. Most clinicians believe that grippe pneumonia is the most treacherous and bothersome pneumonitis we have to deal with. Any grippe patient with a temperature over 103° F. should be carefully examined for consolidation. Probably the best pathognomonic sign is the rusty colored, frothy sputum. One could almost venture to state that these two symptoms clinch the diagnosis.

The treatment should be supporting and stimulating, for it is evident from the beginning that we have a serious toxæmia from the pneumococcus, the vagaries of which are well known; also the depressing effects on the system of the grippe bacillus must be kept in mind.

The prognosis here should be guarded. Nothing is more treacherous than a grippe pneumonia of the central type, where the symptoms are masked or not well defined. These cases are often to be found in the aged.

In children the pneumonia is apt to be the lobular form and not lobar as in adults.

Chronic pneumonia occurs where the resolution is very slow or where there is a tuberculous tendency. These patients will get up and go around with dulness on percussion, bronchial breathing, but no fever. A trip to the mountains and a building up plan of treatment will do wonders for these people. Eternal vigilance is the price for well being and it behooves us to do all we can for these cases.

In conclusion, we may state that while grippe without complications is a simple disease requiring very little treatment beyond rest in bed, diet, and treatment of special symptoms, its sequelæ are obviously serious and far reaching, and that the two important sequelæ are pneumonia, with masked symptoms, and tuberculosis, which is insidious in its manifestations, and, finally, when in any case with grippe cough of six weeks' duration accompanied by râles at the end of inspiration at one or both apices, we are forced to conserve the best interests of our patient by diagnosticating the condition as pulmonary tuberculosis and instituting proper treatment for the recovery of our patient.

428 Forty-seventh Street.

ACUTE HÆMATOGENOUS INFECTIONS OF THE KIDNEY AND PYELITIS OF PREGNANCY; THEIR MEDICAL TREATMENT.

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(*Concluded from page 1078.*)

Guided by the experience gained in the conservative treatment of hæmatogenous infections of the kidney in pregnancy, may we not properly apply the same principles in the management of cases of renal infection that are not associated with pregnancy? These principles comprise two main indications:

1. To relieve congestion.
2. To wash out the urinary channels.

With these in view, it is necessary to keep the patient in bed, to maintain warmth, to order a strictly milk diet, and to induce free diuresis by the administration of from six to twelve pints of tea and water daily, to encourage sweating by means of warm blankets and hot water bottles and, if necessary, of small doses of pilocarpine. Regular evacuations of the bowels are to be secured by means of laxatives, such as compound jalap powder, epsom salts, etc., while large colon irrigations, with hot saline solution, are very beneficial. Local depletion, with dry or wet cups, relieves the pain in the lumbar region sometimes better than poultices, but frequently we have to resort to drugs to alleviate the pain; aspirin (acetylsalicylic acid), in ten grain doses, may bring relief, but in some cases it will be necessary to prescribe morphine. Urinary antiseptics have been employed by many; hexamethylenamine, its methylene citrate, and salol are most commonly used. Rolleston and Johnson speak most highly of large doses of potassium citrate; the former thinks that alkalies inhibit the growth of bacteria and increase the resistance of the body, while Kidd, by producing an alkaline tide with large doses of potassium citrate, from thirty to sixty grains every six hours, has succeeded in tiding over his patients in acute attacks very rapidly. The application of these dietetic and medicinal measures gave satisfactory results in the hands of many.

Rovsing, of Copenhagen, at the last International Medical Congress, at Budapest, reported his experiences with *Bacillus coli* infections. Since 1897, he had observed 285 cases, and, in his opinion, surgery is not called for in uncomplicated cases, which recover under conservative treatment, consisting

mainly in the administration of large quantities of distilled water and one gramme of salol, three or four times a day. In very severe cases Rovsing obtained good results from Wright's vaccines; although in 1909 he had only twelve cases in which he employed vaccine treatment, the results were uniformly so good that he was encouraged to continue this treatment and to recommend it to others. In acute cases, Dudgeon and Ross use the so called anticoli serum, a stock preparation, while in chronic cases they prefer an autogenous vaccine. Personally, I have had an opportunity to use vaccine treatment in one case of staphylococcus infection of the kidney with good results.

These medical measures, in some cases, may have to be fortified by surgical ones, with the view of insuring absolute drainage of the urinary tract. To these surgical procedures belong ureteral catheterization and lavage of the pelvis of the kidney. While it is hard to explain how the latter may influence the abscesses located in the cortex or medulla of the kidney, still there are trustworthy observations on record where such procedures were curative in cases of acute pyelonephritis.

Undoubtedly conservative treatment will suffice in many cases. Numerous observations from trustworthy sources fully warrant this attitude. Nevertheless, it must be admitted that there are cases which demand surgical intervention. These cases bear out what Dieulafoy has remarked in the preface to the *Surgery of Nephritis*, by Pousson, namely, that we are passing through a new era of kidney therapeutics.

The advances of modern surgery make it possible to attack the kidney during the acute stages of the disease, and this medicosurgical attitude should be familiar to every practitioner so that he may not miss the opportune time for surgical intervention after a fair trial of medical measures. Surgery claims brilliant results, particularly in the so called fulminant type of acute hæmatogenous infections of the kidney, to which attention has been called mainly by Brewer and Cobb, who obtained marvelous recoveries by nephrectomy. Even in these cases, voices have been raised in favor of the expectant treatment or of a milder surgical procedure, such as nephrotomy. But in the light of accumulated experience it may be granted that nephrectomy is the operation of choice in the so called fulminating form, in which the kidney is the only focus of infection, the removal of which is rewarded by a speedy recovery. As to the other severe type, opinions differ; some clinicians fully rely upon the medical treatment; others are in favor of surgery, but are conservative, advising a less radical operation, like a nephrotomy.

Pousson, the champion of less radical surgical intervention, argues that in those cases in which the parenchyma of the kidney is not utterly destroyed and there are only small miliary abscesses and congestion of the surrounding tissue, a nephrotomy amply fulfills all surgical indications, namely, insures decongestion and the splitting of the tense capsule, causing an abundant flow of blood from the parenchyma, promptly reduces the hyperæmia of the organ. It also gives an opportunity of applying antiseptic solutions, even of mild strength, to the inflamed surface and fully insures drainage of the diseased organ.

Pousson thinks that we ought to apply to the kidney the same principles practised in the treatment of other organs enclosed in a tense elastic capsule. For instance, in cases of acute purulent orchitis and epididymitis, it is sufficient to split the tunica albuginea and, by so doing, to allow the pus to escape with the recovery of the inflamed organ. The multiple abscess formation in the kidney is analogous to that which occurs in the testes; the same surgical procedures are similarly effective in both.

Pousson collected forty cases, out of which seven were his own. His mortality was only ten per cent., and the remote results of the operations eloquently proclaimed the value of nephrotomy.

Ransohoff, in his article in Keen's *Surgery*, states that in severe cases of pyelonephritis some remarkable results have followed splitting of the kidney, and quotes statistics collected by Eisendrath: Nephrotomy was performed in thirty-four cases, with twenty-eight recoveries; nephrectomy in thirty-seven cases, with twenty-five recoveries. When there is a question whether the condition is a unilateral one, nephrotomy is the only justifiable procedure.

Schede, in Bergmann's *Surgery*, states that if the diseased organ is full of abscesses and is so destroyed that it is of little or no value as an excretory organ, one is justified in removing it at once, but the general practice is to split the kidney. Garre and Erhardt state that in the hæmatogenous form, with multiple cortical abscesses, nephrotomy offers fair results; there is frequently no necessity for splitting the kidney from one pole to the other, but simply to make a cross cut and excise or curette the pyogenic foci.

While on the face of it, it is hard to explain how a single cut of the infected kidney, exposing only the smallest number of the multiple miliary abscesses disseminated through the cortex, may effect a cure, still the observations of Lennander, Israel, Wilms, and others have conclusively shown the efficiency of a nephrotomy in the ascending form of suppurative nephritis, and Baum reports three cases of acute hæmatogenous infection from the surgical clinic in Kiel, in which a nephrotomy effected a speedy cure.

Brewer, who in 1906 advocated nephrectomy in acute unilateral infections of the kidney, is now inclined to be more conservative, advising the removal of the kidney only in the most severe types. In a personal communication, only two weeks ago, Dr. Brewer stated to me that he has observed up to the present thirty-six cases of hæmatogenous infection of the kidney, in which he performed a nephrectomy only fourteen times. The opinions of other American surgeons are also of a conservative character.

At a meeting of the New York Surgical Society, held January, 1909, in a discussion on the treatment of hæmatogenous infection of the kidney, Dr. Peck recalled one case of nephrectomy for septic infarcts where he afterward regretted that he had not resorted to a less radical surgical measure. The septic foci consisted of numerous small white spots under the capsule, and the case might, perhaps,

have been successfully treated by a simple nephrotomy or decapsulation. Dr. Willy Meyer mentioned a case of miliary abscesses in the kidney, due to the colon bacillus, which had been treated by simply splitting and draining the kidney; the patient had recovered and had remained well since. Dr. Howard Lilienthal said that in some of his cases of septic infarcts of the kidney all that was necessary was a simple nephrotomy to relieve tension.

The pendulum is swinging toward conservative kidney surgery, as is best illustrated in the words of Mumford, who, in his *Practice of Surgery*, published as recently as September, 1910, states that "nephrectomy, so urgently demanded in cases of acute overwhelming hæmatogenous infection, is seldom necessary when the disease has passed the acutest stage and should be performed in cases of most extensive damage to the kidney. Nephrotomy is the operation of choice; the surgeon must realize that the dangers of nephrectomy do not lie so much in the operation itself as in the condition resulting —the patient is left with one kidney only."

The following is a case observed by Baum in the clinic of Anschuetz, in Kiel:

Emma S. T., thirty-five years old, had always been well. menstruation regular; at midnight, November 12, 1908, she was suddenly seized with pain in the right half of the abdomen, vomited seven or eight times; pain continued the whole night and increased in severity toward morning; a physican was called in who made a diagnosis of acute appendicitis and prescribed powders and hot poultices, but during the forenoon the pain increased in severity and the patient was removed to the clinic. *Status præsens:* Well built and well nourished woman, who looks very ill; temperature, 103.4° F.; pulse, 104; tongue coated with a white fur; heart and lungs negative; in the right renal region, a marked rigidity which extends anteriorly to the mammillary line and downward to the cresta ilei; urine is cloudy, contains no albumin and no sugar; microscopically, numerous leucocytes and granular casts; cystoscopy, mucous membrane of the bladder moderately injected at the trigonum; right ureteral orifice slightly œdematous and red; left, normal; from the left kidney the urine is clear and the flow normal; from the right catheter no excretion, in spite of the fact that a catheter was introduced into the pelvis and left there for five hours. The following day, November 14th, pain continues, with the same degree of severity; the fever just as high. The patient was operated upon; a curved lumbar incision was made; the kidney fat found very œdematous; kidney was enlarged, of a dark blue color; the capsule was stretched tensely; through it were glistening, small, miliary, yellowish white spots, out of which, by teasing, small amounts of pus welled up; the kidney was split to the pelvis, which was not dilated and contained a small quantity of cloudy, purulent urine; kidney and pelvis were tamponed and drained; external wound partly closed with sutures and drained. The day following the operation the temperature dropped critically to normal, pain disappeared instantaneously and the convalescence was uninterrupted, except for an attack of left side pneumonia. On December 16th the patient was discharged, well, with the exception of a very small urinary fistula; urine was clear, contained no albumin, only a few pus cells and hyaline casts. A small section of the cortex was removed for a microscopical examination, which gave the following results:

In the external layer of the cortex, immediately under the capsule, were found round and linear collections of pus cells, accumulations of round cells in the glomeruli and adjacent intertubular tissue. The collecting tubules were partly filled with numerous leucocytes and were markedly dilated. Of the straight tubules, some were dilated, while others were compressed. In the cortical abscesses were found numerous short bacilli which proved to be a pure culture of colon bacillus.

The cystoscopic examination of the patient on discharge was as follows: Mucous membrane of the bladder [illegible] normal; from both kidneys there was excreted clear, straw colored urine; the functional test proved the excretion of sugar on the right side in sixteen minutes, on the left side in fifteen minutes; bacteriologically, a pure culture of colon bacillus from both urines.

MY OWN CASES: COLLECTED FROM THE RECORDS OF THE JEWISH HOSPITAL.

Case I. H. H., twenty-five years old, was admitted June 22, 1910, para five, pregnant four months. Three days before admission, seized with severe pain in the right lumbar region and cramps all over the abdomen, chills and fever, headache, vomiting, frequent and painful urination; temperature on admission, 104.2° F.; pulse, 130; leucocyte count, 14,200, with 83 per cent. polymorphonuclear leucocytes; urine contained traces of albumin, pus cells, pus casts, and other kinds of casts. Cystoscopic examination showed a general cystitis, congestion of ureteral orifices; from the right kidney a steady stream of slightly cloudy urine; from the left, urine normal; bacteriologically, colon bacillus from the right kidney and bladder. The temperature ranged all the way between normal and 104.6° F. On the eleventh day, it came to normal and was normal for seven days, when the patient had another chill, temperature rose again to 102° F., and, with some remissions, dropped to normal in two days, when the patient was discharged. On discharge, the urine still contained some pus, but there were no objective symptoms. I had the opportunity to observe this patient from time to time after she left the hospital and she continued to be in good health. Pregnancy was going on.

Case II. C. F., twenty-six years old, pregnant three months; ill for two weeks, cramps in abdomen, vomiting, fever, painful and difficult urination; temperature varied during the first five days of her stay in the hospital, from 99° F. to 102° F. and 103.6° F., then was normal for three days and went up again to 104° F. and 105° F. for three days, when she spontaneously aborted; temperature dropped to normal and stayed normal until she was discharged. The urine showed pus and colon bacillus. Treatment had been medical.

Case III. A R., was admitted August 14, 1908. Five weeks prior to admission, she attempted an abortion; was curetted in another hospital and went home in a week. Three days prior to admission, she had a chill, fever, and severe pain in the right lumbar region. The chills and fever continued until she was admitted, with a temperature of 103.6° F. Following this, she had another chill and the temperature went up to 104.8° F., then gradually came down to normal. In four days, cystoscopic examination showed evidences of cystitis, inflammation of the ureteral orifices, especially the left one; urine from the left kidney contained pus and hyaline casts. Discharged cured. Treatment had been medical.

Case IV. S. Z., twenty-one years old, married five months, pregnant four months. Five days prior to admission, she was seized with sharp pain in the right lumbar region, had fever, vomiting, frequent and difficult micturition; syncope twice after vomiting; temperature on admission, 102.8° F.; pulse, 120; blood examination, 13,320 leucocytes, and 81.5 per cent. multinuclears. Cystoscopy, general cystitis; urine turbid, with heavy shreds in both urines: many pus cells and epithelia; colon bacillus present. On the twenty-first day: Cystoscopy, the right urine turbid, the left clear; temperature varied between 103° F. and normal. Patient was discharged on the thirteenth day with pregnancy uninterrupted.

Case V. A. F., twenty-two years old, admitted March 1, 1910. Pregnant five months. Sharp intermittent pains in the right iliac region and chills and fever, urine milky and thick during attacks, frequency of urination, tenderness on deep palpation, Murphy's sign present; blood examination, 20,000 leucocytes, with 75 per cent. multinuclears. Cystoscopic examination, pyonephrosis of the right kidney. Examination of catheterized urines showed the presence of staphylococcus aureus; blood culture negative; autogenous vaccine injected twice a week for four weeks, about 250,000,000 at a dose. The temperature gradually came down to normal, pregnancy was not interfered with, and she was discharged, April 16th, improved.

Case VI. S. C., admitted July 18, 1910. Three days

fore admission, chills, fever, vomiting, headache, pain in the right kidney region, some pain in voiding urine; temperature, 102° F.; pulse, 108; urine contained a moderate number of pus cells and numerous bacilli coli communes. Blood examination, [illegible] per cent. multinuclears. She had a normal labor and recovered promptly.

Case VII. P. F., admitted June 20, 1910. Two days before admission, severe pain in the right lumbar region, rigidity, chills and fever, vomiting; lower pole of right kidney palpable; blood examination, 39,000 leucocytes, with 81 per cent. multinuclears; urine acid, contained plenty of pus and granular casts; both ureteral orifices patulous; *bacillus coli communis* present; temperature ran a regular curse, came down to normal on the fourth day and then rose again on July 6th to 104.6° F., and gradually came to normal again. The patient was discharged recovered on July 31st.

Case VIII. A. P., pregnant five months. Had attacks of pain in the right kidney region, accompanied with chills and fever; urine, then milky and thick, frequency of urination and a burning pain; temperature, 102° F.; pulse, 100; blood examination, 20,060 leucocytes, and 75 per cent. multinuclears. Cystoscopy, pyonephrosis of the right kidney; catheter left in the ureter; pelvis irrigated with organic silver salts.; urine contained pus and *Staphylococcus pyogenes aureus*. She was treated with vaccines, four injections given, and she left the hospital improved.

Case IX. I. H., twenty-four years old. For the first three weeks she complained of pain in the right lower abdomen; temperature, moderate; blood examination, 12,000 leucocytes, with 70 per cent. multinuclears. Cystoscopic examination, right pyelonephritis; urine contained numerous pus cells and *Bacillus coli*. Recovered under hexamethylenamine and large quantities of water.

Case X. M. S.; attack began two weeks before admission with frequent urination; first four days, pain in the left renal region; urine contained pus and blood; vomited; chills and fever. Admitted November 15, 1909. Cystoscopy, cystitis; left ureteral orifice red and slightly pouching, urine very cloudy; right ureter, urine clear and orifice normal. November 23d, tubule catheterization, right ureteral opening œdematous; urine from right kidney thick, pus from left, slightly cloudy; both pelves irrigated. Diagnosis: Pyohydronephrosis of right kidney, with pressure on ureter. December 6th, both ureters, urine clear, with very few shreds and blood; urine on both sides good. Bacteriologically, colon bacillus; blood examination, 16,200 leucocytes, and 75 per cent. multinuclears; temperature irregular, between 100.5° F. and 103° F. Pregnant seven months. Left hospital recovered.

It may be asked, What justification has the internist to invade the sacred precincts of the surgeon in venturing to suggest to the latter the proper operative procedures to be undertaken in this or in any other class of disorders? This question is as old as the history of medicine itself. It presupposes as to the aims of physician and surgeon a natural antagonism that does not exist. The ideal of both is to serve the highest welfare of the patient, and to this end both must cooperate by the mutual exchange of views. In the complex superstructure of modern medical science, there is no problem that is exclusively medical, and none that is exclusively surgical. It is important that the surgeon should understand the ideas and resources of the internist, no less than that the latter should recognize the methods and limitations of the surgeon. Surgery is rapidly broadening its scope, and annexing to its domain provinces that hitherto have been regarded as under the sole jurisdiction of the internist. In cheerfully surrendering our patients to the surgeons, we are still responsible to the patient, who has a right to expect that we shall have a voice in the final council that will decide his fate.

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249 Hewes Street.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CX.—How do you treat flatulence? (Closed May 15, 1911.)

CXI.—How do you treat acute infantile anterior poliomyelitis? (Answers due not later than June 15, 1911.)

CXII.—How do you treat psoriasis? (Answers due not later than July 15, 1911.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to Question CIX was awarded to Dr. George A. Graham, of Kansas City, Mo., whose article appeared on page 1030.

PRIZE QUESTION CIX.

WHAT ARE THE BEST MEANS OF REDUCING INFANT MORTALITY?

(*Concluded from page 1093.*)

Dr. Louis Was, of Panama, Nebr., writes:

The question necessarily must be answered with a view to two fundamental principles. First, the infant must be saved many years before it is born; and, second, we have to study the habits, homes, and customs of the working classes, wherein by far the largest number of children are born and the death rate is the highest. Under this arrangement comes the proper physical development of the boy and girl. In the cities hundreds are deprived of the necessary exercise, food, and fresh air which are required, especially between the tenth and sixteenth year. Anatomy and physiology should be taught in our schools by physicians in connection with their practical bearing on health and disease, and the sexual organs should not be omitted.

In the country many girls are required to carry heavy pails of water or milk during their growing years, causing deformed pelves, and later, tedious and instrumental accouchements, which result in infantile mortality. Boys and girls should be instructed in the dire results of venereal diseases on our infants. Every girl should submit to a careful examination and pelvic measurements by a competent physician before marriage and informed of any defects in the generative organs and the results on her offspring, and of other facts which might be found in regard to her general health.

Infantile mortality would be materially decreased by instructing parents on the effects of infectious and contagious diseases during and after pregnancy, as scarlet fever, measles, influenza, typhoid fever, tuberculosis, etc. Hundreds of infants die annually, before or shortly after birth, from influenza, which could have been prevented if the mother had used the following prescription during the prevailing epidemic which she called a cold:

℞ Antiseptic solution,
Compound syrup of hypophosphites, of each, ..3i;
Syrup of tolu, ...3ii.
Fiat mistura.
Sig.: One teaspoonful four times a day.

Tuberculous parents should be especially instructed in regard to the rearing of their children and taught that fresh air, proper food, and cleanliness are absolute necessities for their infants. Sexual intercourse, during a time when either husband or wife is not in perfect health, is another frequent cause of sickly infants. One man expressed this very logically to me when an imbecile child was born to him by saying, "Doctor, I should not have had intercourse while I had a severe headache." Thousands of infants are lost because the parents wait too long before consulting the physician. In most cases expense is at the bottom of this neglect. As a radical remedy for this I suggest briefly that each State should have only one or two medical schools, all schools requiring a five years' term of attendance. Each graduate should be required to submit to an examination before an *interstate* examining board, to be appointed by the President, which board should have the power to issue a diploma permitting the holder to practise throughout the United States. The office of physician should be made an elective office by the people direct, with a liberal salary for him and also for a nurse. His services should be *free to all in his district only*. If any one wanted his services in another district this should be at the expense of the person who called him. Such a physician would have great power, and he would naturally strive to outrival his neighbor physician to keep his people in health, while the poor would have the same chance as the rich to get his services and they would not waste valuable time. Experience has shown me that a comparatively small number of people would take advantage of the liberty to call on the doctor free of expense, and where such undue advantage was taken you could trust the doctor to find a remedy. This free treatment would be the deathblow to the patent medicine fraud. The

uniform standard of the physicians by a system of interstate examining board diploma, would do away with all incompetent physicians within one generation; for it must be admitted that incompetent physicians, as well as patent medicines, are responsible for many deaths. My experience as a practising physician among the laboring classes abroad and in this country has convinced me that if the practising physician was given the full power to guard the health of the infants, fifty to seventy-five per cent. could be saved that now perish from pure neglect.

Dr. John Aikman, of Rochester, N. Y., observes:

When we consider that ten per cent. (Eross) of all infants die in the first month of life and that about one fourth of all deaths occur during the first year, it can be easily seen that the reduction of infant mortality presents a great field of work for the medical profession. Of course many of the deaths caused by malformations, hæmorrhages, congenital deformities, and the like, during the first month, can not be prevented, but when gastrointestinal disease, marasmus, and diseases of the respiratory tract cause the largest number of deaths, proper care and prophylaxis become most valuable means of lowering the death rate.

Ignorance of the majority as to proper hygiene and feeding of infants is the greatest underlying cause and this ignorance must be attacked in its stronghold—the home. This can be accomplished only by a general educational campaign, beginning in the medical colleges and ending in the homes. Improve the instruction of pædiatrics in medical colleges. Then nurses, teachers in the public schools, and district nurses should receive such training as will enable them to instruct mothers. Midwives come in contact with many infants and, if properly trained, would be of great service; in New York City forty-three per cent. of the births are attended by midwives.

By these trained workers, physicians, nurses, teachers, and midwives, instruction could be given in the homes. At the same time, mothers and those about to become mothers should be taught the best methods of infant care by exhibitions, lectures, papers, and books on the subject. Show the great advantage, both to mother and child, of breast feeding, because Still found that of 127 deaths per mille during infancy in London, in 1905, only 24.4 were infants entirely breast fed. Knowing these figures, how many mothers would overcome the inconvenience and difficulty of breast feeding and give their children the better chance? If artificial feeding is necessary, make it possible to secure pure milk properly modified at a nominal price.

Teach the danger in the use of many infant foods and give the mother some idea of how to detect disease. Emphasize the importance of frequent examinations by a physician; also, the importance to the child of fresh air, proper clothing, bathing, sleep, and the development of regular habits; together with other details for infant care.

The United States mortality statistics show that in 1906, 88 per 100,000 of population in cities of registration States and 56 per 100,000 in rural districts died of "diseases of early infancy." Since 32 more per 100,000 died in the cities, the great advantage of the country is evident and should be used to lower the death rate. Either improve the city streets and homes, making them fit places for a child to live, or provide homes in the country for poor mothers and their children, especially during the summer months when the death rate is so terrible in the cities.

Have State control and inspection of milk, meat, etc., in any place where poor milk is apt to be supplied. The importance of correct registration of births and deaths should not be forgotten.

Dr. H. [illegible] Kincaid [illegible], Washington, D. C., acknowledges that

This is a large question, and one which is responsible for the compilation of long columns of statistics, "the making of many books," the filling of many pages in our journals, lay as well as professional, and even, like most important and many unimportant problems nowadays, the formation of a society or two; but the answer may be summed up in four words—applied education and common sense. Physicians, parents, and children must be carefully educated, and the two former classes made to feel their responsibility.

The physician should realize that by most families he is looked up to as guide, friend, and counsellor in chief, and that many things are done daily in direct defiance of all laws of health and hygiene, which, by a timely word from him, might be prevented.

The expectant mother should be taught that the few hours of pain necessary to launch the child on its separate existence, do but mark the termination of the first epoch of its life, which began months before, and that from the time of conception, she must be ever mindful of the fact that she is responsible for two lives, instead of one, and that by imperiling her own health, she jeopardizes the life of the infant which she expects to bring into the world. She must regulate her habits, her diet, her exercise, her rest, her recreations, her very thoughts, by the effect to be produced on that offspring. She should be taught to refer all doubtful questions to her physician, whom she should regard as speaking for the child. She should be carefully instructed, before delivery, as to diet, care of the breasts, etc., and the education of the infant, and the fact should be impressed upon her that a newly born baby, while no doubt quite the most wonderful thing in the world, differs in no essential respect from a young puppy, and that mother's milk, fresh air, and regular hours (with plenty of sleep) are a natural trinity conducive to the health and happiness of both.

The child should, from birth, be trained to regular habits; it should be put to the breast at stated (and sufficiently frequent) intervals, being fed, in most cases, twice during the night for the first two or three weeks, then once only to the fifth or sixth month, after which *no* night feeding should be allowed.

The utmost cleanliness must be observed. Soiled napkins should be changed as soon as discovered, and the child trained to regular evacuations of rectum and bladder. Fresh air should be supplied in ample quantities, and the child given a daily out-

ing, unless the state of the weather renders it impossible.

Clothing should be sufficient for comfort and protection, but must not interfere with the free movements of limbs and trunk.

As the child is weaned, maternal milk should be gradually replaced by the barnyard article, *of a good quality*, (pasteurized if necessary), and the diet for the first two years should consist mainly or entirely of milk—at any rate, nothing else should be allowed without the sanction of the physician.

Rocking, jumping, and bouncing to induce sleep, and the use of rubber pacifiers to soothe lamentations, should be absolutely interdicted, and, so far as possible, nothing should enter the baby's mouth that is not surgically clean.

The child will, if properly cared for otherwise, sleep of its own accord for the greater part of the time, and should be trained to take its longest sleep at night. Restlessness may often be accounted for by a soiled napkin, an unduly tight garment, or a misplaced pin, or by insufficient ventilation.

The scheme, as outlined, amplified and modified as circumstances and individual peculiarities may require, will practically eliminate those henchmen of death, the gastrointestinal and respiratory diseases of infancy, and early vaccination, modern methods of prophylaxis during epidemics, and the adoption of the motto, "When in doubt, call the doctor," will pretty well take care of the specific epidemic infections.

Dr. C. E. Montgomery, of Walla Walla, Wash., avers that—

The reduction of infant mortality is but a part of the great wave of conservation that is fast becoming the watchword of the American people.

There is but one way to reduce infant mortality and that is by education, and all the ways and means are but steps in this great process. Ignorance, poverty, and disease go arm in arm and mercilessly crush the buds of our future population. It is high time our nation was arising to save its greatest assets, the infants. It is our duty to provide for the coming generations by laying the foundation of health with the present. While our schools and colleges furnish the most adequate means of disseminating the knowledge of hygiene to the parents of coming generations, they have been until the last few years, and are in most instances now, valueless so far as the conservation of human life is concerned.

Our colleges and even our high and graded schools now have courses in domestic science, and would it be out of place here to instruct the girls how to prepare food for infants as well as for adults? Is not the care of baby at home of interest to these girls, and does not his welfare affect them, and do not his fretful hours encroach upon their time, and is not this unrest often due to improper care? Is not the mother instinct in them all, and does it not need education as well as the mathematical area, the harmony area, or the society region? Would not the teaching of these girls about real, live, cooing infants be a subject of vital interest to them, and would not the knowledge thus gained permeate the majority of the homes of the land at present, and prove to be seed well cast for all the future homes of the country?

The reduction of infant mortality is a topic of personal hygiene which must be adapted to all ages and environments. In the diet kitchen, milk should be modified, bottles and nipples prepared, by the most scientific and practical methods, as a part of the menu for baby. Let us teach that baby must not be put off with a bottle of old, warm milk, simply because he is hungry and does not know better, or given a nipple from which the filthy fly has had its lunch.

If the cleanliness necessary for proper diet is well understood by the girls in our public schools, the basis is made upon which they will naturally build the superstructure of personal cleanliness; and it is a well recognized fact that the lack of these vital elements of knowledge concerning hygiene and diet is robbing our homes of thousands of precious, lusty infants.

There is urgent need for government cooperation in the way of a national department of public health, to shape, direct, and systematize the efforts of those who are already doing so much to aid and supplement local boards of health, to supply authoritative information to every mother, to provide lectures and demonstrations to those the public schools and colleges do not reach, and to regulate and create a standard of food and milk, as well as of meat.

There is a government bulletin on *How to Raise Squabs*, but so far as I know there is no information available for the uninformed mother who desires to know the essentials for the welfare of her infant. Until we as a nation arise to our duty in this matter and take at least as much interest in our American born citizens as we do in the aliens coming to our shores, we cannot hope for much reduction.

We require every birth to be reported to some bureau of vital statistics and is it not our duty to send in return an attractive little pamphlet to the mother, telling her of the proper ways of caring for the child to make its pathway smooth and save her needed strength and perhaps sorrow? She will be vitally interested, she needs encouragement to nurse her child at the breast, she needs the dangers that accompany artificial feeding to be made clear to her, she needs instruction in artificial feeding, instead of being left alone to "raise mine just like mother raised hers." When we learn that "mother" so poorly understood feeding that she lost six of her nine babies the sentiment does not sound so noble.

State and local boards of health, libraries, and philanthropists should furnish instructions to expectant and parturient mothers. If the government should announce that it had a bulletin of vital interest to all mothers, the printing office would be overwhelmed with requests to supply the much coveted information concerning baby, how to prepare for his arrival and how to care for him afterward. How much more valuable would be this information than the antiquated methods of the oldest and most experienced grandmother. Surely the crop of babies should show as much improvement under scientific care as the cotton crop.

It is our municipal duty to provide in addition to

pure milk and water and other necessities of modern life, milk laboratories for the proper modification of the food, sufficient parks and gardens at places so numerous and convenient that every mother can take advantage of the air, rest homes for the sick and worn mothers, mothers' clubs for the study of children, visiting nurses to go to the homes and set things right, give practical demonstrations, and overcome the weight of ignorance and prejudice of ancient methods. Again, it is our duty to enact and enforce sane laws regulating marriage so far as practical.

And last, but by no means of least importance, comes the kind hearted, wideawake doctor. Were it not for him our infant mortality would be increased many fold, but the task of educating the mothers is too vast for him alone, and too often ignorance has cast the die before he is asked for advice.

Correspondence.

LETTER FROM LONDON.

LONDON, ENGLAND

The State Insurance Bill.—Discussion on Frontal Sinusitis

The State Insurance Bill is still exciting considerable interest among the medical profession. Generally speaking, the opinion of medical men is that the bill will not, as it stands at present, be to their interest. Mr. Lloyd George has now made public some figures of considerable interest to the medical profession. He has provided a sum of £4,200,000 for medical attendance, including drugs, dressings, and appliances used in domiciliary treatment. The calculation is that this will permit of an average payment of a capitation fee estimated at six shillings a head for each person insured. The amount will be increased on the advice of the Central Insurance Office in districts where the insurance commissioners are advised that sickness is excessive. In addition, he has made arrangements to provide a sum of £1,000,000 annually for the maintenance of sanatoriums, in that way removing from the scope of domiciliary treatment a considerable proportion of phthisical patients who would otherwise make serious calls upon the sum available for domiciliary medical attendance and the provision of drugs. He has also provided an annual sum of £1,500,000 for maternity benefit, and out of this it is roughly estimated that one third will be probably paid to members of the medical profession. The Chancellor of the Exchequer recognizes the desirability of allowing some system of choice of medical men in the case of new participants in the scheme and looks favorably upon the institution of a wide panel of local medical men willing to serve. The Central Insurance Office is giving its approval to arrangements proposed to be made by any approved society or health committee with medical men, and in other matters will act on the advice of the advisory committee to be set up under this bill, and the Chancellor of the Exchequer recognizes that on the advisory committee the representation of the medical profession must be adequate or, as an alternative, that a special medical advisory committee should be constituted.

It will be seen that the sum of £4,200,000 is not for medical men alone, but part of it will go to chemists for the supply of drugs, dressings, etc. Probably only about two thirds of this will go to the medical profession, or £2,400,000. Then out of the £1,000,000 devoted to the maintenance of sanatoria about £100,000 will go to medical men, and £500,000 out of the maternity fund. This makes a total of about three million pounds for the medical profession, which gives an average of about £100 per annum to every one of the 32,154 medical practitioners in the United Kingdom. It is, however, impossible to estimate even approximately how much will be lost to medical men by the dislocation of private practice, but it is safe to say that it will be very considerable. There is at present practically unanimous agreement among all ranks of the profession that a capitation fee of six shillings per capita (to include drugs and dressings) is inadequate. Owing to the far reaching effects of the bill and the necessity for adequate consideration of all details by the medical profession, the Royal College of Surgeons of Edinburgh have addressed a letter to the prime minister and chancellor of the exchequer, conveying a resolution that the college, though sympathizing with the objects of the bill, desires that it be not pressed forward this session. Many meetings of the medical profession will be held to consider the bill, the most important one being on May 31st and the following day called by the British Medical Association.

A very interesting discussion on the treatment of purulent discharge from the frontal sinuses was held at a meeting of the laryngological section of the Royal Society of Medicine. Dr. Watson Williams, the president, opened the discussion. He pointed out that the subject could be divided into two main heads, namely, the treatment of acute and chronic cases of frontal sinusitis. In acute frontal sinusitis, diaphoretics, counterirritation, Bruning's light head bath, intranasal lavage, and local sedatives were the means to be chiefly relied upon. As regards chronic frontal sinus suppuration, intranasal treatment by lavage should be tried, combined with attention to coexisting pathological conditions in the nose. Silver preparations as local applications were useful in some cases. Vaccines rarely effected a cure. Intranasal operations, with a view to enlarging the frontonasal passage, were practised and advocated by some. The Röntgen ray screen was of use in diagnosis in some cases. In a large proportion of cases the frontonasal duct was abnormally patent and free drainage was not always sufficient to effect a cure. If maxillary antral empyema or purulent discharge of the posterior ethmoidal cells or sphenoidal sinus coexisted, these, as a rule, should be opened up and treated before resorting to any external operation. The particular type of operation must be determined by the nature and conditions of the individual case, but one should adopt a method which allowed free access to the whole of the involved territory and ultimate obliteration of the suppurating cavities with the least deformity.

In the discussion which followed, the opinion was generally expressed that external operations on the sinus were to be avoided as far as possible and that

the number of cases operated in by the external route was now decidedly smaller than formerly, one reason being that the osteomyelitis which sometimes ensued as a result of these operations was almost invariably fatal.

Therapeutical Notes.

Inflammation of the Middle Ear.—Savage (*Journal Tennessee State Medical Association*, March, 1911) recommends the following for internal administration when the patient is a child and the cause is either grippe or a cold:

℞ Tincture of aconite, ... ℥xxx;
Tincture of opium, deodorized, ... ℥xxv;
Sweet spirits of nitre, ... ʒiv;
Syrup balsam of tolu, to make ..... ʒij.
M. Teaspoonful every three hours, while fever continues.

Congestion of the Liver.—In the tenth edition of Hughes's *Practice of Medicine*, Scott recommends:

℞ Sodium bicarbonate, ... grs. v;
Powdered ipecac, ... gr. ss;
Calomel, ... grs. iij to v.
M. To be taken at one dose, followed in two hours by a saline.

After free purgation has been brought about, the following should be administered:

℞ Nitrohydrochloric acid, ... ℥x;
Elixir taraxacum compound, ... ʒij
M. To be taken about a half hour before meals.

The Pain of Hæmorrhoids.—Hot or cold applications are the first thought, according to the *Journal de médecine de Paris* for May 20, 1911; very hot applications are preferable and, if the tumors are external, may be made by means of absorbent cotton covered with oiled silk. Two formulæ for suppositories are given:

℞ Cocaine hydrochloride. ..... gr. 3/10;
Cacao butter, ... ʒijss.
M. ft. suppositorium.

℞ Morphine hydrochloride, ... gr. 3/20;
Extract of belladonna. ..... gr. 3/10;
Cacao butter, ... ʒijss.
M. ft. suppositorium.

The Therapeutical Use of Pituitary Extract.—Dr. R. Klotz, of Tübingen, speaks very favorably of the therapeutical use of pituitary extract. He states in the *Münchener medizinische Wochenschrift* for May 23, 1911, that the extract acts as a tonic upon the uterus, bloodvessels, and heart. Its action upon intramuscular application is very quick and it should be so used in uterine hæmorrhages and acute anæmia.

Adrenalin.—Dr. Ernst Holzbach, of Tübingen, in the *Münchener medizinische Wochenschrift*, May 23d, reports his experiences with adrenalin upon the action of the heart. He found in his experiments that an isolated healthy heart of a frog is detrimentally affected by adrenalin. But if the heart had been poisoned with sodium arsenate, that is, if the healthy heart had been made artificially diseased, he found that upon treatment with adrenalin the action of the heart soon became normal. He therefore comes to the conclusion that adrenalin is a remedy with which we can increase abnormally low blood pressure and overcome heart palsy.

Human Hair in Surgery.—Dr. S. Sofoteroff, of Tomsk, reports in the *Zentralblatt für Chirurgie*, 1911, No. 21, the results of his experiments with women's hair in the suturing of bloodvessels. The hair, having a diameter of from 0.06 to 0.07 millimetre, proved very successful in experiments on corpses. These experiments were later tried upon animals and, finally, on man with equal success. The hair was cleaned with soap and water and, in the beginning of the experiments, with alcohol and ether, but this treatment was afterward discontinued as the hair thus treated broke easily. Dr. Sofoteroff has lately washed it in soda solution, boiled it, and kept it in paraffin petrolatum. He advises to thread a needle with the hair before boiling and to wipe it with fine gauze before using. The bacteriological examination of hair thus prepared was absolutely negative. The author concludes that human hair so prepared is better than silk or thread for sutures in bloodvessels.

In General Paresis.—According to the *Journal de médecine de Paris* for May 20, 1911, Donath gives the following:

℞ Sodium nucleinate,
Sodium chloride, of each, ... ʒj;
M. Dissolve in three ounces of distilled water.

Inject hypodermically, either in one dose or two doses. General reaction is marked; of twenty-one paralytics thus treated, ten were so improved as to be able to continue to earn a living as before, five were sufficiently restored to be able to return home, and six experienced no benefit.

For Hæmorrhoids in Children.—Bodkin, in *American Medicine* for May, 1911, states that he has good results from the following ointment as a palliative in internal hæmorrhoids in children:

℞ Solution of adrenalin, ... ℥x;
Lanolin, ... ʒj
M. ft. unguentum. Apply liberally to the anal canal once or twice daily.

Bodkin advises for constipation in these cases cascara or olive oil, in combination with grape juice if desired. The temporary use of an injection of cold water after breakfast for a period not extending over two weeks is a very good way to start the habit of moving the bowels at a regular time of the day.

Hydrochloric Acid in Gastric Therapeutics.—According to Weinstein (*Medical Record*, April 29th) the presence of hydrochloric acid is required in the stomach, first, to combine with the food and thus form the first stage in protein digestion, acid metaprotein, or, as it was called formerly, acid albuminate. Another property of hydrochloric acid is to activate the work of the pepsin, the proteolytic ferment of the stomach. Pepsin can do its work only in an acid medium, and the hydrochloric acid medium is the best one. Pepsin is not secreted as such in the stomach. There is a preliminary compound out of which pepsin is elaborated. This precursor or proenzyme of pepsin is known as pepsinogen, and the hydrochloric acid is the agency that converts the pepsinogen into pepsin. Hydrochloric acid serves also as a stomachic, a stimulant of the gastric secretion, and improver of the appetite. It is self evident that whenever there is free hydrochloric acid in the stomach, to prescribe this substance is superfluous.

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NEW YORK, JUNE [illegible]

THE PLAGUE.

The International Plague Conference convened in Pekin has closed its work. Although the official reports, resolutions, and suggestions are at present not ready for publication, the *Journal of Tropical Medicine,* in its issue of May 15th, gives a full summary of the evidence laid before the scientific body. We have reprinted these conclusions on page 1167 of this issue. It seems to be the consensus that the tarabagans or marmots are, in the Manchurian epidemic, of greater importance than the rats as carriers of infection. The tarabagan flea is said to be a new species, as no one has reported its existence so far, and if it can be shown that it will also bite man an important discovery will have been made.

The plague, as it appears in Manchuria, is the pneumonic form, or, as James L. Maxwell, in *Diseases of China,* which book he published in collaboration with W. Hamilton Jefferys and to which we refer our readers for further information (see our Book Notices, p. 150), proposes, pulmonary plague: "The name—pneumonic plague—is a bad one, as the signs and symptoms vary enormously from those of a typical bronchopneumonia to the simplest form of bronchitis, death in these latter cases taking place quite unexpectedly."

As is well known, there are two distinct forms of pneumonic plague, one secondary to bubonic plague, and a primary pneumonia. Castellani and Chalmers, in their *Manual of Tropical Medicine* (see Book Notices, xcii, p. 597) say: "Pneumonic plague begins without prodromata and with high fever, which continues in a very irregular manner. . . . Prostration is extreme, the heart becomes very weak, and the pulse rapid, while the spleen enlarges quickly. . . . This is a very fatal type of the disease, death occurring usually from the second to the fifth day. . . . The examination of the sputum will reveal the presence of numerous plague bacilli, easily distinguishable from the pneumococcus by their being Gram negative."

The conclusions drawn by Maxwell are essentially the same as agreed upon by the commission, although the members of this body did not think the sputum to be such a dangerous carrier of infection: "The breath of the sufferer is not infectious apart from particles of sputum expelled by coughing or by forcible speaking. . . . The sputum is infectious so long as it remains moist or frozen. . . . Houses need not be regarded as infected apart from the presence of infected sputum." Whether these conclusions are correct or not we cannot decide. But we do think that we should not desist in personal precautions against plague. The pictures of physicians, nurses, and citizens of Harbin during the epidemic of 1911 and of London of 1665 (at which attack 75,000 deaths occurred in a population of 500,000, or about fifteen per cent.!), show the same form of protection, that is, covering of all outdoor clothing, paying special attention to the uncovered parts of the body and leaving only the eyes free. Maxwell (*loco citato*) gives the mortality—always speaking of plague as it appears in China—from ten to fifty per cent. for Europeans and from sixty to ninety-five per cent. for Asiatics.

Simultaneously with the English statement there also appears an interesting German report in the April number of the *Archiv für Schiffs- und Tropen Hygiene.* This is the governmental report on plague in German East Africa. We see that plague seems to be endemic in the German colony and the neighboring English colonies and countries. But the Germans have succeeded by the utmost diligence, for the present, in bringing the sporadic epidemics to an end, for how long only the future can tell. It would be of great import if England and Germany worked hand in hand to control the plague. Here, also, the rats are plague carriers, and the destruction of these pests, together with education of the natives and permanent vigilance, have made it possible to keep the infection under control.

That we are threatened in the very near future with an outbreak of plague seems to be without question. But our officials, governmental as well as municipal, have proved themselves able to cope with attacks of infectious diseases, as was so well demonstrated during the last attacks of cholera in New York and plague in California.

THE MUZZLING OF DOGS.

The account in the daily press (*New York Times*, May 20, 1911) of a girl of seventeen years attacked and seriously bitten by four fierce dogs, reintroduces the yearly recurring question, What shall be done with the dog? How shall we enjoy his friendship without danger from his savage impulses? This question has long been settled in Europe, where dogs are continuously and consistently muzzled. No dog is allowed on the street of any city of Germany, Austria, Belgium, or France without a muzzle; and a special animal police is on the watch to capture and impound all unmuzzled wanderers. Hence such shocking attacks as that referred to are unknown.

In the United States, for some reason, a general and bitter prejudice exists against the muzzle. It is said to humiliate the dog, to be uncomfortable for him, to make him dejected and discontented with this beautiful universe. Any one who has noted the happiness, dignity, and polished reserve of dog intercourse in a European city will not credit this. It is simply a question of accustoming the dog to his muzzle, when he is perfectly at ease and content. It must be admitted that the muzzle is a nuisance to the owner, who has to put it on and take it off; and while Europeans accept this bother as a matter of course because the police so order, Americans, accustomed to what Macaulay terms "the desolate freedom of the wild ass," are irritated thereby.

There are several reasons, however, which should reconcile our fellow citizens to a muzzle ordinance rigidly enforced. In the first place, it is better for the dog himself. A muzzled canine cannot eat irregularly and make himself sick. Most dogs, even those living in refined surroundings, love to prowl about and gorge themselves on garbage to the injury of their digestion and the causation of fits. Second, a muzzled dog cannot eat poisoned bait scattered about by heartless human beings. Any one who has witnessed the sufferings of some fine animal convulsed by strychnine must wish that for his own good he had worn a muzzle when away from home. Third, a muzzled dog cannot injure his fellows or other animals. The fighting instinct is strong in most dogs, and none can say when it may break forth in fury. To turn loose unmuzzled a dog of fighting blood among the gentle pets of a quiet neighborhood is downright cruelty. In country neighborhoods the instinct to hunt in packs and pull down the quarry at full speed, which the dog inherits from ancestors who ran wild in the jungle, has resulted in terrible destruction among sheep and calves. Even those animals of the flock which escape death or mutilation are so terrified as to be worthless thereafter. In some sections farmers have for these reasons given up raising sheep or calves. Last, and most important, a muzzled dog cannot injure defenseless human beings. It is surprising and disquieting to find how numerous such attacks are.

During the spring and summer of 1910, a correspondent, signing himself J. F. O., collected the cases of attacks by dogs reported from day to day in the *New York Times* and the *Evening Post* (*cf.* letters of June 6 and September 17, 1910, *New York Times*). Some seventy-two cases were reported. They varied in severity, some being trifling bites, some, however, shockingly serious; for instance, a boy had a hand nearly chewed off; another had his face lacerated and his nose torn off; another had the calf of his leg chewed into shreds. At least five adults lost their lives, three having fatal cases of rabies. In one instance a full grown man was pulled down and strangled to death by a bulldog. These surely constitute a serious accusation against the dog, and it is quite impossible that such outrages should be permitted to continue by even a long suffering American public, merely because the muzzle is a "bother" to either the dog or his master.

Nothing, it will be noted, has been said herein regarding the vexed question of rabies; happily, that also is settled by the muzzle.

THE POSSIBLE THERAPEUTICAL VALUE OF VANADIUM.

At various intervals from 1885 to 1896, the French chemist, Hélouis, experimented with the various salts of vanadium, especially in the oxidation of aniline, and gave his opinion that they would prove valuable additions to the therapeutical armamentarium. At his instance Le Tanneur, Laran, Lyonet, Martz, and Martin performed a series of experiments on guineapigs, cattle, and horses. The conclusions of Le Tanneur were that vanadium was a powerful oxidizer, 5,000 times more active than copper and 20,000 times more active than iron, and he stated that it was particularly fatal to the Koch bacillus, both *in vitro* and in tuberculous abscesses. A peculiarity of its action was its power to take up oxygen from highly oxygenated salts like sodium chlorate, part with this to the hæmoglobin, and again take up a further supply of oxygen from the chlorate. He went so far as to say that vanadium was unique in its power to confer oxygen upon the blood, outside of the usual physiological process effected during respiration. This property rendered it valuable in anæmia as well as in tuberculosis, and it was also said to be a powerful stimulant to the appetite. The rarity and great cost of the metal

proved an insuperable bar to its further use. Recently, however, immense deposits have been found both in Colorado and South America which have been drawn upon in the manufacture of a new and extremely efficient steel. In the *Journal of the American Medical Association* for June 3, 1911, Dutton reports numerous cases of poisoning during the industrial use of vanadium; such action goes to verify the statements of the older experimenters that the metal possesses powerful physiological and, therefore, probably therapeutical action.

A NEW SIGN IN THE DIAGNOSIS OF SCARLET FEVER.

Occasionally it is a difficult matter to diagnosticate exactly a case of scarlet fever. Information in this respect has been looked for in leucocytosis, the appearance of acetone and urobilin in the urine, in eosinophilia, and even in Wassermann's reaction. It is, however, often a delicate matter to decide. In 1907, Hecht pointed out that certain cutaneous hæmorrhages were characteristic of scarlet fever, and to obtain this diagnostic phenomenon it was only necessary to pick up a fold of skin on the back or chest and compress it firmly for several seconds between the thumb and index finger. If one was dealing with a case of scarlet fever petechial hæmorrhages occurred, otherwise a hæmorrhage was produced with difficulty. Rumpel (*Münchener medizinische Wochenschrift*, February 7, 1911) advised recourse to what he called the procedure of venous stasis, which, in scarlet fever, also gives rise to characteristic cutaneous hæmorrhages below the ligature. These hæmorrhages are produced with regularity; they are sometimes minute, sometimes very extensive and petechial in type, sometimes diffuse. These cutaneous hæmorrhages, which occur only exceptionally in other affections, can be explained by a particular vulnerability of the cutaneous capillaries due to the action of the scarlatinal toxine. In measles the capillaries of the skin are less involved in the infection, but they may give rise to a less pronounced hæmorrhage.

A CASUAL VIEW OF CENTRAL PARK.

The last monthly issue of the *Bulletin*—it is henceforward to be published quarterly—issued by the Woman's Municipal League of the City of New York, states that however discouraging Central Park may look to the scientific eye, the casual, uninstructed vision finds only beautiful greenness and freshness and notes all sorts of people wholesomely enjoying them; no one who sees the park in its charming appearance of fresh new verdure can fail to rejoice in it and be vitally concerned in regard to any condition threatening its democratically widespread beneficence. This little publication is valuable in its insistence upon back yard gardens, window sill flower pots, and other tiny efforts to beautify the city, useful not only to gratify the eye, but to inculcate general municipal tidiness; beauty, it says, is almost as essential to well being, usefulness, and happiness as any of the more commanding and more insisted upon civic virtues—good sanitation, honest inspection, and the like. Behind the league headquarters at 46 East Twenty-ninth Street is a model city back garden, open to inspection by any enthusiastic amateur, containing newly sodded grass plots, some vines, an array of geraniums, a hedge of dwarf scarlet sage, a line of sweet alyssum, hyacinths, bean flowers, moon vines, roses, and general greenery and bloom. It is said that two dollars and a little brains will duplicate this pretty and edifying spot.

A COMMON CAUSE OF SUDDEN DEATH.

Every now and then the readers of the morning newspapers of New York are shocked to read that a more or less prominent citizen of some Western or Southern town has died suddenly at his favorite hotel of gastritis. The victims of this sort of attack are usually men who have indulged for many years in steady drinking, never becoming incapacitated, perhaps, but also never quite free from alcohol; they may be, however, simply tremendous eaters. They are generally subjects of either the small white or the small red kidney. A few days' experience with the rich and varied *menus* of our best chefs, combined with large quantities of the rich and fruity wines matured in France and elsewhere, suffices to precipitate the severe and fatal gastritis of the kidney subject unable to dispose of a rapidly and suddenly increased store of toxines. Great pain, projectile vomiting, and a paralyzing weakness of the muscular system, combined with profound depression, are all that are necessary to rupture an atheromatous vessel or to stop a dilated ventricle. The renal victim may live long and happily with discretion; but the acronyctous pleasures of the metropolis are not for him.

THE GOOD FORTUNE OF CHICAGO.

To succeed Dr. William A. Evans, the admired and able commissioner of health of Chicago, the mayor has appointed Dr. George B. Young, for six years in charge of the Marine Hospital in that city. Dr. Young will probably find no difficulty in hand-

ling the problems presented by Chicago in view of his record in disposing of those inseparable from the Public Health and Marine Hospital Service. Like Dr. Evans, Dr. Young is no politician and the unscrupulous milk dealers, bakers, ice cream makers, and others who have relied upon political chiefs to save them from the penalties of violations of the law, will continue to meet with uncompromising hostility. The enviable record made by the Chicago Board of Health will be maintained.

FOR A SAFE FOURTH.

Notwithstanding the many and laudable efforts which have been made to do away with promiscuous burning of powder as a means of celebrating the anniversary of the Declaration of Independence, the American small boy is so saturated with the tradition of a noisy Fourth that a fairly large crop of accidents due to explosives may constantly be expected. There seems to be a marked disposition in such cases towards the development of tetanus, a tendency which can be guarded against only by timely resort to tetanus antitoxine as a prophylactic. It is largely from the use of this serum that the number of deaths from fourth of July tetanus has fallen to about one tenth of what it was in 1908. The injection of a prophylactic dose of tetanus antitoxine immediately after the wound has been made seems to have been an efficient preventive in every case in which it has been tried. Physicians should bear this in mind and be prepared to administer tetanus antitoxine as a prophylactic in cases of wounds caused by fireworks. For speedy local disinfection of the wound, nothing probably is superior to the tincture of iodine, used with freedom despite the pain it causes at first. It is best not to lose time in elaborate and actually less effective washing and sterilizing.

Obituary.

JOSEPH PRICE, M. D.,
of Philadelphia.

Dr. Price died suddenly in Philadelphia on June 6th immediately after an operation for appendicular inflammation; some four hours previously he had operated in a similar case. Dr. Price was born in Virginia in 1853 and became one of the pioneer gynæcological surgeons of Philadelphia, where he founded the Gynæcean Hospital. He had been president of the American Medical Association, of the American Association of Gynæcologists, and of the American Society of Obstetricians and was a voluminous contributor to medical publications on surgical and gynæcological subjects.

News Items.

Changes of Address.—Dr. Thomas F. Cotter, to 544 West 148th Street, New York.

To Enlarge Minturn Hospital.—Plans have been filed for adding one story to the scarlet fever pavilion of the Scarlet Fever and Diphtheria Hospital, at the foot of East Sixteenth Street, which is known as the Minturn Hospital. The estimated cost of the addition is $12,000.

Physicians Sued for Neglecting to Register Births.—It is reported that a special inspector of the State Department of Health of Pennsylvania has brought suit against fourteen physicians of Lancaster Pa., on the charge of having violated a State law in neglecting to register births with the local registrar of vital statistics.

Dr. Wilson Resigns from the Faculty of Jefferson Medical College.—Dr. James C. Wilson has resigned the chair of practice of medicine and clinical medicine at Jefferson Medical College, after an incumbency of twenty years. Dr. Wilson was one of the oldest professors, in point of service, in the faculty of the college. No action has been taken to fill the vacancy caused by Dr. Wilson's resignation.

The New Health Commissioner of Chicago.—Dr. George B. Young of the United States Public Health and Marine Hospital Service, is to be Chicago's new Health Commissioner. Dr. Young has been granted leave of absence from the Federal service to take the post at the request of Mayor Harrison. Dr. Young has been in the Service for twenty years, and has been stationed in Chicago for six years.

Measles and Smallpox in Quarantine.—The French liner *La Bretagne* and the Cunarder *Carpathia* had contagious disease on board when they reached New York on June 6th, and were both held up at Quarantine for several hours. *La Bretagne's* detention was due to a case of smallpox. The *Carpathia*, which comes from Naples and other Mediterranean ports, brought fifty cases of measles. The sick were kept in quarantine.

The American Association of Genitourinary Surgeons. At the twenty-fifth annual meeting of this association, held in New York on May 31st and June 1st, 2d, and 3d, the following officers were elected: President, Dr. Edward Martin, of Philadelphia; vice-president, Dr. Edward L. Keyes, Jr., of New York; secretary and treasurer, Dr. J. Bentley Squier, of New York; councillors, Dr. Charles L. Gibson, and Dr. Robert H. Greene, of New York. Philadelphia was selected as the next place of meeting.

New Buildings for the Beth David Hospital.—The Federation of Russian Polish Hebrews of America have purchased the block on Eighty-sixth Street, between Henderson Place and East End Avenue, facing East River Park, for a new building for the Beth David Hospital, now housed in Nos. 246 and 248 East Eighty-second Street. The new hospital will be built on a lot 72x90 feet, will be six stories high, with one hundred and fifty beds, which will be free to the poor.

Honorary Degrees for Surgeon General Stokes.—At the eighty-sixth commencement of Jefferson Medical College, held on June 5th, Surgeon General Charles F. Stokes, of the United States Navy, received the honorary degree of Doctor of Laws. He was the orator of the day, and spoke at some length of the work of the Medical Department of the Navy. At the one hundred and fifty-seventh commencement of Columbia University, held on June 7th the degree of Bachelor of Science was conferred upon Dr. Stokes.

Personal.—Dr. Ludwig Kast, of New York, sailed for Europe on Tuesday, June 6th. He was accompanied by Mrs. Kast.

Dr. Walter H. Conolly has been appointed first deputy medical superintendent of Bellevue and Allied Hospitals, to succeed Dr. George O'Hanlon, who was recently promoted to the position of general medical superintendent of the institution.

Dr. W. E. Grant, health officer of Louisville, Ky., has been elected dean of the medical faculty of the University of Louisville, to succeed Dr. Thomas C. Evans, who recently resigned on account of ill health.

The Kentucky State Homœpathic Medical Society.—At the twenty-sixth annual meeting of this society, held in Louisville on May 25th, the following officers were elected: Dr. J. C. Thomasson, of Georgetown, president; Dr. William V. Neel, of Henderson, vice-president; Dr. Mary E. Hopkins, of Louisville, reelected secretary, and Dr. W. C. Haydon, of Wallonia, reelected treasurer.

The Baltimore County Medical Society held its annual meeting at Towson on May 24th, under the presidency of Dr. E. N. Brush, who delivered an interesting address on Medical Expert Testimony. New officers for the ensuing year were elected as follows: President, Dr. Josiah S. Bowen; vice-president, Dr. William L. Smith; corresponding secretary, Dr. R. C. Massenburg; recording secretary, J. C. McCormick; treasurer, Dr. C. Eldred.

A New Dispensary to be Opened in Williamsburgh.—Announcement is made that the Hebrew Ladies' Dispensary of Williamsburg will open its doors to the public on June 15th. This dispensary is situated at 84 Cook Street, in the heart of the most congested section of Williamsburgh. The medical board consists of Dr. M. W. Dreyer, president; Dr. David Arthur Meiselas, secretary, and Dr. S. Robbinowitz, Dr. J. M. Goldberg, Dr. Joseph Freidman, and Dr. A. M. Gaffen.

The North Dakota State Medical Association held its twenty-fourth annual meeting in Fargo on May 9th, 10th and 11th. Officers for the ensuing year were elected as follows: Dr. Clinton E. Spicer, of Litchville, president; Dr. Alexander J. McCannell, of Minot, first vice-president; Dr. Murdock McGregor, of Fargo, second vice-president; Dr. R. Hudson Beek, of Lakota, third vice-president; Dr. Hezekiah J. Rowe, of Casselton, reelected secretary; Dr. Frank J. King, reelected treasurer. The next annual meeting will be held in Valley City.

The Alumni Association of the Medico-Chirurgical College, Philadelphia, held its thirty-first annual banquet on the evening of June 1st, at the Bellevue-Stratford. There were about two hundred and fifty members present. The guest of honor was the Hon. Lafayette Young, United States Senator from Iowa. Addresses were made by Mr. Henry F. Walton, president of the board of trustees of the college; Mr. Leslie M. Shaw, former Secretary of the Treasury; the Rev. Clarence W. Bispham, and Professor Horatio C. Wood, Jr., who spoke in behalf of the faculty of the college.

Reunion of Alumni of Maryland School of Medicine.—Over one hundred and fifty members of the Alumni Association of the University of Maryland School of Medicine attended the annual reunion of the association in Baltimore on the evening of June 1st. Dr. G. Lane Taneyhill, president of the associaton, presided and introduced as the speakers Mr. James F. Thrift, City Comptroller; Rev. Eugene A. Noble, president of Goucher College, and Rev. Charles Fiske, of St. Michael and All Angels' Episcopal Church. The officers elected were: President, Dr. Charles E. Sadtler; vice-presidents, Dr. George H. Stewart, Dr. Marshall West, and Dr. Samuel T. Earle; recording secretary, Dr. Nathan Winslow; assistant recording secretary, Dr. William S. Love; corresponding secretary, Dr. John J. Penington; treasurer, Dr. John Houff; Executive Committee, Dr. G. Lane Taneyhill, Dr. C. R. Winterson, Dr. B. M. Hopkinson, Dr. George A. Fleming, and Dr. Vernon Norwood.

Commencement at Columbia.—The one hundred and fifty-seventh commencement of Columbia University was held on June 7th. Degrees or diplomas were given to 1,471 students, and thirteen honorary degrees were conferred. Professor Charles F. Chandler, who has been a professor at the college since 1864, had the place of honor on the programme and received the degree of Doctor of Laws [illegible] by the board of trustees of the university. The other candidates for honorary degrees were: Governor Baldwin, of Connecticut; Surgeon General Stokes, U. S. Navy; Baron D'Estournelles de Constant; Bishop Lawrence, of Massachusetts; Suffragan Bishop Burch, of New York; Daniel E. Moran, of the class of '84 Mines; Samuel Fairchild, formerly president of the New York College of Pharmacy; Edward Robinson, Hugo Reisinger, of New York, and Alonzo Barton Hepburn, president of the Chamber of Commerce.

The Jefferson Alumni Dinner.—The Alumni Association of the Jefferson Medical College held its annual dinner at the Bellevue-Stratford on the evening of June 5th. The president of the association, Dr. J. T. Rugh, presided, and about three hundred members were present. Addresses were made by Surgeon General Charles F. Stokes, of the United States Navy, who told what the medical corps attached to the battleships of this country had accomplished; Mr. Joseph DeF. Junkin, who spoke in behalf of the board of trustees of the college; Dr. A. S. McKnight, who told of the work of the Alumni Association in general; Prof. J. C. Wilson, who represented the faculty, and Prof. J. Chalmers DaCosta, who spoke on the Gross Chair of Surgery.

The Reporting of Tuberculosis as a Communicable Disease.—Section 320-32 of Article 16 of the Public Health Law, passed by the New York State Legislature in 1908, declares tuberculosis to be an infectious and communicable disease, and requires physicians to report to the proper health authorities every case of tuberculosis known to them. A fine of not less than $5 or more than $50 may be imposed for failure to do so. According to a statement issued by the National Association for the Study and Prevention of Tuberculosis twenty-five States now require the reporting of tuberculosis, the laws of many of these States being modeled after the New York State law. These States are Connecticut, Kansas, Maine, Maryland, Michigan, Mississippi, New Jersey, Rhode Island, Vermont, and the District of Columbia.

The Ontario Medical Association.—About two hundred and forty delegates attended the annual meeting of the Ontario Medical Association, which was held in Niagara Falls, on Tuesday, Wednesday, and Thursday, May 30th and 31st and June 1st. The following officers were elected to serve for the ensuing year: President, Dr. Herbert A. Bruce, of Toronto; first vice-president, Dr. F. W. R. Wilson, of Niagara Falls, Ontario; second vice-president, Dr. William Hall, of Brampton; third vice-president, Dr. F. Drake, of London; fourth vice-president, Dr. George Field, of Coburg; general secretary, Dr. F. A. Clarkson, of Toronto; treasurer, Dr. J. Heurner Mullin, of Hamilton. Next year's meeting will be held in Toronto.

The Connecticut State Medical Society.—At the one hundred and nineteenth annual meeting of this society, held in Hartford on May 24th and 25th, under the presidency of Dr. Frank K. Hallock, the following officers were elected to serve for the ensuing year: President, Dr. John G. Stanton, of New London; vice-presidents, Dr. D. Chester Brown, of Danbury, and Dr. Robert C. Paine, of Thompson; secretary, Dr. Walter R. Steiner, of Hartford; treasurer, Dr. Joseph H. Townsend, of New Haven. The annual banquet of the society, which was held on the evening of May 25th, was not only the largest affair of the kind ever held by the society, but was the most successful. Dr. Charles C. Beach, of Hartford, was toastmaster, and the speakers included Dr. Hallock, the retiring president, Dr. Louis Faugeres Bishop, of New York, and Dr. Ansel G. Cook.

The Pennsylvania One Board Medical Bill.—The Gegerich bill, which provides for a single board to have charge of the examination and licensure of all medical practitioners, in place of the three boards representing the State Medical Society, the Homœopathic Medical Society, and the Eclectic Medical Society, has been approved by the Governor. By the terms of the act the Governor will name before September 1, 1911, a board of seven to conduct the business under the name of the Bureau of Medical Education and Licensure, to be attached to the Department of Public Instruction. This board is to consist of the Commissioner of Health and the Superintendent of Public Instruction ex officio and five others, one to represent each of the three societies and the other two to be named by the Governor as he pleases, provided that they shall not be members of the same society. The act also legislates out of office the State Medical Council, which has supervision over institutions conferring degrees and gives its power to the new board. Provision is also made for complete regulation and reciprocity. The appointed members are to be paid $1,500 a year and to be of ten years' practice. The act is to be in full force by January 1, 1912.

Brooklyn Hospitals Overcrowded.—According to a statement made by Mr. Burritt, of the State Charities Aid Association, on March 30, 1911, there were in the Kings County Hospital 73 men in the male medical ward, with only 63 beds; in the acute medical wards, there were 104 patients with only 81 beds; in the male surgical wards, 128 patients with only 106 beds. In the Cumberland Street Hospital there is similar overcrowding. On account of this overcrowding, patients must be discharged before they are cured. Additions are under way at the Kings County Hospital which will increase the capacity by about 300 beds, but the institution will still be overcrowded.

A Campaign for the Reduction of Infant Mortality.—Announcement is made by Commissioner Lederle that an Association of Infants' Milk Stations of the Borough of Manhattan has been formed, consisting of all the agencies which are engaged in this particular work. Dr. S. J. Baker, Director of Child Hygiene of the Department of Health, has been elected chairman of the association. At present there are sixty-five milk stations in the borough of Manhattan. In practically all of them nurses are in attendance every day to instruct the mothers in the proper modification and care of milk, and physicians hold conferences at stated intervals during the week, where the mothers are given general instructions in the care of babies and sick babies are treated. It is believed that the establishment of this Association of Infants' Milk Stations will do much to strengthen the work of the individual societies and increase the efficiency of what is already one of the most important features in the campaign for the reduction of infant mortality.

The Queens-Nassau Medical Society.—At the annual meeting of this society, which was held in Jamaica on Wednesday, June 30th, the following officers were elected to serve for the ensuing year: Dr. H. M. Warner, of Hempstead, president; Dr. Louis N. Lanehart, of Hempstead, vice-president; Dr. James S. Cooley, of Mineola, secretary-treasurer. Four of the censors were reelected, as follows: Dr. R. F. MacFarlane, of Long Island City, Dr. L. N. Lanehart, of Hempstead, Dr. G. K. Mewnene, of Jamaica, and Dr. A. G. Rave, of Hicksville. Dr. Margaret M. York, of Flushing, was elected fifth censor, replacing Dr. G. H. Dowsey, of Great Neck. Dr. W. J. Malcolm, of Jericho, and Dr. J. J. Kindred, of Astoria, were elected delegates to the New York State Medical Society, and Dr. Charles P. Story, of Bay Side, was elected delegate to the Second District branch of the State Society. Dr. Walter Lindsay, of Huntington, was reelected historian. The annual meeting of the society will be held in October of each year in future, instead of in May.

The American Orthopædic Association and The American Pædiatric Society, in reference to acute epidemic poliomyelitis, have addressed to health authorities and boards of health the following notes:

[illegible] as far as known, [illegible] from [illegible] through a third [illegible] epidemics [illegible] travel. There is reason to believe that it is prevented from spreading by quarantine, and, in view of the very great prevalence of the disease in the summer of 1910, it is the opinion of this committee that it should be made a reportable disease in all States in order that its presence may be detected and its spread guarded against.

Of particular significance are the so called abortive cases, where indefinite ailments occur in children in communities where paralysis frankly exists. These abortive cases of infantile paralysis are undoubtedly a source of infection, and their record and study are of much importance. In a community where cases of infantile paralysis occur, cases of illness with sudden onset of fever and meningeal symptoms should be closely watched and regarded as possibly infectious. In such cases, recovery without paralysis does not prove that the case was not infectious [illegible]

All cases of infantile paralysis should be strictly quarantined, sputum, urine, and fæces being disinfected, and the same rigid precautions adopted as in scarlet fever. This quarantine should, in the opinion of the committee, last for four weeks in the absence of definite knowledge as to when the infection ends. Children from infected families should not be allowed to go to school until the quarantine is abandoned. The transportation or transfer of patients with acute cases in public conveyances should be strictly forbidden. It would be very desirable to adopt provisional quarantine measures in suspicious cases in a community where an epidemic prevails. The report of all cases of infantile paralysis to the public health authorities should be enforced by law, and all deaths from this cause should be properly described and registered. A careful study of epidemics by public health authorities is strongly advised.

[illegible] M.D.,
[illegible] M.D.,
H. Winnett Orr, M.D.:

Association médicale internationale contre la guerre.—This association had its annual meeting at 25 rue des Mathurins, Paris, the residence of the founder president, Dr. J. A. Rivière, March 11, 1911. The report of the secretary, Dr. J. Mazery, paid a high tribute to the president, who was subsequently reelected and also appointed president of the coming congress, to be held in Paris towards the end of October, and of which Professor Charles Richet, member of the Academy of Medicine, is honorary president. The following subjects will be discussed: International relations, language, education, hygiene, travel, health, and residence, the unification of weights and measures and of money, international justice and tribunals, and universal peace. International free trade is one of the chief ultimate objects of the society. The associate general secretaries are Dr. Cogrel and Dr. C. Hahn. There are now some 2,000 members and any physician desiring to join has only to send in his name to the president, unaccompanied, for the present, by any fee.

College Commencements.—Thirty-two young women received the degree of Doctor of Medicine at the fifty-ninth annual commencement of the Women's Medical College, Philadelphia, held on May 31st. The address to the graduating class was delivered by Dr. Harvey W. Wiley, chief of the Bureau of Chemistry, Department of Agriculture, Washington, D. C.

A class of one hundred and seventy-one members was graduated from the Medico-Chirurgical College, Philadelphia, at the thirty-first annual commencement of the institution on June 5th. The doctorate oration was delivered by the Hon. Lafayette Young, former United States Senator from Iowa, and the degrees were conferred by Mr. Henry F. Walton, president of the Board of Trustees of the college.

At the fifty-second annual commencement of the Long Island College Hospital, held on June 1st, the degree of Doctor of Medicine was conferred upon seventy graduates. The address to the graduates was delivered by Dr. Newell Dwight Hillis, who spoke on The Work of the Physician and Surgeon in Twentieth Century Life.

At the seventy-fourth annual commencement of the medical department of the University of Louisville, held on the evening of May 30th, one hundred and fifty-nine graduates received the degree of Doctor of Medicine, the largest class in the history of the institution.

The Hahnemann Medical College and Hospital, of Philadelphia, held its sixty-third annual commencement on June 1st. Thirty-seven young men received diplomas.

Annual Meeting of the New Jersey Medical Society.—The one hundred and forty-fifth annual meeting of the Medical Society of New Jersey will be held at the New Monmouth Hotel, Spring Lake, on Tuesday, Wednesday, and Thursday, June 13th, 14th, and 15th. The House of Delegates will meet on Tuesday morning, at ten o'clock, and the first general session will be held in the afternoon at 3:45 o'clock. The first item on the programme for this session is the Oration in Surgery, which will be delivered by Dr. Joseph A. Blake, of New York, his subject being The Education of a Surgeon. At the evening session the annual address of the president will be delivered by Dr. Thomas H. MacKenzie, of Trenton, the retiring president, the subject of his address being A Plea for Attaining and Maintaining a High Standard of Medical Education. The address of the president will be followed by the Oration in Medicine, which will be delivered by Dr. George W. Norris, of Philadelphia, on Advances in the Knowledge of the Circulatory System. The Committee on Arrangements, of which Dr. William G. Schauffler, of Lakewood, is chairman, has made elaborate plans for the entertainment of the visiting members and their friends, and the New Monmouth Hotel has been secured for the exclusive use of the society during the meeting, a special rate having been secured for all members. The officers of the society are: Dr. Thomas H. MacKenzie, of Trenton, president; Dr. Daniel Strock, of Camden, first vice-president; Dr. Norton L. Wilson, of Elizabeth, second vice-president; Dr. Enoch Hollinshead, of Pemberton, third vice-president; Dr. Harry A. Stout, of Wenonah, corresponding secretary; Dr. William J. Chandler, of South Orange, recording secretary; Dr. Archibald Mercer, of Newark, treasurer. Dr. David C. English, of New Brunswick, is secretary of the board of trustees.

The Nebraska State Medical Association held its forty-third annual meeting in Omaha on May 2d, 3d and 4th, under the presidency of Dr. J. P. Lord, and elected the following officers for the ensuing year: President, Dr. Andrew D. Nesbit, of Tekamah; first vice-president, Dr. N. T. Johnston, of Upland; second vice-president, Dr. Voorhees Lucas, of North Platte; secretary, Dr. Alonzo D. Wilkinson, of Lincoln, reelected; treasurer, Dr. Alexander S. von Mansfelde of Ashland, reelected.

Infectious Diseases in New York:

We are indebted to the Bureau of Records of the Department of Health for the following statement of new cases and deaths reported for the week ending June 3, 1911:

[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
Measles	1,185	9
Scarlet fever	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
Whooping cough	50	[illegible]
Cerebrospinal meningitis	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

The Health Officers' Association of New Jersey adopted a constitution at the third meeting of the organization, held on the evening of May 24th. About fifty members were present, and at the close of the business meeting a banquet was held. Mr. Chester W. Wells, of Montclair, president of the association, acting as toastmaster. Among the speakers were: Colonel George P. Olcott, of Montclair, vice-president of the State board; Dr. A. Clark Hunt, Dr. R. B. Fitz Randolph, George W. McGuire, and Dr. Richard C. Newton, all of whom are connected with the State Board of Health. The object of the association is to bring about cooperation between the different bodies of the State in improving health conditions. The annual meeting will be held next January. Six meetings are to be held each year.

Noise from Motor Boats.—Complaints have been received by the Department of Health of the nuisance of noise from the motor boats whose engines have not been equipped with proper mufflers. This subject was considered by the Board of Health last year, and a section of the Sanitary Code was adopted requiring that all boats plying on any of the waters of the City of New York, equipped with gasoline engines, shall be constructed so that the exhaust from such engine is made to discharge into a muffler. Upon receipt of the recent complaints, Commissioner Lederle directed an investigation of the conditions in all the waters within and adjacent to the city, preparatory to a rigid enforcement of this section of the Sanitary Code. One arrest has been made for a violation of the section, and Magistrate Herbert, who imposed a fine of $5, warned the defendant that if he or any other offenders were brought before him the punishment would be more severe.

International Congress of Medicine.—From the Bureau of Commission of this congress, at 10 Hugo de Grootstraat, the Hague, comes information regarding the next meeting which will be held in London, England, August 6 to 12, 1913. President, Sir Thomas Barlow, K.C.V.O.; secretary general, W. P. Herringham, 40 Wimpole Street, London; treasurers, Sir Dyce Duckworth and G. H. Makins, Esq., F.R.C.S. A request from Austria that a section in professional interests of physicians should be formed has been negatived. Several names of sections haave been altered, viz., the title of the third section is now General Pathology and Pathological Anatomy and it contains a subsection in Chemical Pathology. The title of the fourth section will be Bacteriology and Immunity. To the section of surgery have been added two subsections, Orthopædics, and General and Local Anæsthesia. The eighteenth section will be called Hygiene and Preventive Medicine; the twentieth, Military and Maritime Medicine and Hygiene; the twenty-first, Tropical Pathology. There has been created a new section in Medical Radiology. Propositions concerning the organization of the congress may be addressed to the general secretary of the permanent commission, Professor H. Burger, 1 Vondelstraat, Amsterdam, Holland. National committees should write to the executive committee, London.

Gifts and Bequests to Hospitals.—The will of Miss Elizabeth J. Mead, contains a bequest of $20,000 to the Stamford, Conn., Hospital.

By the will of Edward Milan, who died a short time ago in Chicago, thirteen charitable institutions will receive bequests. The principal bequests are as follows: Home for Destitute and Crippled Children, $5,000; The Old People's Home of Chicago, $5,000; Little Sisters of the Poor of Chicago, $5,000; the Chicago Home for Incurables, $5,000; St. Joseph's Orphan Asylum for Girls, $5,000; Sisters of Charity of St. Joseph, Chicago, St. Joseph's Hospital, $5,000; St. Elizabeth's Hospital, $5,000; Mission of Our Lady of Mercy, Working Boys' Home, $5,000; St. Joseph's Home for the Friendless, $5,000; German Old People's Home, Harlem, $5,000; Franciscan Sisters of Chicago, St. Anthony of Padua Hospital, $5,000.

Meetings of Local Medical Societies to be Held During the Coming Week:

MONDAY, *June 12th.*—Society of Medical Jurisprudence; Williamsburgh Medical Society, Brooklyn; New Rochelle Medical Society; Corning Medical Association; Waterbury, Conn., Medical Association.

TUESDAY, *June 13th.*—Medical Society of the County of Schenectady; Medical Society of the County of Rensselaer; Jamestown Medical Society (annual); Rome Medical Society; Buffalo Academy of Medicine (Section in Medicine).

WEDNESDAY, *June 14th.*—Medical Society of the Borough of the Bronx; Brooklyn Medical and Pharmaceutical Association; Richmond County Medical Society; Dunkirk and Fredonia Medical Society (semi-annual); Alumni Association of the Norwegian Hospital, Brooklyn.

THURSDAY, *June 15th.*—German Medical Society, Brooklyn; Newark, N. J., Medical and Surgical Society.

FRIDAY, *June 16th.*—Clinical Society of the New York Postgraduate Medical School and Hospital; Brooklyn Medical Society.

Vital Statistics of New York.—During the week ending May 27, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,406, corresponding to an annual death rate of 14.72 in a thousand of population, as compared with a rate of 16.27 for the preceding week and 15.03 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 16.03; the Bronx, 13.82; Brooklyn, 13.54; Queens, 12.77; Richmond, 13.98. There were 152 stillbirths. The deaths of children under five years of age numbered 407, of whom 232 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 56; over five years of age, 57. There were 152 deaths from pulmonary tuberculosis, 88 from pneumonia, 95 from bronchopneumonia, 97 from Bright's disease, 153 from organic heart diseases, and 56 from congenital debility and malformations. There were 28 deaths from suicide, 5 from homicide, and 83 due to accidents. Six hundred and ninety-seven marriages and 2,869 births were reported during the week.

The Health of Chicago.—During the week ending May 27, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 23 cases, 3 deaths; measles, 273 cases, 7 deaths; whooping cough, 35 cases, 4 deaths; scarlet fever, 204 cases, 15 deaths; diphtheria, 136 cases, 0 death; chickenpox, 89 cases, 0 death; tuberculosis, 165 cases, 68 deaths; pneumonia, 22 cases, 79 deaths. There were reported 13 cases of German measles, 4 of smallpox, 1 of cerebrospinal meningitis, 79 of contagious diseases of minor importance, making a total of 1,044 cases, as compared with 1,267 for the preceding week and 1,263 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 45, and there were 42 deaths from congenital defects and accidents, and 1 death from cerebrospinal meningitis. The total deaths of children under five years of age numbered 178, of whom 116 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 658, corresponding to an annual death rate of 14.1 in a thousand of population, as compared with a rate of 16.49 for the preceding week,

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

June 1, 1911.

1. Acute Inflammation of Long Bones, with Special Reference to Excision of the Diaphysis, By Robert G. LeConte.
2. The Action of Salvarsan upon the Wassermann Reaction, By Howard Fox.
3. The Early Diagnosis of Pulmonary Tuberculosis from the Standpoint of Physical and Fluoroscopic Examination, By James A. Honeij.
4. The Neurology of Apraxia, By George V. N. Dearborn.
5. Accurate Optics, By Isaac Hartshorne.

1. Acute Inflammation of Long Bones.—Le Conte in reviewing sixty cases of acute inflammation of long bones pleads for an early diagnosis and interference, abolishment of Ochsner's treatment of delay, and treatment similar to that of inflammation in the soft tissue, by radical excisions at the primary operation. He states that the mortality and extent of the necrosis following acute inflammation of bone depends not only upon the promptness of surgical interference, but also upon its thoroughness. Suppuration beneath the periosteum does not exclude an infection of the medulla, the presumption being that after three days the medullary cavity is also involved. Within seventy-two hours of the onset of the disease osteoperiostitis is localized usually in the cortex of the bone, and incision, disinfection, and drainage are sufficient to bring about a cure. If there is no marked diminution of the symptoms in twenty-four hours after incision and drainage, the medullary cavity should be opened. When the medullary cavity is opened and found healthy, the dangers from infecting it are slight. In the majority of his cases osteomyelitis was due to a neglected osteoperiostitis. In operations after the third day, where systemic symptoms are pronounced, the medullary cavity should always be opened and the opening should be sufficiently long to expose healthy marrow, and sufficiently broad and long to expose healthy bone. His mortality of ten per cent. was directly due to delay in operation, and to inefficient surgery at the primary operation. In five of these cases he thinks that the surgery was at fault, and had a radical operation been done he believes that all patients would have recovered. In the sixth case the delay in operation was perhaps more responsible than the surgery for its fatal termination. It is but fair to say that in collecting these sixty cases, perhaps forty more patients were rejected for various reasons, none of whom died, so a mortality of six per cent. is nearer the truth. The tendency to wait after giving drainage is not sound. He firmly believes that the attempt should be made in the acute stage to remove at the primary operation all bone that is diseased. We know that the periosteum in the acute stage of the disease will reproduce all bony defects, and delay means a greater number of operations, a greater destruction of bone, a greater likelihood of epiphyseal inflammation, a longer convalescence, and perhaps a higher mortality.

2. The Action of Salvarsan upon the Wassermann Reaction.—Howard Fox states that it is difficult at the present time to draw general conclusion owing to the great discrepancies in the results of various observers. These discrepancies are partly due to the different methods of injection and to the different stage of the disease in which the injections were given. The results of a single injection given by either the intravenous or intramuscular methods are as a rule rather unsatisfactory from the serological standpoint. Repeated injections seem to have given better results and offer a more hopeful outlook for the future. The action of salvarsan upon the Wassermann reaction is in general analogous to that of mercury. The effect upon the Wassermann reaction is much less favorable than upon the clinical manifestations of syphilis.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

June 3, 1911

1. Some Problems in Gastrointestinal Surgery, By J. M. T. Finney.
2. The Diagnosis of Early Pulmonary Tuberculosis, By Walter V. Brem
3. The Need of the Early Diagnosis of Tuberculosis from the Public Health and Prognostic Points of View, By William H. Bell.
4. The Folly of Sending Tuberculous Patients away from Medical Supervision, By Joseph Walsh.
5. Report of a Case of Tertian Malaria, Simulating Appendicitis, By Graham E. Henson.
6. The Diagnosis of Tumor or Abscess Formation in the Temporosphenoidal Lobe, By Foster Kennedy.
7. Simplicity of Living, and the Study of the Normal in Medicine, By Clement A. Penrose.
8. The Rarity of Tabetic and Paretic Conditions in the Negro. A Case of Tabes in a Full Blood Negress, By E. M. Hummel.
9. Results in the Treatment of Thirty Cases of Otitis Media by Vaccine Therapy, By C. L. McDonald.
10. Vanadiumism, By Walton Forest Dutton.
11. Two Cases of Appendix Abscess Drained by Rectal Puncture, By Lincoln Davis.
12. X Ray Localization by Constructions. A Modification of the McKenzie-Davidson Method, By Henry F. Pipes.
13. Case of Illuminating Gas Poisoning: Patient Successfully Treated, By William Ravine.
14. Frontal Sinus Curette, By Beeler Higbee.
15. Transillumination of the Mastoid Process as an Aid to Diagnosis, By Emil Amberg.
16. Technique for Hypodermic Injections, By Frank Thomas Woodbury.
17. A Painless Mercurial Injection for Syphilis, By Charles M. Walson.

5. Report of a Case of Malaria Simulating Appendicular Inflammation.—Henson reports a case of malaria simulating appendicular inflammation and urges on all practitioners in malarious districts the necessity for the examination of the blood for the malarial parasite and the value of the procedure as a routine measure. The process of taking a smear, staining, and mounting is a simple matter occupying a very short time. Very often, as in his case, but a few minutes' examination under the microscope is sufficient to reveal the parasite, where very possibly its existence was considered unlikely. Following such a finding, consideration can then be given the significance of the presence of the parasites, and whether or not they are responsible for

the clinical symptoms, not forgetting that in all malarious sections the parasites may be but coincident with other pathological conditions.

6. Diagnosis of Tumor or Abscess Formation in the Temporosphenoidal Lobe.—Kennedy gives the following symptom complex of tumor in the right temporosphenoidal lobe in a right handed person:—Epileptiform convulsions of varying severity and frequency; dreamy states or analogous pathological psychic conditions; crude subjective sensations of smell or taste with or without involuntary reflex movements of mastication. Subsequent to major attacks; in most cases, transient weakness of the left lower facial muscles, usually most evident on emotional expression; less often the left arm and leg temporarily paretic; left abdominal reflexes diminished or absent, deep, increased; the left plantar reflex may be of extensor, and the right of flexor type. Bilateral papillœdema usually of greater intensity on the right side. Reflex change and motor symptoms on the left side, at first merely postepileptic, but later become persistent phenomena. No word forgetfulness after major attacks or at other times. No speech defect whatsoever. Symptom complex of tumor in the left temporosphenoidal lobe, in a right handed person:—Difficulty in naming objects seen and recognized; later, word forgetfulness in conversation; later, inapposite words and phrases, with instant recognition of mistake when made, but inability to prevent perseveration of verbal errors. Reading aloud and writing to dictation are well performed; spontaneous writing poor. Epileptiform convulsions of varying severity and frequency; dreamy states or analogous pathological psychic conditions; crude subjective sensations of smell or taste, with or without involuntary reflex movements of mastication. Subsequent to major attacks; in most cases, transient weakness of the right lower facial muscles, usually most evident on emotional expression; less often, the right arm and leg temporarily paretic; right abdominal reflexes diminished or absent; deep, increased; the right plantar reflex may be of extensor and the left of flexor type. Bilateral papillœdema, usually of greater intensity on the left side. Reflex change and motor symptoms on the right side at first are merely postepileptic, but later become persistent phenomena. The existence of hemianopia would, of course, indicate precisely the side of the lesion.

8. Tabetic and Paretic Conditions in the Negro. Hammel observes that it is a general belief that the so called parasyphilitic conditions—tabes and paresis—do not occur, or at least very seldom, in the full blooded African. The rarity of parasyphilitic states in the Ethiopian is all the more notable when we contemplate the fact that negroes are practically without morals and that their promiscuous sexual practices occasion the great if not universal prevalence of syphilis among them. So thoroughly "syphilized" are negroes about large cities, that it is a matter of serious doubt whether any considerable percentage escapes infection. The careless, untutored way of the downright negro is the cause of his neglect of any protracted effort at treatment, and it consequently may be questioned whether any black is ever efficiently treated except while confined in a hospital ward. If the assertion of syphilographers and neurologists that untreated syphilis is most prone to culminate in the primary degenerations of the nervous system, the immunity of negroes to such conditions is made still more remarkable. Again, alcohol is said to be one of the contributing factors in the development of tabes and paresis, but the negro is notoriously addicted to alcohol, his indulgence in this respect being for the most part limited only by his inability to get it regularly. Obviously then, the negro is protected from the distant nervous effects of syphilis by something native to his organism. Anyone who has seen a great many cases of tabes has perhaps noted that the subjects of this disease are for the most part drafted from a class of persons who work assiduously and get much friction out of their lives; who feel the brunt of care and responsibility greatly, and who depress themselves with the tedium of their work and with apprehensive misgivings as to the possibility of failure, etc.; together with many other of the worries which rather seem to be the lot of the highly civilized white man. Such temperamental and nervous defects have their influence in lowering the powers of resistance and in determining the development of tabes and the primary degenerative changes in the nervous system. Herein may rest a possible explanation of the rarity of the parasyphilitic diseases in the negro, for one of the salient traits of his character is his improvidence. Thus, since his contact with the white race, the negro has become better "syphilized" than "civilized," having suffered the penalty of all inferior races when thrown into contact with the better civilized white man—that of contracting the vices with their consequences more quickly than the virtures. Hummel has also observed that tabetics nearly always have blue or gray eyes and are otherwise of blond complexion. Certainly this is remarkable in New Orleans and vicinity, where people of Latin descent (practically all brunettes) predominate in numbers. This observation is of some significance here as it suggests that constitutions associated with more or less intense pigmentation of the skin carry with them some degree of immunity against such diseases as tabes.

13. Illuminating Gas Poisoning.—Ravine reviews the treatment of illuminating gas poisoning. He says that the earliest reported treatment for illuminating gas poisoning is that of Struthers, who advised jugular venesection, on the basis of his experimental work on animals. Corssland recommends the hypodermic use of 15 mm. of a ten per cent. solution of nitroglycerin injected into the epigastrium. Other writers have advised electric stimulation, oxygen, inhalations, cardiac tonics, and venesection, with transfusion of defibrinated blood or normal saline solution. One author in his treatment of a case did a venesection and gave an enema of twenty ounces of salt solution. Heinicke, in a report of twenty-five cases of coal gas poisoning, was the first to describe intravenous injection of salt solution. Ravine describes his own treatment: The patient was well covered with blankets and surrounded by hot water bottles, and was given 1/30 grain of strychnine hypodermically. The median basilic vein of the right arm was opened and 300

[illegible] [illegible] [illegible] [

Belching, which originally has relieved, may be carried to extremes particularly in the emotionally excitable. Such a reasonably induced aerophagia often obscures grave underlying disturbances of the circulatory system and the upper digestive tract, the belching being continued after all air has been forced from the fundus. Gas is complained of in a variety of abdominal abnormalities when careful questioning shows belching is not practised. The patient presumes the distress is due to gas. This is particularly common in the discomforts associated with disease of the biliary tract, appendix, and colon.

LANCET

[illegible]

1. Some Points of Clinical Interest Connected with the Exanthemata. By [illegible]
2. Fifty-six Cases of Cleft Palate Treated by Operation. By Johan Ulrich.
3. The Pressor Bases of the Urine: The Effect of Age, Diet, and High Blood Pressure on their Excretion. By [illegible]
4. On the Nature of the Connection between Erythemata and Lesions of Joints. By Archibald E. Garrod.
5. Salvarsan in the Treatment of Syphilis. By G. Stopford-Taylor and Robert W. Mackenna.
6. A Case of Spontaneous Fracture of the Leg Bones, of Doubtful Nature, Possibly One of Mycotic Infection. By Ernest W. Hey Groves.
7. Acute, or Paroxysmal, Pulmonary Œdema. By [illegible]
8. Notes on a Case of Gastroenterostomy after Fifteen Years. By Richard Bevan.
9. A Case of Pneumothorax Complicating Bronchopneumonia in a Child Aged Two Years. By [illegible]

1. The Exanthemata.—Phillips notes the constantly decreasing mortality from these diseases in Great Britain; there has been a fall of seventy-three per cent. in fifty-eight years. As to scarlet fever it has decreased ninety-one per cent. in forty-eight years. There seems to be little doubt that this disease is communicated through desquamated scales and aural and nasal discharges. One of the commonest complications is rheumatism, followed by endocarditis or chorea. Albuminuria should be taken to indicate nephritis. As to measles, its seriousness is greater from the debility and the glandular and pulmonary affections that may follow it; it is extremely infectious, as much so as smallpox. Collapse of the lung is not uncommon. It is often impossible to differentiate it from rötheln. Koplik's spots are the surest sign. Pityriasis rosea is sometimes deceptive. Typhoid fever is much milder than formerly; milk and barley water with sodium citrate forms the best diet. Phillips gives calomel in large doses, even if diarrhœa is present; Dover's powder may be added, however, or bismuth salicylate. All the exanthems may occur during pregnancy, but healthy children may be subsequently born. Hyperpyrexia is serious in adults, when it is always due to some complication, but not in children. The coexistence of two exanthems is not rare, scarlet fever with measles or chickenpox, even with typhoid fever, both rashes appearing simultaneously. Mumps is not uncommon with scarlet fever. Such association tends to severity of symptoms.

3. Pressor Bases of Urine.—Bain sums up as follows: 1. Pressor bases are absent from the urine of children between ten and twelve years of age, and apparently begin to be excreted about the age of fourteen. 2. A vegetable diet considerably reduces the amount formed. Eggs and fish reduce the quantity to some extent, but if chicken is taken the amount is but little less than one obtains on an ordinary mixed diet containing butcher's meat. 3. The bases are either absent or considerably diminished in cases of high blood pressure. Doubtless the diminution in some cases is partially attributable to low dietary, but in most of the cases recorded in this paper the only possible explanation is that the bases are retained in the system and produce the rise in pressure. 4. In gouty patients with normal blood pressure the pressor bases are excreted in normal amounts.

4. Erythemata and Joint Lesions.—Garrod says that painful affections of joints and eruptions of the erythema group are so frequently met with in association that it can hardly be doubted that some close connection exists between them. The fact that both classes of lesions are met with in the course of attacks of rheumatic fever suggests that where they occur together both are of rheumatic origin, but a further study shows that such an explanation does not suffice, and that we are not justified in assuming that the arthritis which accompanies an erythema is always rheumatic. It would rather seem that these allied affections may have their origin in a number of different causes. Even in rheumatic fever the marginate and papular erythematous rashes, which are, perhaps, commoner in children than in adults, are more closely associated with the articular than with the cardiac manifestations of the disease, whereas some other rheumatic accidents, such as chorea and subcutaneous nodules, group themselves around the endocardial and pericardial lesions. Such associated lesions of skin and joints are also seen in cases of erythema nodosum, but the nosological position of this variety of erythema is open to doubt, and the pains which accompany it are by no means always articular. Whereas many ascribe it to a rheumatic origin, it is regarded by others as a distinct specific malady. Undoubtedly erythema nodosum is far less often seen in the course of unequivocal attacks of rheumatism than are the marginate and papular forms, and case after case presents itself in which the malady runs its course without implicating the heart, and this even in children who, as a class, show so great a liability to the cardiac accidents of rheumatism. However, just when the suspicion of its distinct nature, engendered by the observation of a series of such cases, is growing into conviction one is apt to be confronted with a case in which erythema nodosum appears as an integral part of the complete rheumatic symptom complex, and is obliged to reconstruct one's notions accordingly. But an erythematous rash is as characteristic a feature of serum fever as is the affection of the joints; and here we have the strongest evidence which can be adduced in support of his initial thesis, in a simultaneous affection of skin and joints under conditions which exclude a rheumatic origin of either. If the views here advocated be correct, they may possibly serve to throw some light upon the action of the sali-

cylates in cases of rheumatic fever; upon their conspicuous influence upon the febrile disturbance and articular lesions, and as some think upon the erythemata also, and their apparent failure, when given in moderate doses at any rate, to control the cardiac accidents of the disease. Can it be that they exercise an antitoxic rather than a bactericidal action? It must be granted that, as Professor Stockman has pointed out to him, such a conception finds no support in the established facts of pharmacology, and that no parallel example can be quoted of a neutralizing effect of a simple chemical compound, administered as a drug, upon bacterial toxines; but neither can any other instance be adduced of such selective influence of a drug upon certain of the manifestations of a disease of bacterial origin.

5. **Salvarsan in Syphilis.**—Stopford-Taylor recommends that every fresh case of syphilis should receive a full dose of salvarsan, preferably by the intravenous route, unless there is some contraindication. If at the end of three weeks the patient does not give a negative Wassermann's reaction the advisability of a second dose should be considered. The first dose will destroy an enormous number of spirochætæ, even if it does not accomplish the *sterilisatio magna* which was Ehrlich's aim; the second should complete the work. It has been suggested that there may be a special breed of arsenic resisting spirochætæ, and it is just possible that as the human organism will grow accustomed to arsenic, so some of the spirochætæ may develop arsenic resisting properties in cases in which very slow absorption is taking place from an intramuscular injection. In these cases the advisability of following up the salvarsan with a course of mercury or potassium iodide may be considered, for it is a pity to discard absolutely such old and trusted friends, and probably those parasites which have acquired powers of resisting arsenic will be wiped out by mercury or the iodides. In the same way, in old cases of syphilis, treated carefully with mercury or the iodides, but in which from time to time relapses occur, salvarsan is very strongly indicated. The spirochætæ may have become more or less immune to the action of these remedies, but if the system is flooded with a solution of 606 the probability is that the new remedy will act like a sudden reinforcement of an army which enables it to overwhelm its enemies. And as a matter of caution it is worth considering the advisability of giving all old syphilitic patients a dose of salvarsan to rid their system of any lurking spirochætæ which may be lying quiescent in unseen foci, ready to wake into activity in a man's middle life to remind him of the forgotten past.

9. **Pneumothorax in a Child.**—Sanderson's case was in a child of two years, complicating bronchopneumonia. Signs were noticed on the eighteenth day after the child's admission to the hospital; the liver was pushed down nearly to the umbilicus, there was noticeable bulging on right side, shifting dulness, and a tympanitic note over the uppermost area; cavernous breathing and "bell sound." Post mortem examination disclosed no tuberculosis. There are only twelve other cases in the literature of pneumothorax in children under sixteen years.

PRESSE MÉDICALE.

May 17, 1911.

1. Subarachnoid Meningeal Hæmorrhage, By D'Espine.
2. Polverini and Isonni's Method of Using the O'Dwyer Tubes, By Bonain.

May 20, 1911

3. Albuminoreaction in Pulmonary Tuberculosis, By Roger and Lévy-Valensi.
4. Remarks on the Oospores, By Bory.
5. Malta Fever, By Naamé.
6. Mucilaginous Laxatives, By Mathieu.

1. **Meningeal Hæmorrhage.**—D'Espine writes of a case in a boy aged ten years, who came into the clinic comatose, with complete left hemiplegia, left arm strongly contracted, and left lower extremity difficult to extend; foot in equinovarus. The attack was sudden and occurred immediately after a bath; the child cried for ten minutes, then became unconscious and convulsive, with nystagmus and vomiting. There was paralysis of the right third nerve, with partial ptosis, elevation of the eyebrow, slight external strabismus; no mydriasis; pupils contracted and feebly reactive to light; left lateral hemianopsia. A series of lumbar punctures brought about rapid improvement. This child was previously healthy, no tuberculosis or syphilis; no albumin in urine. It was found that about a fortnight previous to the attack the child had fallen on the back of his head while skating. The diagnosis was meningeal subarachnoid hæmorrhage.

3. **Albuminoreaction in Tuberculosis.**—Roger and Lévy-Valensi continue their studies of this phenomenon and present the results in numerous cases; they aver that the greater the amount of albumin found, the more serious and the more advanced is the case.

4. **The Oospores.**—Bory has collected details concerning a number of cases of infection by these organisms; oospora pulmonalis infection may readily be mistaken for tuberculosis. Other parts affected are the mouth, cheeks, parotid glands, the tongue, the submaxillary glands, the subcutaneous tissue of the neck, the tonsils, and the appendix. The oospora are cultivated with great difficulty and do not infect the lower animals readily; they thrive best in malted liquids. The pulmonary infection is by no means as serious as phthisis and yields to potassium iodide.

6. **Mucilaginous Laxatives.**—Mathieu has had his pupils endeavor to extract a mucilage from flax, so far without success, but in the course of these investigations he has discovered a mucilage in the algæ with remarkable laxative properties. He wishes other investigators to take up this line, believing that mucilages will be discovered of powerful laxative action, similar to agar agar.

BERLINER KLINISCHE WOCHENSCHRIFT

May 8, 1911.

1. The Psychic Condition of Those Who Have Just Been Injured, By Meyer.
2. Clinical Contribution to Peritonitis Tuberculosa in Children, By Cassel.
3. Polyclinical Experiences Concerning Nutrition with Albuminmilk, By L. Rollet.
4. Intermittent Dyscinesia of an Arm as a Distant Symptom of Sclerosis of the Arch of the Aorta, By Alfred Bretschneider.
5. Melanosis of the Mucous Membrane of the Colon, By Ludwig Pick.

6. Coprostasis—Appendicitis. By Gottfried Maier.
7. Technical Points in the Intravenous Use of Salvarsan. By S. L. Bogrow.
8. Technique of Intravenous Injections of Salvarsan, By Hermann Mayer.
9. Diagnostic Importance of Acquired Disturbances of the Color Sense, By Koellner.

2. Tuberculous Peritonitis in Children.—Cassel reports a number of cases of this nature and draws the conclusion from his observations that the results of operative treatment are none too brilliant. In children under ten years of age he takes a middle ground in regard to operation; that is, after he has employed the usual external and internal remedies for several weeks if the fever persists constantly, the swelling of the abdomen does not decrease, but grows worse, and, above all, if the emaciation increases, he turns over the child to the surgeon.

4. Intermittent Dyscinesia of an Arm as a Distant Symptom of Sclerosis of the Arch of the Aorta.—Bretschneider reports a case in which a man suffering from arteriosclerosis had attacks of a feeling of oppression in the chest and cramplike pains with a numb feeling, which extended from the angle of the lower jaw on each side to the top of the shoulder and then on the left side down the radial side of the arm and forearm to the thumb and index finger with almost complete loss of movement of the muscles of the left arm. In addition to this any attempt to use the left arm excited the same symptoms, to a less degree, as were present in the attacks. He thinks that the irritation of the terminal filaments of the nerves excited a reflex action in the spinal cord which affected not only the sensory fibres, but also the motor inhibitory fibres so that both dysæsthesia and dyscinesia were produced.

8. Technical Points in the Intravenous Use of Salvarsan.—Mayer describes a modified Bobroff's apparatus which, he says, presents these advantages: 1. Utter impossibility of the entrance into the vein of undissolved particles, or of bubbles of air; 2. rapidity of the outflow of the solution in consequence of the increased air pressure; 3. rapidity of the entrance of fluid through the funnel; 4. possibility of a quick change of solutions while using one and the same cylinder; 5. simplicity of construction of the entire instrument.

MEDIZINISCHE KLINIK

May 21, 1911

1. The Modern Orthopædic Treatment of Tuberculosis of the Joints, By E. Close.
2. The Theoretical and Practical Importance of the Electrocardiogram [illegible] By H. Wenckebach.
3. Epicritical Remarks Concerning the Treatment of Ulcer of the Stomach, By H. Straub.
4. The Measurement of the Heat of Infant Food Ready to Drink, By Roeder.
5. The Glycerin Tampon in Gynæcology, By [illegible] Kleinschmidt.
6. Further Contributions to Treatment with Radium Emanation, By Fürstenberg.
7. A Case of Encephalitis Acuta Hæmorrhagica, By Martha Ulrich.
8. Arsenic Triferrol, By Kurt Thomas.
9. The Utility of Goldrubin Glass Prisms in the Colorimetric Estimations of Hæmoglobin and Iron in the Blood, By Charnass.

1. Arthritic Tuberculosis.—Close calls attention to the modern immunizing treatment in tuberculosis. This specific treatment has the advantage that it acts both locally, to bring about a more rapid cure of the tuberculous process, and generally, to improve the general condition of the patient and to correct the anæmia, which often cannot be done by the ordinary means.

6. Radium Emanations.—Fürstenberg says that the choice of the preparation of radium to be used should be made carefully, but that it is impossible for the general practitioner to determine the reliability of the preparations.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES

June, 1911

1. Myoma of the Uterus, with Special Reference to Degenerative Changes, By John B. Deaver and D. B. Pfeiffer.
2. The Cerebral Forms of Poliomyelitis and Their Diagnosis from Forms of Meningitis, By Henry Koplik.
3. Abscess of the Liver Occurring in Association with or Following Typhoid Fever, By Edmond M. Von Eberts.
4. Irregularity of the Heart and Auricular Fibrillation, By Arthur R. Cushny.
5. Perforated Ulcer of the Stomach and Duodenum, By George G. Ross.
6. The Cellular Elements of the Blood in Tuberculosis. By Barton Lisle Wright and Roscoe W. King.
7. Relaxation of the Sacroiliac Joints as a Cause of Sciatica and Backache, By Robert L. Pitfield.
8. Pneumococcus Peritonitis, By George Woolsey.
9. Freud's Psychology in Its Relation to the Neuroses, By Trigant Burrow.
10. Fluoroscopy of the Gastrointestinal Tract, By [illegible] Skinner.

1. Myoma of the Uterus.—Deaver remarks that it has always been his contention that a woman who possesses a fibroid tumor that is symptomless and discovered only by accident displays good surgical judgment if she refuses to submit to its removal. This opinion has received support from most well considered contributions to the subject. Granted that the mere presence of a demonstrable fibroid is not in itself an indication for operation, we are confronted with the task of assigning the proper indications. Leaving aside the general condition of the individual patient, which is a constant factor for consideration in all surgical procedures, our decision must be compounded of three factors, viz.: The mortality from the operation itself, the urgency of the immediate symptoms, and the prognosis of the disease if unchecked by active intervention. As for the first consideration, he finds that the mortality of operations in this class of cases as they now come to us is in the best hands from one to three per cent. In the hands of unskilled or occasional operators it is necessarily somewhat higher. This mortality, while not large, is sufficient to make us cautious in the selection of cases. In all but ultraconservative quarters it is not sufficient to cause delay of operation in such cases as severe sudden hæmorrhage, or smaller hæmorrhages so frequently repeated as to bring the patient into a condition of grave anæmia, nor in the case of extrusion of the tumor or strangulation by twist of a pedunculated growth. Impaction of the growth in the pelvis also may cause such severe symptoms as to defy mere palliative measures, and when sepsis is implanted upon a myomatous condition of the uterus it assuredly requires the aid of

operation. Other and rarer complications may make operation the wiser course.

2. **Cerebral Forms of Poliomyelitis.**—Koplik says that the cerebral form of poliomyelitis is apt to be and is constantly mistaken for meningitis of the cerebrospinal acute suppurative or subacute tuberculous form. The onset of the illness is acute; it begins with a previous history of absolute health. After the acute symptoms set in, there may be in some cases an abatement and then a recurrence of symptoms of a cerebral nature, which gradually deepen. If the case is one resembling an acute meningitis, the symptoms are more active with neck rigidity, pain in the neck, headache, and delirium. If the case resembles the tuberculous forms of meningitis, the patient lies more quiet, exhibits palsies of the cranial nerves, and may even have marked hydrocephalus with distinct Cheyne-Stokes respiration and unconsciousness. In both sets of cases the delirium, sopor, or coma lightens the patients after a week or more of illness becoming brighter, and recovery proceeds. Lumbar puncture in all the cases reveals a clear or slightly flocculent fluid, without bacteria, and a cytology of from ninety per cent. to one hundred per cent. lymphocytes. An examination of the blood shows a leucocytosis at first of pronounced degree of multinuclear type. The onset of the disease may be ushered in by fever, which rapidly subsides to within a fraction of a degree of the normal and the major part of the illness runs its course with this temperature, which is practically normal. The diagnosis is made from the points of clinical course laid down in this paper. The prognosis is for the most part good, except in those cases which involve the nuclei of the nerves controlling respiration. In such cases the outlook is that of an acute bulbar paralysis where the extent of the lesion will decide the fate of the case. The main point is to have in mind the great similarity of a certain set of these cases to those of tuberculous meningitis, and the absolute futility of a positive diagnosis without study of the case, lumbar puncture, and all the clinical aids at our command.

4. **Irregularity of the Heart.**—Cushny states that no disease of the heart responds so satisfactorily to digitalis and its allies as auricular fibrillation. But not all cases of fibrillation react thus brilliantly to digitalis: the slow, irregular heart in which fibrillation is accompanied by impaired conduction is comparatively little improved. The condition which responds to digitalis most readily and satisfactorily is the rapid irregular heart of old rheumatic disease, in which fibrillation is present along with good conductivity through the bundle of His and a readily responding ventricle. Here digitalis reduces the pulse rate rapidly from 120 to 150 to 60 to 70, and as the pulse falls the whole of the symptoms improve. If the drug is pushed the pulse continues to fall and may reach from 40 to 50. Beyond this digitalis generally induces other symptoms from the gastrointestinal tract so that its dose has to be reduced. If it is abandoned altogether the previous condition soon returns, often in a less marked degree, it is therefore advisable to continue the treatment for many months. Digitalis does not arrest the fibrillation of the auricle, but it certainly reduces the number of impulses which reach the ventricle and thus lessens the rate of that chamber. When digitalis is administered in auricular fibrillation and the pulse is slowed, the rhythm becomes more regular and the beats more equal in strength, though complete regularity is not attained unless complete block is induced. If the drug is pushed a curious new form of irregularity often presents itself in coupled beats or continuous bigeminus in which each beat of the ventricle that arises in the normal way from an auricular impulse is followed by a contraction arising from the ventricle itself. In animal experiments other measures have been found useful in arresting fibrillation, but these are all inapplicable in human patients. Cooling the heart with iced saline is often successful, while camphor perfused through the vessels seemed to have some effect in retarding its development. Hering recommends the perfusion of potassium chloride until the heart ceases all movement, and then restores it by means of Ringer's solution perfused through the coronaries.

6. **Blood in Tuberculosis.**—Wright and King find that in uncomplicated cases of tuberculosis the average number of red cells is normal or above excepting during a short time prior to death. The hæmoglobin percentage averages about eighty-five excepting during a short time prior to death. The red cells exhibit an increased resistance to the hæmolytic action of salt solutions, this resistance, as a rule, being increased directly as the progress of the disease. Resistance to hæmolysis will probably be found of diagnostic value. The prognosis becomes less and less favorable as the hæmolytic index falls. The hæmolytic index and lymphocyte percentage bear a direct relationship in prognosis. The total white count increases directly as the disease progresses. In most instances the stage of the disease, in uncomplicated cases, can be more or less accurately determined by the total white count. The multimorphonuclear neutrophiles have but little if any phagocytic action in this disease. A high multimorphonuclear percentage makes a bad prognosis. It is strongly probable that the lymphocytes are markedly phagocytic in tuberculosis. A high percentage of lymphocytes is a very favorable prognostic index. The following blood findings are positive proof of improvement in any given case: 1, Decreasing white count; 2, falling multimorphonuclear percentage; 3, rising hæmolytic index; 4, rising lymphocyte percentage. Blood examination should be made coincident with every physical examination, otherwise the physician misses most valuable information relative to his patient's condition.

SOUTHERN CALIFORNIA PRACTITIONER.

May, 1911

1. Puerperal Infections—Cure and Treatment. By Thomas J. Watkins.
2. The Treatment of Disease by Spinal Concussion, Sinusoidal and Breezing, etc. By H. L. Sibley.
3. The Physiology and Pathology of Senescence. By H. J. MacDonald.
4. The Dawn of Medicine, the Pre-Hippocratic Period. By Charles Lewis Allen.

1. **Puerperal Infections.**—Watkins is in favor of systemic treatment in puerperal infection. Comparing the results of this treatment with the results of the more radical treatment of several years ago, he states that whereas with this treatment he has lost seven or eight of eighty patients during the last five years, with operative treatment, he would have

lost twenty-five or thirty, probably about one out of every four. This is estimated, but he is impressed that it is about the difference. In regard to the use of serum, he thinks that less serum is being used in puerperal infections than formerly. Personally, he once used a good deal of serum, now he uses very little. "Our hope lies in finding the specific serum or vaccine treatment after finding the specific infection."

Proceedings of Societies

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Meeting of [illegible]

The President, Dr. [illegible], in the Chair.

An Operation for the Relief of Tuberculous Peritonitis.—This paper, by Dr. ASPINWALL JUDD, will be published in the *Journal*.

A Review of Methods of Examination in Heart and Bloodvessel Disease, with Special Reference to the Discovery of Therapeutic Indications.—This paper was by Dr. LOUIS F. BISHOP and appears in this issue of the *Journal* on page 1117.

High Blood Pressure; its Causes and Treatment.—Dr. OLIVER T. OSBORNE, of New Haven, opened the discussion with some remarks on high blood pressure. Syphilis and the various infectious febrile diseases, he said, were only incidental causes of this. Why was it that cardiovascular and renal diseases were so much on the increase at the present day? Year by year the patients attacked with apoplexy were of younger age, weakness of heart was more in evidence, and Bright's disease was increasing. This state of affairs was largely due to the general stress of modern life, including a great variety of sensory irritations, such as light, noise, shock, and fear. Whether we drove automobiles ourselves or walked the busy streets, we were subjected to constant strain. Fear was a potent factor, especially in the case of children. So, there was a continually increasing vascular tension. Old and young alike were engaged in both physical and mental competition. Day after day we rushed from one appointment to another. We ate too much meat and drank too much water. While less alcohol was indulged in than formerly, more tea and coffee were consumed. Consequently, more caffeine was taken into the system, and this was a cerebral irritant. The blood pressure might be lowered by means of rest and a milk diet. Alcohol also had this effect, by flushing the peripheral circulation. Exhaustion and neurasthenia resulted from lowering of the blood pressure. Normal blood pressure was principally the result of the action of the suprarenals and, to a less extent, of the pituitary body, while the thyreoid and most of the secretory glands had the effect of lowering the pressure. Consequently, anything that would exhaust or tire out the thyreoid would tend to raise the blood pressure. With abnormally high pressure we would have such symptoms as increased urination, flushings, etc., indicating the beginning of cardiorenal disease.

When the blood pressure was too high, what should we do? Not too much. The pathological process could be arrested if taken in time. The patient should be ordered to take rest, the quantity of meat eaten should be reduced, and intestinal putrefaction should be looked after. Frequently a small amount of thyreoid, not more than two or three grains a day, would be of service. Or, we might give a little nitroglycerin. According to laboratory results, the action of this agent was extremely evanescent, but clinically this was not found to be the case; 1/200, or even 1/400, grain might be sufficient. We should give just enough to relieve the symptoms. The reason why iodine had been so long in repute in these conditions was simply because it had the effect of stimulating the thyreoid, so that it would reduce the blood pressure to normal. Body baking was an efficient resource in lowered compensation and arteriosclerosis. It should, however, be employed in moderation, once a week at first, and then every two or three weeks. As to raising the blood pressure, this could not be done if neurasthenia was present. As an actual remedy digitalis was to be relied upon, and strophanthus was useful in acute trouble. All other cardiac drugs Dr. Osborne would do away with.

Clinical Polygraphy; a New Instrument.—This paper, by Dr. THOMAS E. SATTERTHWAITE, appears in this issue of the *Journal* on page 1123.

Sphygmographic Methods.—This paper was read by Dr. RICHARD VAN SANTVOORD.

Stethoscopic Examinations.—Dr. ROBERT ABRAHAMS's paper appears in this issue of the *Journal* on page 1124.

The Electrocardiograph.—Dr. T. STUART HART said that while the clinical use of the electrocardiograph was still in its infancy, it already gave promise of revealing some of the important secrets of the circulation. The string galvanometer of Einthoven with which his records had been taken was a large and expensive laboratory instrument, which was not portable and could be used only for such patients as could be brought within reach of its electrical attachments. The records he showed were from patients in the service of Professor James at the Presbyterian Hospital, and these at the time the records were taken were probably 300 or 400 feet distant from the instrument. The expense of the apparatus and the time and skill required for its manipulation would always confine its employment to the specialist, but this would not prevent the general practitioner from familiarizing himself with the records and their interpretation. In the future he would make use of the information thus obtained in the same manner as to-day he availed himself of the nitrogen partitions and other complicated determinations of the pathological chemist. The records were marvelous in their accuracy, and to the speaker their value as precise data of the delicate cardiac mechanism had been emphasized by the fact that when once one was familiar with the record of an unusual case he was able to pick out from a collection of miscellaneous records those obtained from this particular case (provided the circulatory conditions had not changed) without any other help than the *sui generis* character of the records. In the present state of our knowledge, however, we were far from being able to interpret many of the records made.

Heart Therapeutics and the Individual Patient.—Dr. James J. Walsh said that nothing had been clearer at all times since men began to make observations on themselves than the influence of thought and emotion upon the heart; and the recognition of the changes in its action produced by such causes and the manifestly important place of the organ in the economy led many in former times to believe that the heart itself was the seat of the emotions. It was thus made responsible for phenomena which occurred quite independently of it, but happened to affect it deeply. In all cases of heart disease it was evidently of the greatest importance to give the patient just as much assurance of mind as possible. In many instances there was really very little occasion for alarm. It was perfectly possible to have a loud murmur without any serious affection of the heart. Indeed, a loud murmur was usually a sign of a strong, vigorous heart muscle, and so long as this remained healthy the prognosis was good. Often the disappearance of murmurs was of much graver import than their loudness. The point under consideration had been recognized by physicians of all periods, and emphasized by every distinguished cardiotherapeutist in recent years. It seemed to the speaker, however, that we sometimes forgot how much the patient's mind counted in such cases and that there were many in whom the mental influence over the heart was much greater than in others. These would not be improved, no matter how powerful the remedies employed, unless their minds were set at rest. In confirmation of the views expressed he then quoted from the writings of such authorities as Broadbent and Mackenzie.

Some Notes on Mackenzie's Work.—Dr. Victor E. Sorapure said it remained for him to consider how, and to what extent, the sum of our knowledge in the treatment of cardiovascular disease had been increased by the contributions of Mackenzie. Thirty years ago, in an obscure Lancashire country town, a young doctor lived the life of ceaseless work and unremitting devotion characteristic of men in his walk of life then and now—always ready, at any hour of the day or night, to deliver a woman or remove an appendix, to perform a tracheotomy on a diphtheritic child or a suicidal cut throat, to treat a tuberculous lung or joint or a case of heart or kidney disease, or to test for glasses or for orthopædic appliances. These multifarious duties had to be carried on in a wild, inhospitable country, blackened with coal dust from the mines, deluged with rain, and enveloped in heavy mists; the roads often mere sheep tracks, in which the horse might sink to his hocks in the mud. Such were the environment, the occupations, and the hardships to which this young practitioner was subjected, and which Mackenzie endured throughout all his great researches; six years ago, when Dr. Sorapure had the privilege of meeting him in Burnley, he still led this life.

Early in his career Mackenzie recognized the inadequate state of our knowledge of the pulse, which he described as "not only imperfect, but chaotic," at that time. He forthwith began a series of close clinical observations, and soon some light pierced the darkness. The radial pulse, which first attracted his attention as an index to the work of the left ventricle, led logically up to a study of the ventricular impulse at the apex. Then the long observed pulsations of the jugular veins claimed his investigations, and later the venous pulse wave of the liver. The sphygmograph was at this time becoming widely discredited, and this he reclaimed and afterward adapted to the requirements of his clinical polygraph. It was the genius of this Scottish country doctor to devise and put into common use the simple clinical polygraph and to go far beyond the work of Galabin and the others in obtaining a vast store of records indicating the action of the arterial and venous pulse, in the radial artery, at the apex of the heart, in the jugular veins, and in the liver.

The results of Mackenzie's work as regards the matter of therapeutics were chiefly in the direction of greater accuracy of diagnosis leading to greater precision in the application of measures of relief and to the elimination of a number of drugs which he found to be useless, as well as harmful in some cases. He had taught us how to analyze the activities of the heart, how to regard the heart as a complex organ, and how to recognize the work of each component part. He had also added much accuracy to our prognosis of favorable results, a consideration of the first therapeutic importance. Another feature in his work had been the emphasis he had always laid on the prognostic value of exertion in estimating the reserve force of the heart.

With regard to drug treatment it was worthy of note that he confirmed the earlier observations of the value of digitalis, though he restricted its use mainly to conditions associated with dilatation in which there was evidence of a healthy musculature and to cases of nodal rhythm with asimilar muscular condition. He also strongly emphasized the often forgotten point that rest did not always mean the assumption of a recumbent position. The insistence on this so affected some patients that their lives were undoubtedly shortened by it. So far from finding Mackenzie's work barren of therapeutic results, as was often stated, the principles of treatment he had laid down were, in Dr. Sorapure's opinion, so rational and so universally applicable that they must influence every school of thought.

In conclusion the speaker said it was worth recalling that, like the true general practitioner he was, Mackenzie had not neglected any organ or system in his studies and observations, for if he had never published his great works on the heart and pulse his work on the interpretation of symptoms was sufficient to claim for him the gratitude of his generation.

Letters to the Editor.

PHYSICAL EXAMINATION OF WOMEN BEFORE MARRIAGE.

New York, *June 6, 1911*

To the Editor:

In an editorial, in your issue of May 27th, commenting upon the action of the Ohio State Medical Association in urging the passage of Senate bill No. 31, which provides for the thorough physical examination of all men applying for marriage

license, you express the view that such a measure "to be completely effective should provide also for the examination of prospective brides." You further say that "failure to provide for the physical examination of women was due very likely to a sense of chivalry."

As the present writer was consulted in regard to this bill which, as originally drafted, applied to men and women alike, it may be proper to state that his objections to the physical examination of women did not proceed from any chivalrous sentiment, but were based upon the observed fact of the absolute rarity of conjugal contaminations through the fault of the wife. It may be laid down as a general proposition that, with the rarest exceptions, men are the authors of these social crimes, women the victims. So true is this, that in seeking the origin of venereal infection in the household, the old detective maxim must be reversed—*cherchez l'homme.* In the writer's experience—by no means inconsiderable in this class of cases—he has encountered but two instances in which venereal infection was introduced into marriage by the wife, and in each of these cases the woman was a widow and had been infected by the former husband. The opinion of other specialists is the same upon this point, that women rarely introduce venereal infection into marriage. The physical examination of women before marriage seems then not only unnecessary but unjust. It is like placing the innocent under bonds.

Furthermore, the rigorous physical examination necessary to secure the data upon which an expert opinion must be based, such as the use of a speculum and scrapings from the cervix, are practically equivalent to a defloration of the woman.

It will be admitted that "chivalry" has no place in measures for the prevention of the spread of infectious diseases, but the term seems a misnomer when applied to the attitude of men toward sex relations. In the domain of sexual life, man has always been predatory rather than protective in his instinct. The spirit of chivalry is to protect the weak and defenseless, but, to the average man, a weak young woman, especially of the dependent class, is more apt to be looked upon as legitimate prey for passion than an appeal to that chivalrous instinct which prompts protection.

In dealing with the social evil and its diseases, no measure has ever been suggested, no sanitary scheme ever devised, which was not in direct contravention of our conception of chivalry. The gonorrhœa or syphilis of the man is just as infectious as that of the woman. Is it chivalrous on the part of men to demand sanitary guarantees of women when they offer none themselves?

The spirit and practice of chivalry have never penetrated into the realm of married life. Is it chivalrous for men to wreck the health or life of the women they marry or to lay upon their innocent offspring a burden of disease and degeneracy? Finally, is it chivalrous on the part of the physician whose syphilitic patient is about to marry a pure young woman with the practical certainty of infecting her, ruining her health, and poisoning the sources of life of her children, not to intervene in saving her from this awful fate? It may be excellent ethics, but it is very shabby chivalry.

PRINCE A. MORROW, M. D.

THE PRONUNCIATION OF ESPERANTO.

FORT WAYNE, DETROIT, MICH., *May 31, 1911.*

To the Editor:

In your issue of May 20th is an editorial statement with which I must take issue. You assert that "the hopes which many men based upon Esperanto will never be fulfilled," and that "the pronunciation of this artificial language would, in a century, be as varied as the different languages of the nations."

Evidently, you have not formed that intimate acquaintance with Esperanto which is essential to qualify you as a judge, yet you presume to do the very thing which you condemn in the lay press in passing on medical subjects; criticise without sufficient knowledge.

Esperanto contains none of the sounds which are peculiar to any one language, such as the French u and n; the German umlauts; the Spanish ñ and ll, and the English th, but confines itself to those sounds which are common to all national tongues. Thus, the difficulties are, so far as the pronunciation of those sounds is concerned, avoided. Then, the vowel sounds are definite and are those used by practically all nationalities but the English; they are easy of acquirement and are readily learned from a book of instruction. The pronunciation of Esperanto has, practically, no local variations, as you infer, so that at an international gathering of Esperantists it is all but impossible to detect the nationality of the different speakers, as I am fully competent to certify, for I have acted as presiding officer or been a guest at Esperanto congresses and meetings in practically all parts of the world, north of the equator, and have conversed with Esperantists of almost all nationalities, many of whom had never spoken a word in that language to any person not of their own nationality, yet the pronunciation was not distinguishable from that of those who had had extensive intercourse with Esperantists of various nationalities.

Esperanto is not intended to be a universal language in the sense of displacing or supplanting any existing tongue, but an international language for international purposes only, so that the users will have constant practice in its international pronunciation. It may be safely asserted that any modifications which may arise in the pronunciation will be international also and become modified only as gradual evolution proceeds.

Permit me to add a few facts about Esperanto, particularly as to its relation to medicine and to science in general. There is a strong, active, and steadily growing international Esperanto association of physicians (my membership card bears the number 907), with an official organ, *Internacia Medicino,* in addition to which there is *Vocho de Kuracistoj* (Voice of Physicians), in each of which highly important original and translated articles appear. In Geneva, Switzerland, we have an international Esperanto scientific bureau, where are being compiled lexicons of terms employed in all the arts and sciences. There is an international Esperanto scientific association, with a large and eminent membership, which publishes an official organ of the highest excellence, the *Internacia Scienca Revuo.*

Much more might be added relative to the great value and steady growth of appreciation of Esperanto for international purposes; too much, however, to impose on your generosity. Those who desire further information, and I assure such that it will fully repay them to investigate, will be cheerfully instructed on applying to any of the following: Esperanto Office, 2404 Fourteenth Street, N. W., Washington; Centra Oficejo Esperantista, 51 rue de Clichy, Paris, France; Internacia Scienca Oficejo, 10 rue de la Bourse, Geneva, Switzerland.

H. W. YEMANS,
Vice-president.
Esperanto Association of North America.

Book Notices.

The publishers' lists of books received are printed. We acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.

A Textbook of Pharmacology and Therapeutics, or the Action of Drugs in Health and Disease. By ARTHUR R. CUSHNY, M. A., M. D., F. R. S., Professor of Pharmacology in the University of London, etc. Fifth Edition, Thoroughly Revised. Illustrated with Sixty-one Engravings. Philadelphia: Lea & Febiger, 1910. Pp. 744

In the new edition of this well known work, the standard textbook of pharmacology and therapeutics, Professor Cushny has improved the opportunity to make a thorough revision of the text. Every one is familiar with the growth of experimental research during recent years, and of the increasing interest which is taken in the action of drugs and their application. In the case of protozoal infections new points of view have been taken with regard to the action of various chemical substances, especially arsenic and mercury in association with the azo dye compounds. These are treated succinctly, but comprehensively, in the present edition, and a chapter has been added on the antitoxines and their uses. It is notable that few crude drugs receive attention, the active principles and chemicals being treated almost exclusively. Notwithstanding the fact that this is the fifth edition of the work, numerous inconsistencies of nomenclature remain, the author using "bicarbonate of potassium" in one place and "sodium carbonate" in another. He appears to prefer the spelling "naphtalin" to the more correct "naphthalene," and he persists in the use of the title "boracic acid," which has long been abandoned for "boric acid." As the work is now edited from London, there may be a reason for the English style of spelling aluminum, but why should thyreoid be cut to thyroid? These minor blemishes do not detract from the positive value of this justly esteemed textbook, and we hope to see them corrected in future revisions.

What to Eat and Why. By G. CARROLL SMITH, M. D., Boston. Philadelphia: W. B. Saunders Company. 1911. Pp. 310. (Price, $2.50.)

Without apparently containing anything new, this book may be commended as offering an excellent summary of what is known concerning diet in acute and chronic disease and the various diatheses. It is written in an interesting style and will prove of value to the country practitioner and medical student. The point of view is excellent throughout, the discussion of alcohol being a model of its kind, and the presentation of the various panaceas of faddists, no breakfast, vegetarianism, etc., devoid of prejudice and temperately done. Misleading generalizations have been avoided and full details are given concerning diet in all the conditions in which some modification of the usual bill of fare is advisable.

Food and the Principles of Dietetics. By ROBERT HUTCHISON, M. D. Edin., F. R. C. P., Physician to the London Hospital, Physician with Charge of Out Patients to the Hospital for Sick Children, etc. With Plates and Diagrams. Third Edition. New York: William Wood & Co., 1911. Pp. xx-615. (Price, $3.)

The third edition of this book, which is probably as complete and authoritative as any publication of the kind, is larger than its predecessors by many pages. The author acknowledges his indebtedness to Professor Atwater and other American colleagues, especially in the discussion of the nature and value of foodstuffs. A unique and useful feature is the analysis and description of the various proprietary foods, the owners of which have no reason to complain of unfairness. Much space is devoted to mineral waters, tea, coffee, and cocoa, and to the various alcoholic beverages; the discussion of wines shows a refreshing and unusual familiarity with the subject. This is a most interesting work and a necessary possession of any student who desires to be thoroughly *au courant* of what is becoming a more and more important and complex question.

Criminal Man. According to the Classification of CESARE LOMBROSO. Briefly Summarized by His Daughter GINA LOMBROSO FERRERO. With an Introduction by Cesare Lombroso. Illustrated. New York and London: G. P. Putnam's Sons, 1911. Pp. ix-322.

The book before us is a condensed translation of Lombroso's *L'Uomo delinquente,* rendered into English by the great Italian's daughter and coworker Gina Lombroso Ferrero, the wife of the distinguished historian who not long ago visited America. Lombroso himself has written an introduction which will be of equal if not of greater interest to the reader than the book itself. In his introduction, the alienist describes how the idea of this work arose in his mind, gradually took shape, and thus formed the nucleus of the modern penal school, adhered to by some, attacked by others. "I welcome," he remarks, "with pleasure this summary in which the principal points are explained with precision. . . ." The book also contains a short review of the books of Lombroso referring to the same subject, together with a bibliography of "his chief works." This appendix in itself should be welcomed by the American readers who are not able to read the original *L'Uomo di genio, L'Uomo delinquente, La Donna delinquente, Il Delitto politico e le rivoluzioni,* etc. The bibliography is not complete, but is of interest as it is published under the *imprimatur* of Lombroso, and gives us the names of books which he classifies as "chief works."

The main body of the work, the condensed trans-

lation of *L'Uomo delinquente*, in the original about 1,800 pages, contains 275 pages. It is divided into three parts: The Criminal World, four chapters; Crime, Its Origin and Cure, three chapters; and Characters and Types of Criminals, two chapters.

The book, in its three distinct divisions, makes very interesting reading.

[illegible] Professor of Genitourinary Surgery, New York Postgraduate Medical School and Hospital, and Henry G. Bugbee, M. D., Instructor in Genitourinary Surgery, New York Postgraduate Medical School and Hospital. New York: Paul B. Hoeber, 1911. Price, $3.

A medical monograph or manual published in the form of a bound volume should be regarded as a permanent contribution to literature. As such a book, as contrasted with an ephemeral pamphlet or journal article, should in every instance represent whatever the author has to offer in the best form in which he is capable of presenting his material. It is sad, therefore, to be obliged to record that the manual of cystoscopy before us does not seem to have been written with that care, that painstaking attention to detail, that completeness and clearness of statement that might be rightly demanded in a manual intended to give a working knowledge of the art of cystoscopy. The disappointment is made keener by the fact that the authors are exceedingly able young men, one of whom has contributed considerably to current surgical literature.

The book consists of forty-four pages of text printed in large type with wide margins, and twenty-six illustrations, of which nineteen are colored drawings of cystoscopic views. The latter are of good quality and fairly well reproduced. The text is altogether too brief and the information given too incomplete to constitute a working manual. Details of technique are not fully described, or are given in a careless way, not always easy to understand. Thus, the principles underlying the construction of cystoscopes are scarcely referred to. The method of sterilizing these instruments with formaldehyde is not described. No directions are given for any method of functional renal diagnosis, a subject practically inseparable from that of cystoscopy. These are a few examples of the most obvious omissions.

Some of the statements made by the authors are also somewhat misleading. Thus, we are told (p. 29) that the bladder must hold 150 c.c. in order to be successfully examined with the cystoscope. In the female (p. 113) 200 or 300 c.c. are necessary. Nothing is said of the frequent necessity of examining with far less fluid. For irrigating the bladder a *two ounce* syringe is recommended. We are told that when the internal sphincter "shows pronounced swellings, they may denote prostatitis." The technique of the direct method of ureteral catheterism is very imperfectly described, and it is stated that "the interureteric demarcation is practically of no value as a landmark" in this method. As a matter of fact, this fold is *the* landmark, and the only condition in which its value is nullified is when the bladder is overdistended with fluid.

The only way we can account for this strikingly [illegible] is that the material was dictated to a stenographer and not revised before publication. The absence of a medically trained proofreader accounts for "intravesicle" in the preface and for "reostat" in several places. Patients, it appears, must be sterilized before cystoscopy—a truly sad state of affairs. *Iceland* moss is recommended as a base for a lubricant, to the utter disgrace of its Irish confrère.

It is the reviewer's opinion that the authors have not done themselves justice in this manual. With a little more care and a little more trouble they might have given us a book on cystoscopy worth the price quoted.

[illegible] Treatment. By Abr. L. Wolbarst, M. D., Consulting Genitourinary Surgeon, Central Islip State Hospital, Visiting Genitourinary Surgeon, People's Hospital, West Side German Dispensary, etc. New York: International Journal of Surgery Company, 1911. Pp. 175.

The author is well known in the medical profession through his works on sexual diseases, of which branch of medicine he has made a specialty. The book before us treats of a subject which of late years has become of great prominence. In fact, gonorrhœa threatens all people, whether civilized or not. The author speaks of the anatomy of the genitourinary tract, and takes up the ætiology, pathology, symptomatology, and diagnosis. He describes the methods of examination and speaks of the immediate sequelæ, such as prostatitis, epididymitis, etc. Very important are his chapters on the treatment. Of the treatment he says in his preface: "Considerable damage is being done by the prevalent methods of treating gonorrhœa, particularly in respect of our remedies being too strong and being used with a vigor that is far too heroic for the delicate and inflamed tissues to bear with impunity." After having spoken of the acute cases of gonorrhœa, he speaks of chronic cases and their sequelæ, together with the treatment. The last pages contain two very important paragraphs: When is Gonorrhœa Cured, and the Treatment of Sexual Neurasthenia. The illustrations which the book contains are well selected and very clear. We can cordially recommend the book to the profession.

[illegible] A Statistical Study. By [illegible] Green, F. R. S. E. Edinburgh: William Green & Sons, [illegible] Pp. 29.

The study of cancer is an always fascinating subject to the biologist. Mr. Green has added a short essay to the vast literature we possess. He is convinced that there is every indication that cancer may be of parasitic origin. He concludes that, if the ætiology is a parasitic one, it must be due to an organism which induces malignant growths in plants to such an extent that, in certain cases, cells of the host become its own parasites. In an article by Rudis-Jicinsky, which appeared in the *New York Medical Journal* of January 28th, the author speaks of the possible similarity between cancer in men and cancer in plants. To go back to Mr. Green, who then speaks of the physiology and metabolism of myxomycetes, of which group very little is known, and of an experience of an agriculturist who suffered from plasmodiophora whenever using manure which had been dissolved in sulphuric acid. Upon this basis the author builds up his the-

ory and comes to the conclusion that cancer might be due to a parasite akin to the myxomycetes or the mycetozoa. If this is the case, the treatment would consist in heat, as the organism could be destroyed by a temperature of 130° F.

MEDICOLITERARY NOTES.

Algernon Tassin, having finally found a pair of eyeglasses to fit him, has mounted into the pulpit to preach the gospel of pathology according to Gould with all the enthusiasm of a recent convert. In the June *Good Housekeeping* he preaches how eyestrain leads to crime and drink and hopes moralists of the old school will not be shocked. As a matter of fact there are other causes of insanity, perversion, and eccentricity, among which is what may be called "I strain"; too much ego in the cosmos, as a German philosopher put it. A heart deficient in some respect, faulty metabolism, a congenitally lowered nerve tone, and many other causes of departure from the normal cannot be remedied by the ophthalmologist.

* * *

If it is true that Caruso has been told by the vocal teacher, Lombardi, to have his voice retrained in order to relieve his hoarseness, it is another proof that rest is not always the best remedy for a troublesome larynx. Walking barefoot or in an easy shoe will relieve the soreness of the calf muscles caused by wearing too high a heel or too narrow a toe; in the same way, proper use of the voice will often relieve singer's hoarseness. Those who really know are aware that the golden voice of the Italian tenor is not always used *secundum artem;* the temptation to roar before audiences who think volume the great desideratum and have the money to back their belief has too often proved irresistible. Laryngologists who count choir singers among their patients may accept a valuable hint from Lombardi.

* * *

Oliver Wendell Holmes was one of the few men who were equally bright in conversation as on paper. According to the *Youth's Companion,* one of the best repartees ever credited to this habitual maker of happy phrases was that made on a certain social occasion. Going to dine with a neighbor, Dr. Holmes was met by her with an apology: "I could not get another man. We are four women and you will have to take us all in." With a courtly bow the autocrat replied, "Forewarned is fourarmed."

* * *

A new and terrible pest, a small fly with large wings, has attacked the onion in the upper part of New York State. This is possibly retribution for American lack of appreciation of one of the most delectable of vegetables. Used with discretion, the onion and its cousins, garlic and asafœtida, are precious resources of the accomplished chef. It seems to be little known that the French cook, before dishing a steak, frequently sprinkles a few grains of asafœtida on the hot platter, carefully brushing it off again. The merest *soupçon* of its presence remains to give an intangible but delicious flavor to the meat, subsequently to be sought for in vain by the uninitiated amateur cook. A clove of garlic is imbedded in a crust of bread which is then passed over the inside of the salad bowl; this *coup de maître* is better known and the result more universally appreciated. Garlic is humorously known in France as the *vanille de Marseille.*

* * *

Irving Bacheller, novelist, tells Edward Marshall, in the *New York Times* for Sunday, June 4th, that we are very extravagant; he avers that many a doctor declines to cure his patients so that the income from them may not cease. If an intelligent man like Bacheller can talk such hopeless drivel, what is to be expected from the rank and file of the laity?

* * *

La Suggestion et ses limites, by Professor Bajenoff and Doctor Ossipoff, is one of a series of popular manuals on experimental psychology and metapsychics published by Bloud & Cie., of Paris, under the editorship of Raymond Meunier. It is admirably done with the singular French gift for rendering scientific facts interesting. In the conclusion the authors cite the dictum of Maudsley that parents who give up their lives to the pursuit of money are unlikely to transmit to their children a healthy brain and nervous system. Education and culture should be the rights of every generation; the genius is he who gives to his time a new idea. To be of value this idea must fall on a soil fertilized by general culture. A series of generations devoted to the hunt for money produces a subservient race; as Hegel said, one does not become a slave because of the chains one wears, but because one has the soul of a slave.

* * *

America Revisited is an article in the June *Scribner's,* by William Morton Fullerton, in which the writer points out that Americans are beginning not to think it immoral to enjoy themselves. He might have laid more emphasis on one thing that strikes most returning natives, *viz.,* the extraordinary physical beauty of the young women. Europe has nothing to offer like the pageant of girlish loveliness that debouches from bridge and subway on Park Row every morning from eight to nine o'clock.

* * *

An excellent little book, written from the point of view of the patient, is The Conquest of Consumption, by E. W. Diver, M. D., of London, England. Dr. Diver talks very plainly to the tuberculous patient and points out the folly of either concealing anything from his medical adviser or refusing to follow his instructions to the letter. The book goes on to explain in simple language the *raison d'être* of most of the instructions and gives as complete a description as is possible of the nature of pulmonary tuberculosis. The sanatorium treatment is insisted upon, and a copy of this book should be in the possession of every person who is attacked. In order to be sure that the book would be understood without difficulty Dr. Diver had his manuscript read by a layman. The book contains 135 pages and is published by John Bale, Sons, and Danielsson, Limited, London, at two shillings and sixpence. It is illustrated with views of the sanatorium at which Dr. Diver was once resident physician.

Miscellany.

The International Plague Conference.—The International Plague Conference which was held in Pekin is over, but the interim report presented to the Chinese government, consisting of a summary of the evidence prepared by the Editorial Committee, and a series of resolutions upon various subjects drafted by subcommittees and submitted to the conference in plenary sessions for approval, is not to be made public until the complete record of the conference is published. In the meantime, however, it may not be inopportune to summarize briefly the evidence laid before the conference:

There are strong grounds for believing that the popular theory according to which the inception of the epidemic was due to infected tarabagans is correct. The American delegates have shown not only that this animal is extremely susceptible to plague, but that it suffers from a form of subacute or chronic plague, which may give a clue to the cause of the disease being endemic in North Manchuria and Mongolia. Only one case has been reported in which a rat was found to be plague infected during the Manchurian epidemic, though upward of thirty thousand rodents were examined by the Chinese and Japanese authorities. One dog is reported to have died of plague in Dairen, and there are circumstantial accounts of infection among mules, which are believed, in some instances, to have carried plague into previously uninfected villages. Though climatic and other national influences may have contributed directly or indirectly to the decline of the epidemic, the chief factor in its eradication appears to have been the drastic preventive measures taken by the Russian, Japanese, and Chinese authorities. It has been conclusively demonstrated that there was no decrease in the virulence of the bacillus during the later stages of the epidemic, and evidence has been adduced to show that even in small villages and hamlets the devastation wrought by pneumonic plague frightened the inhabitants into taking crude, but nevertheless effectual, precautions. The only definite evidence produced in regard to the spread of infection supported the theory that the disease was introduced into every centre by the arrival of persons actually suffering from plague, or incubating the disease. There has been no trustworthy evidence to show that pneumonic plague can be carried by clothing or merchandise or by vermin. A series of interesting experiments performed by the Japanese and American delegates may be taken to prove conclusively that the breath of the sufferer is not infective apart from particles of sputum expelled by coughing, or possibly by forcible speaking. The sputum is infective so long as it remains moist or frozen, and it has been suggested that dust can only carry infection by acting as the medium for small particles of moist or frozen sputum. Houses need not be regarded as infective apart from the presence of infected sputum. The incubation period of pneumonic plague appears to vary from about two to seven days, but is usually from three to five days. No types of plague have been encountered other than primary pneumonic, or pneumonic and septichæmic combined. By some experts the pulse is regarded as the earliest diagnostic sign; by others, including Professor Zabolotny, the temperature is relied upon. The absence of marked physical signs in the chest during the early stages renders diagnosis difficult. Prognosis is unfavorable, less than five recoveries having been recorded. In regard to the value of prophylactic inoculations with vaccines there has been considerable difference of opinion, but it seems to be generally conceded that the value of plague vaccines and sera during a pneumonic epidemic is doubtful. (*Journal of Tropical Medicine and Hygiene*, May 15, 1911.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of cholera, plague, yellow fever, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending June 2, 1911:

Places.	Date.	Cases.	Deaths.
[illegible]	[illegible]	[illegible]	1
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	18
[illegible]	[illegible]	[illegible]	6
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	8
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	1	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	11
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

Places	Date	Cases	Deaths
India—Calcutta	Mar. 26-Apr. 1	8	8
India—Bombay	Apr. 2-15	98	90
India—Colombo—Ceylon	Apr. 2-16	1	1
Italy—Naples	Apr. 1-Mar. 31	11	11
Italy—Palermo	Apr. 3-May 1	1	1
Mexico—Federal District—Mexico City	May 1-20	1	1
Mexico—Interstate	May 7-13	1	1
Mexico—Monterey	Apr. 29-May 5	11	11
Mexico—San Luis Potosi	May 5-11	1	1
Portugal—Lisbon	Apr. 1-May 1	1	1
Russia—Moscow	Apr. 9-29	75	35
Russia—Odessa	Apr. 23-May 6	8	3
Russia—St. Petersburg	Apr. 16-22	20	5
Russia—Warsaw	Feb. 26-Mar. 11	1	1
Spain—Madrid	Apr. 1-30	4	4
Spain—Valencia	May 1-6	9	1
Switzerland	Mar. 2-8	1	1
Switzerland	Apr. 23-29	1	1
Turkey in Asia—Kharput	Apr. 23-29	35	35
Turkey in Asia—Smyrna	May 1-6	2	2

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending May 31, 1911.

BAHRENBURG, L. P. H., Passed Assistant Surgeon. Granted one month's leave of absence from June 1, 1911.

EDWARDS, GEORGE P., Acting Assistant Surgeon. Granted thirty days' leave of absence from June 1, 1911.

GAHN, HENRY, Pharmacist. Granted one day's leave, May 20, 1911, under paragraph 210, Service Regulations.

JACKSON, J. M., Jr., Acting Assistant Surgeon. Leave of absence for ten days from May 12, 1911, amended to read "six days from May 12, 1911."

LUMSDEN, L. L., Passed Assistant Surgeon. Granted fifteen days' leave of absence from May 29, 1911.

NAULTY, C. W., Jr., Acting Assistant Surgeon. Granted eighteen days' leave of absence from May 31, 1911.

SMITH, L. C., Pharmacist. Granted thirty days' leave of absence from May 27, 1911.

THOMPSON, W. R. P., Acting Assistant Surgeon. Granted ten days' leave of absence from May 24, 1911.

WILSON, J. G., Acting Assistant Surgeon. Granted one day's leave, May 9, 1911, on account of sickness.

Boards Convened.

Board of medical officers convened to meet at the Marine Hospital, Stapleton, N. Y., June 5, 1911, to conduct a medical survey of a cadet in the Revenue Cutter Service. Detail for the board: Surgeon H. W. Austin, chairman; Passed Assistant Surgeon W. A. Korn, recorder.

Board of medical officers convened to meet at the Quarantine Station, Honolulu, Hawaii, June 19, 1911, for the examination of Pharmacist F. A. Stump to determine his fitness for promotion to the grade of pharmacist of the second class. Detail for the board: Passed Assistant Surgeon Carl Ramus, chairman; Assistant Surgeon E. R. Marshall, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending June 3, 1911:

ASHFORD, MAHLON, Lieutenant, Medical Corps. Granted leave of absence for two months, with permission to apply for extension of one month.

BALLARD, JAMES C., Lieutenant, Medical Reserve Corps. Reported for temporary duty at Fort Miley, Cal.

BOYER, PERRY L., Captain, Medical Corps. Relieved from duty at Fort Clark, Texas, and ordered to Chicago, Ill., for duty as attending surgeon, Headquarters, Department of the Lakes.

CLARK, JOHN A., Captain, Medical Corps. Leave of absence extended twenty days.

HALL, JAMES F., Captain, Medical Corps. Relieved from duty as attending surgeon, Headquarters, Department of the Lakes, Chicago, Ill., and ordered to Fort Strong, Mass., for duty.

HEFLEBOWER, R. C., Lieutenant, Medical Corps. Left Fort Bayard, N. M., on twenty days' leave.

HOFF, JOHN VAN R., Colonel, Medical Corps. Ordered to make inspection of medical department at several posts in the Department of the East.

HUGHES, LEONARD S., First Lieutenant, Medical Corps. Relieved from duty with Manœuvre Division, and ordered to Fort Clark, Texas, for duty.

KINARD, KERWIN W., Lieutenant, Medical Reserve Corps. Recently appointed, ordered to active duty and assigned to station at Fort Ethan Allen, Vt.

LOMBARD, MARION S., Lieutenant, Medical Reserve Corps. Recently appointed, ordered to active duty and assigned to duty with troops at target range, Ashland, Nebraska. Upon completion of this duty assigned to him, will stand relieved from active duty in the Medical Reserve Corps.

LOWE, THOMAS S., Lieutenant, Medical Reserve Corps. Left from temporary duty at Fort Apache en route to Douglas, Arizona, for field duty.

LYNCH, CHARLES, Major, Medical Corps. Ordered to Boston, Mass., on special business pertaining to the American Red Cross.

PHILLIPS, HIRAM A., Lieutenant, Medical Corps. Reported on ten days' leave of absence.

WALES, PHILIP G., Major, Medical Corps. Ordered to Washington, D. C., for examination for promotion.

WOLFE, EDWIN P., Major, Medical Corps. Granted one month's leave of absence to take effect about July 1, 1911.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending June 3, 1911:

BERRYHILL, T. A., Medical Inspector. Detached from the marine recruiting station, New York, N. Y., and ordered to the naval medical supply depot, Brooklyn, N. Y.

BROWNELL, C. DEW., Surgeon. Detached from the Naval Hospital, Las Animas, Colo., and ordered to the Naval Medical School Hospital, Washington, D. C., for treatment.

HAYDEN, R., Passed Assistant Surgeon. Detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the Naval Academy.

HOUGH, F. P. W., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from April 11, 1911.

LEDBETTER, P. B., Assistant Surgeon. Commissioned an assistant surgeon from May 4, 1911.

MACKENZIE, E. G., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from December 28, 1910.

MALKIN, G. M., Acting Assistant Surgeon. Ordered to the navy recruiting station, Baltimore, Md.

MORAN, C. L., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from February 10, 1911.

RHOADES, G. C., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from April 11, 1911.

SMITH, C. W., Assistant Surgeon. Detached from the *Dubuque* and ordered to the *Nashville*.

SMITH, W. B., Passed Assistant Surgeon. Detached from the Naval Hospital, Annapolis, Md., and ordered to the Naval Academy.

STEPP, J., Surgeon. Ordered to the *Missouri*.

WOODLAND, E. E., Assistant Surgeon. Commissioned an assistant surgeon from May 4, 1911.

Births, Marriages, and Deaths.

Died.

ARNOLD.—In Providence, Rhode Island, on Sunday, May 28th, Dr. Oliver H. Arnold, aged sixty-nine years.

CHAILLÉ.—In New Orleans, Louisiana, on Saturday, May 27th, Dr. Stanford Emerson Chaillé, aged eighty years.

EVERHART.—In Scranton, Pennsylvania, on Friday, May 26th, Dr. Isaiah F. Everhart, aged seventy-one years.

MCGIRK.—In Philipsburg, Pennsylvania, on Thursday, May 25th, Dr. John D. McGirk, aged seventy-six years.

MASON.—In Hagerstown, Maryland, on Friday, May 26th, Dr. Augustine S Mason, aged seventy-seven years.

SELBACH.—At Eau Claire, Wisconsin, on Thursday, May 25th, Dr. Joseph J. Selbach, aged forty-six years.

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Original Communications.

PRESCRIPTIONS OLD AND NEW.*

BY JAMES J. WALSH, M. D., Ph. D.,
New York,
Professor of the History of Medicine and of Nervous Diseases at Fordham University School of Medicine.

AND JOSEPH P. WALSH, M. D.,
Philadelphia,
Physician to the White Haven Sanatorium for Consumptives, Sometime Pathologist to the Phipps Institute.

When your committee suggested, scant two weeks ago, that I should write something about some curiosities of prescription writing, I could only say that I should put into shape some material that had been used in a lecture on prescriptions old and new, in lectures on the history of medicine at Fordham University School of Medicine, and I shall present this to those more familiar with prescriptions in the hope that it will prove as interesting as it seemed to be to the students.

I suppose that in any account of prescriptions old and new it is well to begin at the beginning. We have what is very probably one of the oldest prescriptions in the world here in New York. It is at the Metropolitan Museum in the Egyptological Department. It happened that some three years ago Mr. Max Müller, who is well known for his researches in Egyptology, was going over some of the smaller objects among the curiosities at our museum when he discovered that one of the small stones with an inscription on it was a prescription the date of which was probably not far distant from that of the Ebers papyrus. He published a description of it in the *Recueil de travaux archéologiques,* the journal where people who are interested in that sort of thing would be likely to see it. Recently, Professor von Oefele, very probably the best known of our medical authorities in this generation, on old time medical history, and whose work both on Egyptian medicine and especially in cuneiform medical literature has given him a place in the front rank of medical historians, called my attention to it and I published a little description of it in an editorial in the *Journal of the American Medical Association.*

Photographs of the two sides of the stone are here presented. They are the exact size of the stone itself, which is roughly three by four inches in dimensions. On one side the inscription runs lengthwise on the stone, but on the reverse it runs crosswise. The writer was apparently not so careful to keep his lines parallel with the edge of the stone on the back. The museum authorities in photographing it have made both sides run apparently the same way. The Egyptian writer, however, turned the stone over, somewhat as many ladies do in their correspondence, and wrote in a direction at right angles to the previous writing. It is rather interesting to find so old an example of this style of writing on the reverse page, for it is sometimes considered, I understand, to be one of the very latest things in fashionable correspondence. The writing was evidently done with a brush; pens with a nib as we have them were not invented until about a century before Christ. The material used for ink must have been some very pure form of carbon, for, as you can see even from the photograph, the marks made are still very clear and are obliterated only near the edge of the stone. The stone itself is in very good preservation. Some fragmentation near the edges there has been, but that is no more than would be expected after 3,500 years, for the inscription is probably very nearly if not quite that old.

The writing itself is the old cursive or hieratic writing which had developed among the Egyptians, after hieroglyphic writing had long been in use, in order to make continuous writing comparatively easy. The contents of the prescription are interesting from many standpoints and while very old have many reminders of what is modern. First, as Professor von Oefele informs me, many abbreviations ordinarily employed in prescription writing at that time do not occur in this, apparently because it was a copy of the prescription made to be carried a long distance and the abbreviations were written out. This is what the druggist does in the modern time very often when a copy of a prescription is asked of him, for he wants to be sure that there will be no misunderstanding. The prescription is for a remedy that was to be used for a fumigation. Fumigations were very commonly employed in the old time and for many affections. It always makes a very impressive way of administering a remedy. Apparently this was meant for a woman patient and one form of precious green stone was prescribed which was to be ground up and then, by means of some inflammable material, made to burn with the production of smoke which was supposed at least to produce the medicinal effect upon the patient.

The ailment for which this was to be administered was probably one of the functional nervous diseases or so called hysterias. The old Egyptians spoke of two forms of dislocation of the uterus. The one was downward and is our familiar prolapse of the uterus. The other was upward and the prin-

*Paper read before the joint meeting of the Medical Society of the County of New York and the New York Branch of the American Pharmaceutical Association, Academy of Medicine, May 25, 1911.

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cipal symptom of it was the ball in the throat. Not that the Egyptians thought that the uterus was dislocated into the throat, but that in its dislocation upward from the pelvis it crowded other organs and so produced the familiar sensation in the throat. We may be a little amused at this bit of pathology and ætiology, but we must not forget that our very word hysteria, derived from the Greek word for uterus, indicates that for many centuries down even to our own time most of the hysterical manifestations were supposed to be connected in some way with the uterus or at least to have their origin in some affection of the genital organs of women. For this hysterical manifestation, attributed to dislocation of the uterus, the Egyptians used fumigations with excellent success. Precious stones were a common ingredient of the prescription. Green precious stones for some reason not well understood now were considered to be almost a specific for these functional neurotic symptoms as we think of them, but, as they thought, symptoms connected with the dislocation of the uterus.

Three different kinds of green precious stones were used, according to Professor von Oefele. For the wealthy an expensive green stone, probably our emerald; for the middle class a less precious stone, probably some form of chrysophase; for the poor ordinary malachite. After all, even down to our own time, the neurotic symptoms of the wealthy can seldom be cured by the remedies that seem to do other people good and we have to use those that have a special appeal for some reason, and, above all, that are more costly than the commonplace drug materials which suffice to cure the ordinary common people. Humanity has not changed much in all these thirty-five hundred years since the prescription was written.

Lest this use of green stones might indicate a paucity of therapeutic materials, or a restricted remedial armamentarium, it may be as well to remind you that at the time when this prescription was written the Ebers papyrus represented the principal textbook of medicine and, above all, therapeutics among the Egyptians. In that papyrus there are altogether some seven hundred different substances mentioned to be employed as remedies. There were materials drawn from the animal, the vegetable, and the mineral kingdoms, and quite as diverse as our own pharmacopœia. The diseases for which they were employed were also as various as our own and every class of drugs of the modern time was represented. They had not less than forty different classes of drugs and administered them in every form that we do at the present time, laying great stress even on elegant prescribing.

It so happened that, while looking up some curiosities of prescription writing in the interval between this earliest one in Egypt and our own time, I came across a paragraph in Friedländer's *Roman Life and Manners* that is of interest in this matter. It runs as follows:

"As the opinion obtained that the dearest stuffs were the most efficacious, and the rich, therefore, would have nothing cheap, his apothecary's business was extremely profitable to the practitioner. One rich man, who slave Galen had cured of a dangerous tumour, asked for the recipe, saw that its ingredients were cheap, and demanded something 'not fit for the beggars.' Galen taught him a more expensive one, and he then experimented on free men and slaves, and acknowledged his indebtedness to Galen for his great success. Of the two kinds of storax Galen recommended the commoner and cheaper as a rule, and the rarer for emperors and the plutocrats of medicine."

It is sometimes the custom to think that the physicians of olden time prescribed only drugs of various kinds and did not give many directions as to the way people should live and their diet, food, and habits as regard air and exercise. These are supposed to be developments of modern time. Nothing could well be less true than this. The prescriptions, of the Greeks particularly, often concern much more the natural means of cure than the pharmaceutical remedies. Galen is often thought of, because he lived at Rome, rather as a Roman than a Greek. He was the last, however, of the great Greek physicians, and his works were all written in Greek. While there is no complete edition in a modern language there are excellent Latin translations. Galen's discussion of the treatment of tuberculosis is the best example that I can give of prescribing apart from drugs in the olden time. He insisted that these patients needed, above all, air and nutrition. They should practically live in the air. It was extremely important that they should not take exercise while suffering from the worst forms of the disease. He thought that milk and eggs were the best kinds of nutriment for them. Apparently he did not think much of the drug treatment of the disease.

All this is so modern that it would seem almost impossible. My own reading of Galen was not very extensive, though I had come across some passages that indicated this state of mind on his part, but my brother in Philadelphia, who has made special studies in Galen, even to the extent of going to Pergamos to visit his birthplace and who, because of special interest in tuberculosis, has looked up every reference to phthisis in Galen's works, tells me that there is no doubt that this was Galen's opinion in the maturity of his powers. The great Greek physician complained that many tuberculous patients were deceived by people who recommended cures of various kinds to them and who disturbed their digestion by many forms of remedies that did not do any good. He says that very clearly the reason why these recommendations were made was that the physicians wanted to make money out of the patient. His discussion of the question indeed reveals the state of affairs at Rome so similar to that with which we are familiar at the present time as to be quite startling to most people. Personally, I have got over being startled by similarities in human nature down the ages. The more I know about history the more do I realize that whenever men have faced certain problems that are always recurring in the history of humanity they have solved them in about the same way and with the same abuses, whether in Egypt 6,000 years ago or in Greece 2,500 or in Rome 2,000 years ago or in the Middle Ages or even in our own time.

Galen's prescriptions are always interesting, especially so because for about a fifteen centuries they constituted the model after which most prescriptions were written. Something about him and his work

I know, but I am indebted to my brother for some typical prescriptions. We are often curious to know how the ancients treated pain. Here is Galen's favorite prescription, and it is so compounded that it can be used either internally or locally. It must have been rather efficient.

It was meant not only for soothing pain, but also for inducing sleep and banishing various troubles. He assures us that it cured diseases of the stomach, like disagreeable belchings, indigestion, gastric distress of various kinds, and bloating, in a perfectly wonderful fashion. For pains in the head it might be taken as a drink, or applied externally, diluted with vinegar. It might be used as a pastille diluted with pellitory juice for pains in the eye or watery eyes. It might be beaten and put in the cavity of an aching tooth. Diluted with sweet wine and made lukewarm it might be used as a gargle in amygdalitis. Dissolved in myrtle wine it might be used for every kind of hæmorrhage, in Therean, Scybelitan, or new wine, for old and recent coughs. Dissolved in horehound juice it was good in phthisis. Dissolved in the juice of the bloodwort (Sanguinaria) it was good for hæmoptysis, dysentery, cholera, and, in liquor of rue, for snake bite. Taken two hours before an attack in three ounces of diluted wine it relieved intermittent fever. Diluted with the liquor of mugwort (artemisiac) at acted as an emmenagogue. Dissolved in honey wine it was good for bladder trouble. Diluted with liquor of bitterwort (Gentiana) it was good for arthritis and gout.

Aster Stomachicus marrubii succo dissolutus

Pepper (piperis),	5iv;
Saffron (croci),	5vi;
Poppy juice (succi papaveris),	5vi
Cretan carrot seed (seminis dauci Cretici),	3viii;
Anisi,	5viii,
Massilian hartwort (seselis Massiliensis),	3viii;
Parsley seed (seminis apii),	3viii.

The opium is dissolved in odorous wine, pounded dry, ground, sifted, mixed with the other ingredients and pressed into pastilles of a half a drachm each, which are then dried in the shade.

We are likely to think that sedative gum for aching teeth is a comparatively recent remedy. Here it is, however, in Galen's time. As a gargle for amygdalitis this probably was quite efficient. I am not sure, however, that I should consider it of benefit in all the many affections for which Galen recommended it. Doubtless, it might relieve a good deal of the tenesmus of bladder trouble and, perhaps, relieve the pains of gout and of arthritis under which name Galen meant our rheumatic conditions. He had a much better name than we had. It is probable, too, that even most of our vaunted remedies for these affections, though we use them as specifics, do little more than relieve pain. The whole coal tar group is probably only anodyne and has very little effect on tissue conditions.

There is another formula of Galen's recommended for a number of painful conditions. It is the *eclegma nectareum* for those suffering with colic, pleurisy, and menstrual troubles.

Spanish opium (opium Hispani),	5i;
White pepper (piperis albi),	3i;
Ginger (zingiberis),	3i.
Sweet wine (vini dulcis) either Scybelita or Protropum,	3vii;
Falernian wine (vini Falerni),	3iiss;
Attic honey,	1 lb.

Beat dry and sift through a rather coarse sieve, boil with wine until a third part remains, add more sweet wine, and again boil. Stir with branches of rue, supported by a rod of willow and bound with the bark of the willow. It should be stirred alternately with two rods, one containing old dry branches, the other recent branches. After the liquid has boiled twice, add honey, again boil, and strain through a bag. Give two drachms before and after meals.

Are we inclined to think that such recommendations for many different forms of ailment are old fashioned, or, at least, that we do not make such recommendations in the modern time? In order to be sure about this, however, I took down a recent edition of Potter's *Handbook of Materia Medica, Pharmacy, and Therapeutics*. I opened at the word *Aurum* by chance and found this:

"These salts of gold, administered in small medicinal doses, increase the appetite and the digestive power and stimulate the functional activity of the secreting organs, especially the skin and kidneys. They also stimulate the generative apparatus, causing diaphoresis, diuresis, and exciting the menstrual flow in women and the sexual appetite in men. The observations of several competent physicians have established the power of these salts to excite the vascular and muscular systems and to produce fever, to increase the urine and the sweat, to cause salivation without stomatitis, a sense of heat in the stomach, headache and diarrhœa, to promote menstruation, excite the genitalia, and profoundly affect the nervous system."

One of Galen's prescriptions for consumption is rather interesting at the present time, owing to circumstances. He suggests the taking of as much powdered yellow arsenic as you put salt on an egg, several times a day. It is a rather indefinite dose, and yet a rather ingenious method of dividing a poison without much trouble or danger. In recent years, we have used the cacodylates rather abundantly for phthisis—otherwise we might possibly think that this was a very foolish prescription of Galen's. There is nothing like finding that we are doing something just like one of the old medical authorities to make us realize that very probably the old medical authority was not so unreasonable after all. Considering the present use of salvarsan as a remedy for syphilis, another of the chronic infectious granulomata, this prescription is all the more interesting.

Galen mentions the fact that the dried lung of a stag, ground into powder, given three teaspoonfuls in three ounces of honey and repeated every few days, will benefit the patient. I believe that a few years ago we were also giving pulmonin or some form of extract of lung for various pulmonary diseases. It is interesting to realize that Galen's contemporary who advised this particular form of opotherapy selected as the source of his pulmonary tissue that was to be curative, that of the stag, whose powers of running, and "wind" as the hunter would say, would produce a very suggestive influence upon the patient who could scarcely help but think that he was absorbing some of that animal's respiratory faculty and pulmonary tissue for his own benefit in the course of taking the remedy.

Occasionally, a prescription seems quite absurd; for instance, that "the skin of the hippopotamus

burned and then soaked in water, if it is applied to the body destroys tubercles just as the skin of the viper when dusted on bald spots wonderfully reproduces the hair." In many of these recommendations Galen is only repeating what he has heard from others, but has not been able to test by his own

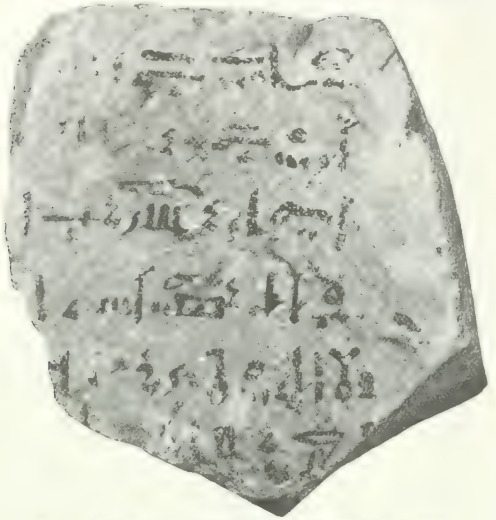


Fig. 1.—A piece of prescription in existence (exact size, obverse).

experience, yet does not wish to condemn and hopes that perhaps his mention of them may lead to some proper testing. It is just the principle on which many books of therapeutics of modern times are constructed. Turn over your Potter or your Bartholow or your Wood and you will soon recognize it. Herodotus wrote history that way. He is probably the greatest of historians. He tells the most absurd stories, but he always cites them from someone else. What he says on his own authority has always proved to be absolutely true, though many intervening generations have doubted him and Voltaire spoke of him as not the father of history, but the father of lies. Voltaire was wrong, not Herodotus.

Galen sometimes cites prescriptions from others, and one of these, because it represents the cough medicines that we have had during all the centuries since, at least to a great extent, I quote. Horehound, honey, wine, pitch, with a little saffron, myrrh, and frankincense and a little white pepper and some juice of the house leek complete the formula. It is known as the prescription of Scribonius Largus for cough, phthisis, etc.

℞ Juice of horehound, ... Oi.
House leek juice (succi sempervivi), ...Oi;
Attic honey (mellis attici), ...℥x;
Italian wine (vini Italici), ...℥iiss;
Liquid Bruttian pitch (picis liquidæ Bruttiæ), ℥iiss;
Nardi Indicæ, ...℥i;
Saffron (croci), ...℥i;
Myrrh, ...℥i;
Frankincense (thuris), ...℥i;
White pepper (piperis albi), ...℥i.
M. Sig.: Take as directed.

Galen also cites the antidote of Aristarchus, sometimes called the Pauline antidote, which so many physicians thought a wonder worker. We have come to limit the use of the word antidote to substances that are given to neutralize poisons. In classic times and all during the Middle Ages, however, antidotes were remedies of any kind against disease. We have a whole series of mediæval antidotaria, that is books containing actively curative remedies. The antidote of Aristarchus had a very large number of indications. Some of these indications would seem to us doubtless to be contradictory. Abstracting from that I give just what Galen says about it on the authority of others and then the formula. It is said to be useful for hæmoptysis, cough, suppuration, consumption, convulsions, ruptures, dysentery, and relapsing fevers, in which it should be given one hour before the attack; also in order to produce vomiting, and to prevent vomiting, especially vomiting of bile; also in vesical and uterine disturbances; also as an antidote to all medical poisons and the venom of reptiles.

℞ Cinnamomi,
Costi,
Galbani,
Castorii,
Succi papaveris (juice of the poppy),
Piperis nigri (black pepper),
Piperis longi (long pepper),
Styracis (styrax, a kind of balm of Gilead or opobalsam, of each, ...5i;
Honey, ...℥iiss.

Sift the powders through a very fine sieve. Cook the galbanum with the honey until dissolved, add the other drugs, pound dry, and place in a glass or silver pyx. Take a piece the size of an Egyptian bean in about two ounces of honey sweetened water, containing nine drops of vinegar dropped from the finger.

Another favorite form of prescription or formula was called a panacea from two Greek words which means a cure for everything; among other such Galen cites the panacea of Antonius Musa, which was recommended also by Diogas, a physician who treated by ointments. It was prescribed in continued fevers, protracted cough, phthisis, hæmoptysis, suppuration, dyspnœa, convulsions, ruptures, obstinate inflammations, dropsy, constipation, stone in kidney, suppression of urine, and deadly poisons either vegetable or from the bites of reptiles.

℞ White or long pepper (piperis albi aut longi), 3viii;
Seed of white henbane (seminis hyoscyami albi),
Cinnamon,
Cardamom,
Myrrh,
Incense (thuris), of each, ...3xii;
Opium,
Saffron,
Tinc. sulphur, of each, ...3x;
Costum,
Long birthwort (aristolochiæ longæ),
Mandrake bark (corticis mandragoræ), or the fruits, or leaves,
Euphorbium, of each, ...3iii;
Cooked honey, ...q. s.
M. Sig.: Give an amount the size of a hazel nut.

It is with regard to such "cure alls" that we should be quite sure that the ancients were foolishly credulous and that we have advanced in our time far beyond them. We are supposed to be much more scientifically judicious and not to make exaggerated claims. Besides we do not think that one remedy will cure most of the chronic conditions, as

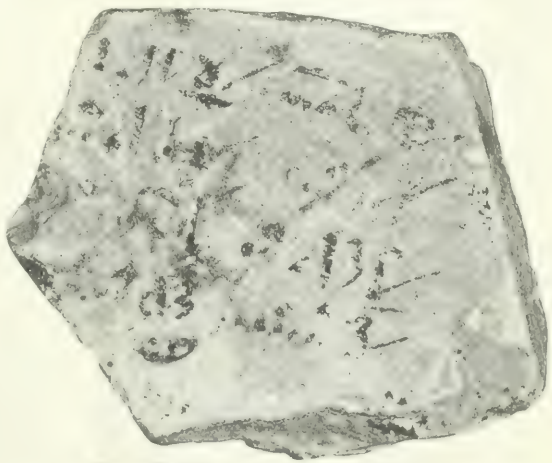
the ancients so often seem to have believed. In some ways, perhaps, these complacent impressions of ours with regard to our progress in the principles of therapeutics are possibly true. It is surprising, however, to find how many claims are made in textbooks of therapeutics for the most diverse kinds of action from a particular drug. Let me ask you to read, for instance, the paragraphs that Potter has in his *Materia Medica, Pharmacy, and Therapeutics* with regard to iodine. I do not cite them in special deprecation of Potter's, because practically all the others, I understand, are the same, but because his book is handy and because it happens to illustrate very well, as it seems to me, what is well for us to keep in mind when we condemn too readily or at least make little of old time physicians, thinking that we are far above them.

Probably our best example of multiform indications, in recent times, however, is that of the salicylates. Take, for instance, what Potter says with regard to salol. It is recommended for acute and chronic rheumatism, for rheumatic gout, to relieve headaches, and for phlegmasia alba dolens "in which it is considered very efficient":

> It is an effective remedy to cut short an attack of amygdalitis, a bad cold, and other acute affections of the respiratory mucous membrane, also in urticaria and diabetes, gout, and cases that have a tendency to the formation of gallstone.
>
> Salol is one of the most efficient remedies for duodenal catarrh, catarrh of the bile ducts, and catarrhal jaundice; also in the bilious form of sick headache, and in some forms of neuralgia. Salol is a remedy of very great value in typhoid fever; disinfecting the ulcerated intestine. It promotes the healing process therein and hinders reinfection. It is highly recommended in dysentery, in cholera, and in infantile diarrhœa. . . . It proves to be an efficient disinfectant in catarrh of the bladder, its constituents being excreted with the urine and coming in contact with the vesical mucous membrane for a considerable length of time. . . . Externally, salol is employed as an antiseptic and deodorant powder against impetigo, eczema, sycosis, and other skin diseases; and has done good service as an insufflation in the treatment of ozæna. In spirituous solutions (5 per cent.) it is used with various flavoring agents in the preparation of mouth washes and dentrifices, and it enters into the composition of soaps, face powders, and other toilet articles. A mixture of equal parts of camphor and salol, heated together, has given good results in the treatment and suppuration of the middle ear, giving no pain, and setting up no inflammation of the part.

After reading these paragraphs on gold and salol one is tempted to think that if by chance this book should be preserved for a couple of millenniums, as Galen's works have been (which is unlikely), the people of that generation would surely wonder why we needed many further remedies than the salts of gold and the salicylates, since these were able to accomplish so much. If to them I should add the paragraphs on the therapeutics of the iodides, then they would be quite sure that with these three substances we could face any disease. We understand just how this has happened. The author's purpose has been to collect every possible therapeutic reference and incorporate it in his book. He is quite sure himself, very probably, that many of them mean nothing. He cites them on the authority of others. That is what many of the old time physicians did with regard to remedies. Unfortunately, such books on therapeutics are read mainly by students and young physicians in the early days of their practice. It is exactly they who need most to be directed in the judicious selection of remedies and who have the least experience to guide them. We fill our textbooks with all sorts of impossible therapeutics for their benefit and then are apt to blame writers of the olden time for having been therapeutically so credulous and so prone to claim that their remedies would cure "nearly everything under the sun and a few other things besides."

There was great complaint in Rome, in Galen's time, that physicians did not always know the ingredients of their prescriptions. They prescribed ready made preparations of various kinds. In the preceding century Pliny, for instance, complains that physicians of his time avoided the trouble of preparing medicines by buying them already prepared. Friedländer, whom I have quoted already, says that "often the physicians did not know the exact ingredients of the compound that they used and, should they desire to make up written prescriptions, would be cheated by the salesman." I cite this passage in order to place beside it a similar one from a mediæval physician, who is sometimes spoken of as the father of pharmaceutical chemistry. He can scarcely find words strong enough to blame such physicians as knowing nothing about remedies and their composition take them from others and give them to the sick. There is a curious bit of aspersion on mere book learning in the passage that has a distinctly modern ring, and one feels the truth of Russell Lowell's expression that to read a great genius, no matter how antique, is like reading a commentary in the morning paper, so up to date does genius remain:



The oldest prescription in existence, reverse.

> And whensoever I shall have occasion to contend in the School with a Doctor, who knows not how himself to prepare his own medicines, but commits that business

to another, I am sure I shall obtain the Palm from him; for indeed that good man knows not what medicines he prescribes to the sick; whether the color of them be white, black, grey, or blew, he cannot tell; nor doth this wretched man know whether the medicine he gives be dry or hot, cold or humid; but he only knows that he found it so written in his Books, and thence pretends knowledge (or, as it were, Possession) by Prescription of a very long time; yet he desires to further information. Here again let it be lawful to exclaim, Good God, to what a state is the matter brought! what goodness of minde is in these men! what care do they take of the sick! Wo, wo to them! in the day of Judgment will they find the fruit of their ignorance and rashness, then they will see Him Whom they pierced, when they neglected their Neighbour, sought after money and nothing else; whereas were they cordial in their profession, they would spend Nights and Days in Labour that they might become more learned in their Art, whence more certain health would accrew to the sick with their Estimation and greater glory to themselves. But since Labour is tedious to them, they commit the matter to chance, and being secure of their Honour, and content with their Fame they (like Brawlers) defend themselves with a certain garrulity without any respect had to Confidence or Truth." (For further quotations similar in tenor see *Catholic Churchmen in Science*, Life of Basil Valentine.)

Had we lived four or five hundred years ago we should all have been faithful students of the textbooks of medicine, or perhaps several of them written by this same Basil Valentine, a Monk, and containing many wise observations on medicine. One of his expressions is so modern as to be quite striking. He says: "It is quite possible that the physician should err and be turned aside from the straight road, but that Nature, when she is rightly treated, should err is quite impossible." The man who thus insisted that Nature was the most important guide in the treatment of disease is yet also the author of the *Triumphal Chariot of Antimony*, a book which led all the practitioners of medicine for a century or more to prescribe antimony at the beginning of all affections and, particularly, all fevers. Doubtless we too should have written our prescriptions for antimony had we lived at that time. Patients wanted remedies administered to them that would produce an effect and, above all, they liked to have effects that the doctor could foretell. When antimony was administered there was usually no doubt about the effects that would ensue; prophecy was easy. Practically the remedy always did more harm than good, but it was a long while before it went out of fashion. The principle underlying its use was that elimination from the intestinal tract must have a beneficial, derivative action on the body. The body *must* be bettered by having all that offensive material removed out of it.

At the present day there are a great many physicians who are quite sure that a great many of the ills of mankind come from intestinal autointoxication. They did not have quite such a nice long term for it in the olden time, but they meant the same thing. We have a number of remedies to prevent the absorption of toxines from the intestines or at least that are supposed to prevent it. The fifteenth and sixteenth century physicians had but one—antimony, and they used that freely. When antimony went out of fashion in prescriptions, it did not stay out for good, but had a very wonderful restoration to popularity in Louis XIV.'s time. The king suffered from typhoid fever. Needless to say that particular form of fever had not been differentiated from other forms, and the physicians did everything they could to break up the king's fever, but to no purpose. Everybody of any reputation in Paris had been summoned to the king's bedside. Some twenty-four days had passed and the fever still continued. Almost in despair an old physician with old fashioned methods, but with a reputation all his own among the populace, was asked to see the king in consultation. He recommended antimony; fortunately (or unfortunately, for there is room for question in the matter), it did not kill the king and, as the fever broke on the second day after the administration of the remedy, antimony acquired a new vogue that was to last almost to our own time.

Many of the prescriptions of the Middle Ages contain very curious deterrent ingredients. Crushed lice, moss from the skull of criminals who had been hanged and whose skeletons had been exposed to the elements for years, portions of mummies and corpses of more recent date as well as excrementitious materials of various kinds were used for therapeutic purposes. Some of them had the reputation of producing very wonderful results. They were efficient through the mind rather than through the body. It is surprising, however, how long the use of such materials endured. Mummy, for instance, remained in the European pharmacopœias until well on into the eighteenth century. Now that the eleventh edition of the *Encyclopædia Britannica* is being exploited with all the ingenuity of modern advertising methods, it is rather interesting to realize that in the first edition, issued only 150 years ago, there was a description of mummy as a material of great value in therapeutics and that had been used for a long time. Every now and then in the course of medical history one finds that someone is describing portions of animals for definite indications in medicine. When heart disease was suspected, patients were fed hearts and even tripe and chitlings were supposed to be particularly beneficial for stomach and intestinal troubles of various kinds.

One of the stories in the *Hundred Merry Jests*, the oldest joke book in English, contains a reference to medical opinion with regard to birds in the dietary of dyspeptics that is rather interesting. This portion of the story is evidently told quite seriously, the joke being in the tail of the story. A man who was suffering from dyspepsia, was advised by his physician to live almost exclusively, at least so far as meat was concerned, on certain little birds which were always on the wing and whose meat therefore must be very light and consequently easy of digestion. The patient replied that in that case his wife's tongue ought to be extremely easy of digestion because it was never still. Perhaps his remark reveals one part of the ætiology of his indigestion. Nagging has been known to cause indigestion, and there was a suspicion, even during the Middle Ages, that the cause of a good deal more of the indigestion was above the neck than below it.

We are perhaps likely to think that such use of animal tissues and viscera with definite specific therapeutic purpose is absurd if not ridiculous. Let us not forget, however, that only about ten years ago we were reading many reports of the successful treatment of various affections of internal organs by

animal therapy or as we called it learnedly, opotherapy. It went so far as to use prostatic tissue for prostatitis and other just as interesting combinations. When the historian of medicine reviews our use of cardin for heart disease and nephrin, or was it nephritin, for nephritis, and, above all, cerebrin for brain and nervous troubles, surely he will have just as much right to laugh at us for taking these things seriously as we have for laughing at the mediæval physicians. Yet we were not absurd, we were only trying in every way possible to help patients and, having seen the action of the thyreoid gland in cretinism, thought we had discovered a new principle of therapeutics and were groping after anything that would help our patients.

Only let us not forget that this is just what the ancient and mediæval physicians were doing with just as much ardor, just as much sincerity, and also with just as much common sense as we. That is where we make the mistake in judging of past generations. From our standpoint we see the ridiculousness, as we think, of some of the things that they did. We forget that our doings may seem just as ridiculous to another generation. Professor Richet, director of the Department of Physiology at the University of Paris, said not long ago: "The therapeutics of any generation always seems absurd to the second succeeding generation." Sometimes, as in the case of opotherapy, it does not take as long as that to disclose the absurdity. Evidently our generation shall not be spared the usual fate in this matter.

110 West Seventy-fourth Street.

TWILIGHT TALKS WITH THE DOCTOR.

By George F. Butler, A.M., M.D.,
Chicago.

I am constrained in this twilight talk to impress upon the mind of the doctor the futility of contentions, jealousies, and petty rivalry which so often mar the harmony of our profession and the importance of cultivating a spirit of charity, of generous tolerance, and "sweet reasonableness."

It is a woeful waste of time, these idle bickerings about methods and precedence of discovery or adoption and the comparative merits of this or that ephemeral line of professional achievements. I am charitable enough to believe that the great majority of physicians, of whatever individual opinion, are manfully and conscientiously endeavoring to assist Nature in the alleviation of human suffering and that in the pursuit of so high a calling, which involves at times the utmost limits of self sacrifice, they are actuated by a zeal no less intrepid and an enthusiasm no less vital than inspired the good Terentian verse:

[illegible]

We live in an epoch of unprecedented medical and surgical activity. The amount of medical literature is well nigh overwhelming. Amid such a wealth of resources it seems fatuous to dogmatize and dispute, the attitude of the doctrinaire being never a high minded and charitable one. Yet arbitrary statements are too often made by those high in authority regarding the value or futility of certain methods of treatment. In the contentions arising from these truly progressive stages of development, we should be careful to give full credit to the sincerity of purpose from which they emanate. Do we alone, forsooth, possess the golden thread of knowledge which is to guide us through the labyrinthine mazes of science? Shall we monopolize truth, to the exclusion of those whose ardor and capacity are commensurate with our own? Can we, in a word, be sure of anything, save our own liability to error? Arago dared to assert that "nothing is absolutely certain outside the realm of pure mathematics."

Not long ago I heard an able, earnest, country doctor read a paper on the treatment of erysipelas with a certain plant found in the locality where he resided, whereupon a certain surgeon, who knew nothing whatever about the treatment the doctor recommended, proceeded to "roast" the reader of the paper and ridicule the method as being absurd and unscientific. I doubt if we can afford to belittle the results of such observation and experience.

In its struggle for progress, medicine has often turned from its great masters to the patient toilers in rural districts whose work, when it was finished, remained to afford a foothold to those who came after. And in this lie the present greatness and the hope of every true science.

The very man whose theories we deride to-day may to-morrow prove to have been far wiser than we. When Ericsson, the inventor of the twin screw, offered his discovery to the British board of admiralty, they laughed him to scorn, declaring that it would be hopeless to attempt to *steer* a vessel while such an apparatus was attached to it. But a short time after the screw was adopted, a great ocean liner, having lost her helm, was triumphantly guided into port by her twin screws!

In this age of invention and marvelous discoveries in medicine and science, it need scarcely be said that it behooves us all to maintain an attitude of the widest toleration. Let us be liberal, with our minds open to conviction. If our opponent is wise we should hesitate to impugn his talents and earnestness, even though they militate against some pet conceit of our own. If he is ignorant, he may yet be sincere. And who of us has not at some period been guilty of the grossest incapacity? Thackeray said "a man who has reached the age of thirty and never made a fool of himself *is* a fool."

No thoughtful physician can fail to see the immense advantage of a liberal mind in the pursuit of truth. It is to the honor of the scientific world that its most distinguished savants have been characterized by a noteworthy freedom from illiberality. Wallace undoubtedly discovered the general theory of natural selection which Darwin so brilliantly elaborated. How noble is the spectacle of these two men vying with one another in their desire to accord, each to his friend, the praise of that transcendent intuition! What a lesson of humility and love of truth! It is of signal importance that the physician should not only welcome every advancement, especially in therapeutics, but he should at all times be willing to put the broadest construction upon opinions conflicting with his own.

It seems strange that so vital a department of

general medicine as therapeutics should suffer comparative neglect at the hands of those who assume the deepest interest in their profession. Want of faith in the efficacy of drugs is common to many practitioners who, were they more keenly alive to the true character and properties of curative agents, might find their practice attended with far greater prestige, as well as by greater practical success.

It is of paramount importance to become thoroughly familiar with the action of various groups of medicines, their mutual relations, and their specific influence—to ascertain by actual experience the reasons for employing a certain agent under one condition, and a different one under another. There is a therapeutic method in these various changes of treatment which to the ignorant never occurs, but which to the skilled practitioner is the best of medical knowledge.

Our medical schools reflect the prevalent apathy touching the nature of various drugs and their action in disease, the study of which may justly be elevated to the rank of a science. The enthusiastic aspirant after medical attainments shrinks from the ordinary elucidation of therapeutics as found in our textbooks. When he comes to practise he is ignorant of this important subject, and readily acquires the pernicious and unscientific habit of prescribing polypharmic, ready made mixtures. Let us, therefore, acquire a better knowledge of active, trustworthy remedies, their exact action upon the cells and tissues of the body under various conditions, and we shall thereby acquire additional interest and zeal in our profession, and our success in relieving and curing our patients will be much greater. What may be good therapeutics in one case may prove injurious in another. Each case should be carefully studied and treatment directed to the existing condition. The doctor deals with live people and should endeavor by every wise means to keep them alive, and he will generally be rewarded, not only by generous patronage, but even more by the respect and confidence of the medical fraternity and the approval of his own conscience.

While it is true that the brilliant accomplishments of surgery attract wider attention, it is equally true that the quiet labors devoted to investigation in therapeutics bear no less directly and no less powerfully upon the health and happiness of mankind. The zeal with which the general practitioner seizes upon the latest discoveries in the healing art is eloquent testimony to the universal craving for more knowledge of therapeutics. The list of incurable diseases, for example, is constantly narrowing, thanks to widespread, frequently provincial, study and experiment and the earnestness and sincerity which many physicians of to-day bring to the exercise of their profession. Never was the outlook for medicine brighter nor were the attainments of therapeutic skill better calculated to inspire confidence. The enormous variety and circulation of medical literature attest the universality of interest in the physician's labors. It is extremely difficult to keep pace with modern investigation, and as Professor William James, of Harvard University, has well said: "The whole face of medicine changes unexpectedly from one generation to another in consequence of widening experience."

If a man was placed before a dark wedge of infinite size, his face to the edge, a feeble light from behind him would illumine its nearer portions. If the light was gradually increased, an increasing area of illumination would spread before him, beyond which an expanding area of darkness would hover, still looming in more impenetrable profundity the more the brightness grew. So it is with medicine, particularly as to the true nature of disease, its ætiology, and its treatment. Such wedges seem to me to radiate in countless lines from every different point of view, each expanding with the unresponsive depths beyond.

> And in the lowest deep, a lower deep,
> Still threatening to devour—opens wide.

Should any physician, then, having the interest of his profession and of humanity, at heart, obstruct the light by never so little? No! We should admit candidly the value of any method, theory, or practice which may promote the common object of alleviating human misery, taking the big, generous view of things, without which the pursuit of learning is but a jaundiced, melancholy affair.

Fortunate is it for him who has early learned the charity and liberality which characterize all genuinely great and progressive men in every profession. His open heart and intellect are spared many a regret, and throughout his career for him the sun of truth is shining everywhere.

THE EFFECTS OF CERTAIN CHEMICALS ON THE TYPE OF TISSUE RESULTING FROM CHRONIC IRRITATION.*

By G. L. Rohdenburg, M. D.,
and F. D. Bullock, M. D.,
New York.

(From the Cancer Laboratory of the Department of Zoology, Columbia University, under the George Crocker Special Research Fund.)

Those investigators who have attempted to produce a primary malignant tumor, have worked along certain definite lines of research. The one group considering cancer a parasitic disease have tried to produce a tumor by inoculation with various parasites. Another group, having in mind the relation of chronic irritation to malignant growths, have endeavored to produce a malignant tumor by long continued chronic irritation. A third group, having as a basis a chemical ætiology for malignant changes, have endeavored to produce a malignant tumor by the use of chemical agents. If we consider a malignant tumor as an abnormal group of cells possessing unrestrained powers of cell division, invading and destroying surrounding tissues, producing metastasis and finally death of the host, none of the results obtained along any of these lines of research warrants the assertion that a primary malignant tumor has been produced.

The basic problem in cancer research is the elucidation of those factors which influence, either by stimulation or retardation, cell division, the pathology of cancer, after all, resolving itself into the state-

*We beg leave to express our thanks, for assistance given in various ways during the course of these experiments, to Dr. F. C. Wood, Dr. P. J. Johnson, and Mr. Bosse.



FIG. 1.—Showing the down growth of epithelium in scarlet red tumor in rabbit. ×40.

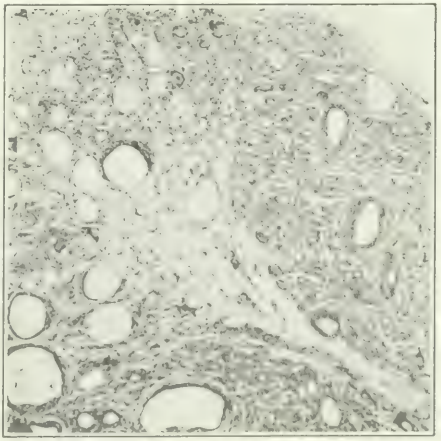
ment that it is a manifestation of uncontrolled cell division. As Calkins has shown (*Journal of Experimental Zoology*, No. 2, February, 1911), reparative and regenerative processes, in some of the less complex organisms at least, are distinct from the processes which control cell division. Again, as he has pointed out in a later paper (*Biological Bulletin*, June, 1911), the mechanism of the cell in the lower orders is so extremely delicate that even slight disturbances profoundly alter the division rate without interfering with the life of the cell itself. Fischer in his experiments with scarlet red (*Münchener medizinische Wochenschrift*, liii, p. 2042, 1906) has pointed out that there are chemical substances which stimulate cell division. Our object, then, in these experiments was to determine if there are substances in the body, the result of metabolic processes, which stimulate cell division.

Inasmuch as at the outset of our experiments we were investigating the influence of certain internal secretions on malignant tumors, our first efforts were along the line of Fischer's experiments, using scarlet red, and removing from the animals injected some one of the internal secretory glands.

EXPERIMENT I. October 17, 1909. Removed the thymus gland from three young male rabbits, under ether anæsthesia. Thirteen days later injected all of the animals with 5 c. c. of a saturated solution of scarlet red in olive oil. The injections were made subcutaneously: in animals 1 and 3, in the ventral surface of the abdomen; in animal 2 the same as in animal 1, but in addition, an injection of 2 c. c. in the right ear. Animal 1 was killed three weeks after injection. Autopsy was negative except at the site of injection, where a mass adherent to the deeper structures and measuring 15 x 10 x 28 mm. was found. It consisted of a nodular capsule 3 mm. thick, surrounding a central semifluid mass. The microscopical findings of this and the succeeding tumors in this experiment we shall consider together. Animal 2 was killed four weeks after injection. Autopsy again was negative, except at the sites of injection, there being a mass present in both locations, which presented the same picture as in animal 1. Animal 3 was killed three months after injection. Autopsy was negative, except for mass at the site of injection which was similar to those in animals 1 and 2, being however a trifle harder and more nodular. A portion of the mass was transplanted into the subcutaneous tissues of three young rabbits. These transplants, however, were absorbed at the end of two weeks, scar tissue formation being the only microscopical finding on section.

Microscopical examination. The central semifluid matter consisted of a dense mass of leucocytes, the lymphocytic variety predominating, held in a loose mesh work of connective tissue. The mesh work showed a large number of newly formed bloodvessels. Passing from the central semifluid mass toward the periphery, connective tissue elements became more prominent, the bloodvessels fewer in number, and the leucocytes less frequent. The outer margin of the periphery showed a dense connective tissue formation, the cells of which were in no way abnormal except in scattered small areas. These areas, which were in the nodular portion of the capsule, showed one of two types of structure. The one type had a large number of foreign body giant cells, containing from three to ten nuclei scattered throughout the connective tissue matrix. The other type showed areas of epithelium, typical of those which have already been described by Fischer. As is shown in the accompanying photomicrograph (Fig. 1) the epithelium was a down growth from the skin. In some places the epithelium was arranged in pearl formation; the individual cells, however, were perfectly normal and showed no tendency to destroy or invade other tissues.

Since rabbits are but seldom the hosts of malignant tumors, and to extend the observations to animals with



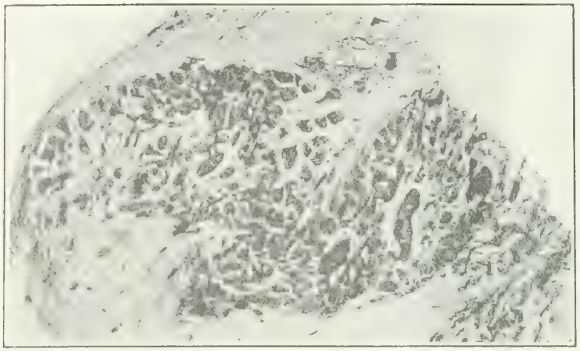


Fig. [illegible] showing peculiar cell formation in lecithin injected rat, with scarlet red tumor; × 40.

other internal secretory glands removed, the experiment was repeated on rats.

Experiment II. December 2, 1909. Removed from series of four rats each, the thymus, thyreoid, testes, and spleen. Eighteen days after operation injected all of the

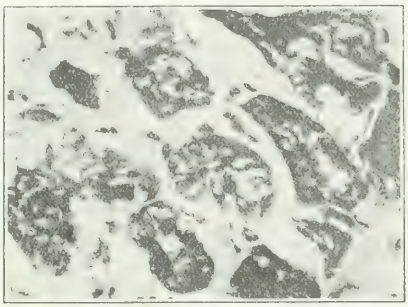


Fig. [illegible] showing the individual cells in Fig. 3 more highly magnified. × 150

animals with 5 c. c. of the scarlet red solution, in the lateral ventral surface of the abdomen. At intervals of one week, commencing from the day of injection, one animal

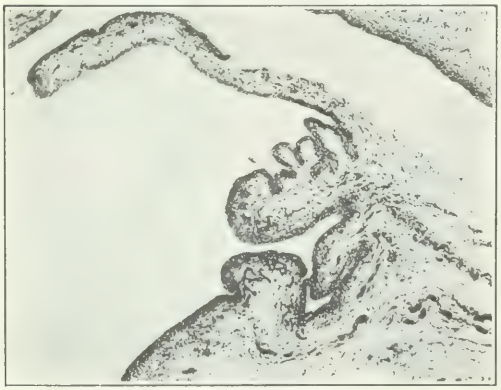


Fig. 5.—Showing papillary arrangement of capsule in paraffin lecithin rat; ×40.

in each group was killed. At autopsy there was no abnormity noted in any of the animals except at the site of injection, where masses varying in size from 3 × 5 × 7 mm. to 6 × 8 × 10 mm. were found. The masses were similar in the gross appearance to those described in the rabbits. Microscopical examination of the tumors showed that the type of tissue resulting from the scarlet red was identical in each case, irrespective of the gland removed. The central semifluid mass was identical with that described in the rabbit tumors. The periphery of the tumor was, however, slightly different. We found no down growth of epithelium, although areas of giant cells were present. In addition to the giant cells there were present large circular spaces in the connective tissue, which during life had probably contained oil. These spaces were regular in shape and not filled with any new cellular growth, the appearance of a typical field being shown in the accompanying photograph (Fig. 2). Special attention is called to these circular spaces because, in our later experiments, these areas showed a peculiar cell development.

Experiment II was repeated with the variation of one factor. It is well known that phosphorus plays an important part in the activities of the cell. For this reason we injected lecithin, as typical of substances rich in phos-

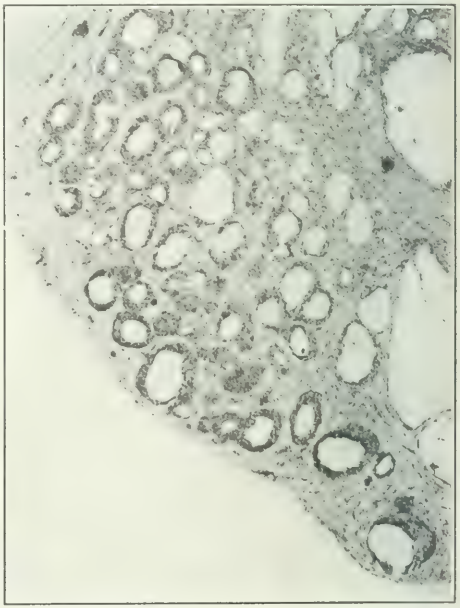


Fig. 6.—Showing a typical field of paraffin xanthin rat. Note the circular spaces lined with new cell growth; ×40.

phorus, into the body, after producing an area of chronic irritation. The results are given in the following protocol.

Experiment III. January 3, 1910. Removed from series of three rats each the thyreoid, testes, and thymus. Seven days later injected all of the animals with 5 c. c. of the scarlet red solution, in the lateral ventral surface of the abdomen. On January 17th commenced to give daily injections of 2 c. c. of a five per cent. lecithin emulsion in water. These injections were continued for a period of two weeks, and were given in a region of the

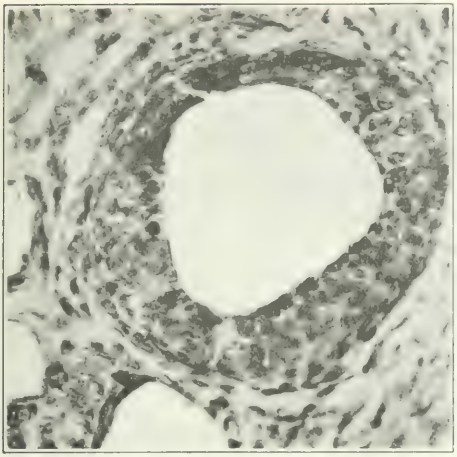
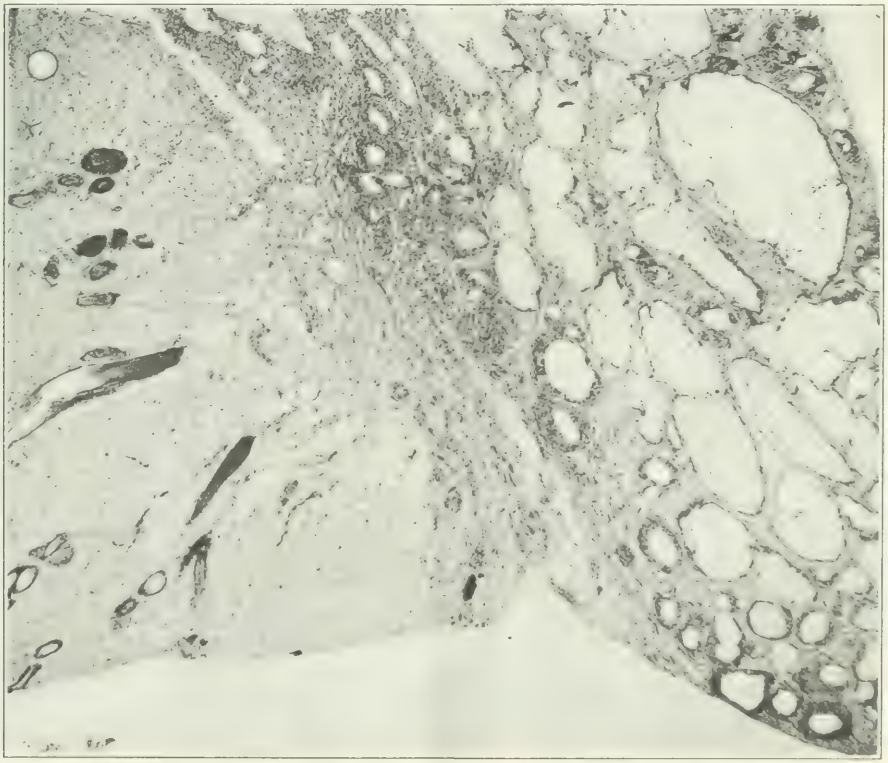


FIG. 5.—A high power view of one of the spaces shown in FIG. 6 ×100.

body away from the scarlet red injection. One of each group was killed every two weeks. At autopsy there was no pathological condition found, except at the site of injection. The gross appearance of the tumors was identical with those of experiment II, and the same could be said of the microscopical picture, except in one instance. In one portion of the capsule of the last killed of the thyreoid free group we found a peculiar growth, consisting of irregularly shaped islands of large, granular, deeply staining cells, with a more or less vaculoated cytoplasm. The nuclei were large and evenly stained, and showed but few mitotic figures. The cells were irregular in shape and size. The appearance both under low and high power is shown in the accompanying photographs (Figs. 3 and 4).

In our next experiments we undertook to disturb metabolism by removal of certain internal secretory glands, to produce chronic irritation by means of paraffin, and to place directly in contact with the area of irritation certain substances commonly found in the body. The substances used were, albumen, as typical of a substance rich in nitrogen, lecithin, as typical of a lipoid rich in phosphorus, nucleinic acid as typical of a substance exerting profound influence on the reproductive activities of the cell, and xanthin as typical of a cleavage product of protein metabolism.

EXPERIMENT IV. Removed the testes and thyreoid from each of four rats. Ten days later, injected all of the animals with 2 c. c. of melted paraffin in the lateral ventral surface of the abdomen. Two days after injection of the paraffin, a slit was made in the skin, directly adjacent to the paraffin and in (a) one animal .05 gramme of xanthin, in (b) another one gramme of albumen, in the



showing the relation of cystic, stained xanthin areas to skin in x ray paraffin xanthin rat. ×40

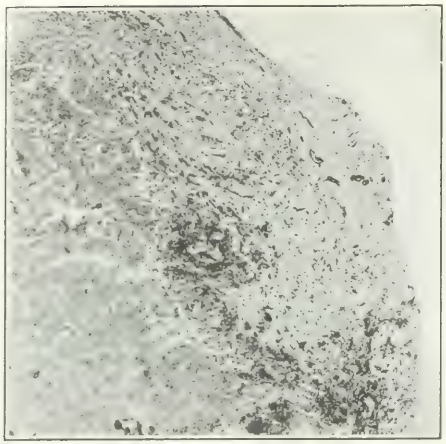


Fig. 9.—Showing typical structure of capsule in paraffin albumen rat; ×40.

(c) third one gramme of lecithin, and in the (d) fourth one gramme of nucleinic acid, was placed in this pocket. The pocket was then closed with suture and, after two weeks, the animals were killed.

(a) Lecithin rat. The autopsy revealed no pathological condition, except at the site of injection. The paraffin was found to be encapsulated by a mass of tissue about 2 mm. thick, which was closely attached to the paraffin at only one point. The microscopical examination of the capsule showed it to consist of a dense connective tissue with numerous newly formed bloodvessels. At one portion of the capsule where it had been firmly attached to the paraffin a papillary type of growth of the connective tissue was found, as is shown in the accompanying photograph (Fig. 5). This we take to be an adaptation of the newly formed tissue to slight irregularities in the surface of the paraffin. Aside from this the capsule showed only a typical granulation tissue.

(b) Xanthin rat. At autopsy there was no abnormity, except at the site of injection. The capsule was thicker, more nodular, and more closely attached to the paraffin than in the previous animal. The microscopical examination showed a dense connective tissue with scattered areas of a peculiar cell formation. These areas were circular and similar to those described as oil spaces in the scarlet red experiments. They differed, however, in that they were in this instance lined with from one to six or seven layers of cells. These cells were irregular in shape, rested on a basement membrane, and showed very few mitotic figures. The cells had a dense cytoplasm which was very granular, the nuclei being large, and clearly stained. A thorough study of the sections inclines us to the opinion that they are of connective tissue origin, although just how the transformation in type takes place is not as yet clear. Both the low and high power appearance of a typical field are shown in the accompanying photographs (Figs. 6, 7, 8, 14, and 15).

(c) Nucleinic acid rat. The autopsy revealed, at the site of the injection, a dense fibrous capsule surrounding the paraffin, and closely attached throughout its entire surface. The microscopical examination showed a dense connective tissue formation with but few cellular elements, a moderate formation of new bloodvessels, but not the slightest evidence of any epithelial stimulation, or of the formation of the type of cells described in the xanthin animal.

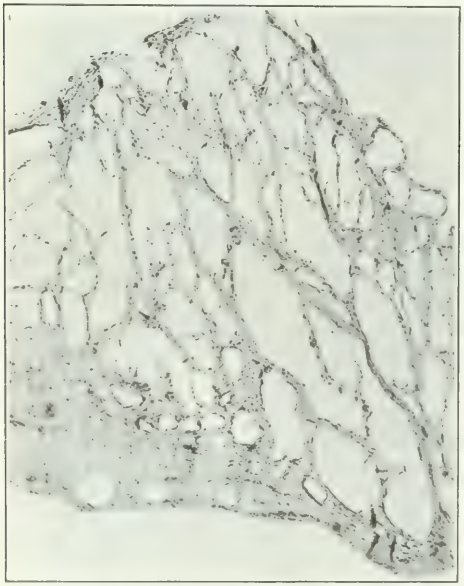


Fig. 10.—Showing typical structure of capsule in x ray paraffin nucleinic acid rat; ×40.

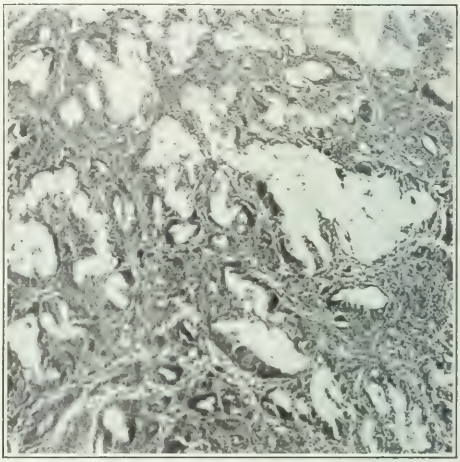


Fig. 11.—Showing structure of capsule in agar xanthin rat; ×40.

(d) Albumen rat. The autopsy was negative, except at the site of injection. The capsule about the paraffin was thin, nodular, and firmly adherent. Microscopical examination showed a dense connective tissue formation similar to that of the nucleinic acid animal (Fig. 9).

The first malignant tumors artificially produced in the human subject have been those following the prolonged and indiscriminate use of the Röntgen rays. Thorough study of the pathological condition has been made by various observers, the consensus being that an obliterative endarteritis takes place with resultant impaired local nutrition. Following the burns, which are the basis of the malignant growths, there is slow repair and islands of epithelium are snared off from their connection with

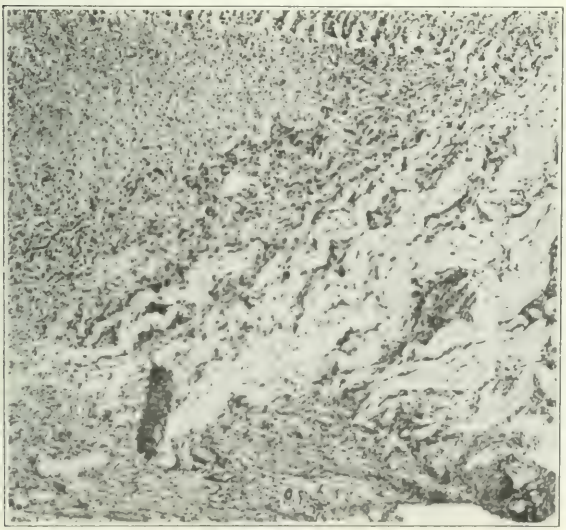
the surface epithelium. These isolated cells then become malignant. No apparent importance has been attached to the undoubted influence of the rays on certain of the glands of internal secretion. It

thymus gland. (*Om Thymusutvecklingen efter Roentgenbestralung jamte magre laktlageleser ofaer leukolysen i ofright Hos Roentgenbestralde Djur.* Hans Rudberg, Upsala, 1909.)



is a well known fact that after exposure to the rays sterility has taken place, and recent research has shown that they exert a powerful influence on the

We took six rats and exposed them for five minutes every other day for twelve exposures, to a medium hard tube, at a distance of 10 cm. from the cage. The exposures were kindly made for us by Dr. M. H. Barsky, at the Beth Israel Hospital, New York. Three days after the last exposure all of the animals were injected with 2 c. c. of melted paraffin. Two days after the paraffin injection, pockets were made as in the previous experiment and the same substances, with the exception of lecithin, were introduced and in similar amounts as in experiment IV. This time, however, we had two animals in each group. The animals were killed one of each group in two and the remaining one after three weeks.



Albumen group. The albumen group showed at the autopsy nothing abnormal, except at the site of injection. There was slight ulceration of the skin over the area of injection. The capsule was thin and adherent to the paraffin. Microscopical examination showed a dense connective tissue formation, moderately supplied with new bloodvessels, but not very rich in cellular content (Fig. 12).

Nucleinic acid group. At the autopsy nothing pathological was noted, except at the site of injection where there was slight ulceration. The microscopical examination of the capsule showed again the dense connective tissue structure, with new bloodvessel formation, and, in one portion of the capsule in the animal killed at three weeks, a structure which deserves more extended comment. In this area the connective tissue bundles were more or less separated so as to form irregular spaces as is shown in the accompanying photograph (Fig. 10). These spaces were not lined by any new cell formation, however. They are mentioned in detail be-

...resemble somewhat certain areas present in the xanthin group.

Xanthin group. This group showed at the autopsy, aside from the area of injection, nothing abnormal. The capsule about the paraffin was in this instance slightly thicker than in the other two groups. Microscopical examination of the capsule of the animal killed at two weeks showed the same connective tissue formation as in the other animals, except that here the circular spaces were more in evidence. These spaces were lined with cells similar to those described in the xanthin rat in the previous experiment. In the animal killed after three weeks these same islands were present.

acid: in the fourth group five per cent. of xanthin: and in the fifth group three per cent. of lecithin. The injections were made in the breast region, the intention being to study the changes in both epithelial and connective tissue structures. One of each group was killed after two and the other after four weeks.



Fig. 13.—Showing typical structure of capsule in xanthin paraffin rat; ×40.

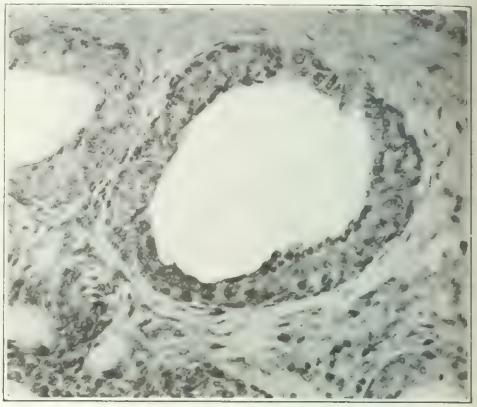


Fig. 14.—High power view of Fig. 13; ×100.

Salt group. At the autopsy nothing pathological was found, except at the site of injection. The greater part of the agar had been absorbed in both animals, only a firm dense mass, measuring 4 x 6 x 7 mm., remaining. Section through this area showed a dense structure very resistant to the knife. Upon microscopical examination the centre of the mass showed the remains of the agar

Our final experiment was based in part on our previous results. It was thought that perhaps the mechanical irritation of the paraffin had but little to do with the process and that the results were due to the various chemical agents. Accordingly:

Ten rats showing an acquired immunity to the Flexner-Jobling rat carcinoma were selected and divided into groups of two animals each. The first group was given an injection of 2 c. c. of a two per cent. agar containing two per cent. solutions each of sodium chloride, potassium phosphate, and magnesium phosphate; the second group received an injection of a similar amount of a two per cent. agar containing two per cent. of albumen; in the third group the agar contained five per cent. of nucleinic

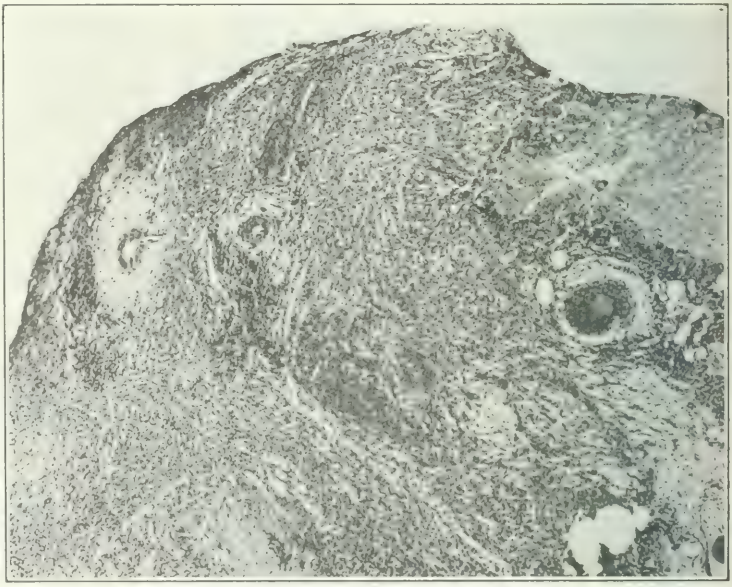
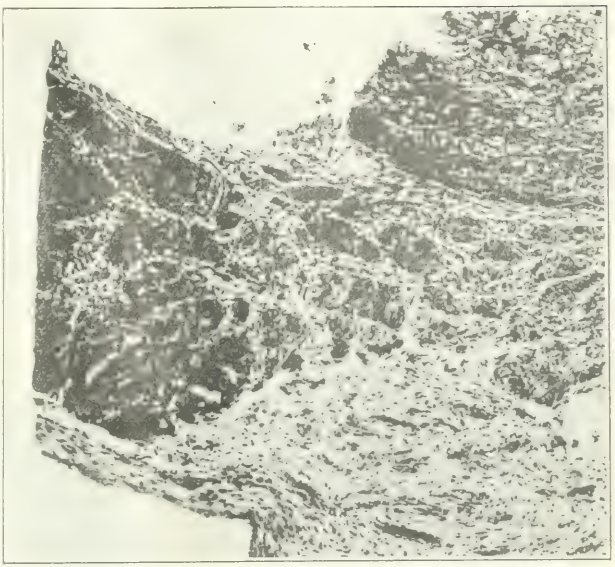


Fig. 15.—Showing typical structure of capsule in salts and agar rat. ×40.

invaded to a moderate extent by leucocytes. The outer margin of the agar was surrounded by a newly formed connective tissue, fairly rich in cellular elements and bloodvessels. Passing toward the periphery of the mass the connective tissue became much more cellular, abounding in giant cells having from three to seven nuclei (Fig. 16). There was no apparent stimulation of epithelial growth in any way.

Albumen group. At the autopsy there was no pathological condition except at the site of injection. Here again the larger portion of the agar had been absorbed, leaving a dense nodule approximating the size of that found in the salt group. Section through this nodule showed a dense structure very resistant to the knife. Upon microscopical examination the centre of the mass again showed the remains of the agar slightly invaded by leucocytes. Surrounding this agar was a dense connective tissue formation very sparingly supplied with cellular elements and bloodvessels. No giant cells were seen in the sections. In one portion of the last killed of the group there were a few irregularly shaped islands of large flat cells with granular protoplasm and large nuclei, resembling to some extent the islands of such cells described in the xanthin group.



Nucleinic acid group. The autopsy showed nothing abnormal, except at the site of injection, where a mass approximating in size those already described was found. The gross appearance was the same as has previously been described. The central agar mass remaining was small and moderately invaded with leucocytes. Surrounding the agar area was a dense connective tissue formation rich in cellular elements, bloodvessels, and giant cells, and becoming denser as the periphery was approached. There were no evidences of epithelial proliferation.

Lecithin group. At the autopsy the same condition was found as in the previous groups. The microscopical picture (Fig. 13) was the same as in the nucleinic acid group, except that the giant cells were much larger. One area was suggestive of the same cell formation which was found in the xanthin group.

Xanthin group. At the autopsy we found again almost the same condition as in the other animals, except that not nearly as much of the agar had been absorbed. The agar remaining had been invaded to a slight extent by leucocytes. Surrounding the agar was a dense connective tissue formation rich in cellular elements, blood vessels, and giant cells (Fig. 17). At one portion shown in the accompanying photograph (Fig. 11), there was, however, evidence of the formation of the same type of cells described in our paraffin xanthin experiments (Fig. 14 and 15); this time, however, the cells were not arranged in alveolar form. The areas consisted of single layers of cells with a dense cytoplasm and nuclei, a very few of which were seen in mitosis. The outlines of most of the cells were indistinct, many apparently being fused together.

Pathologists who have had access to a large amount of material have repeatedly called attention to the peculiar reaction of tissues to various lipoids injected either for cosmetic or therapeutic purposes, such as paraffin or petrolatum. However, in going over several large collections of such material, we have not seen any such marked proliferation as has followed our experiments. It may well be that rat tissues react in a much more marked degree than human tissues to the lipoids, still the fact that our most noteworthy reactions were obtained with xanthin led us to the belief that this substance and not the lipoids is the stimulant. The investigations, incomplete as they are at present, have also led to the suggestion that perhaps other products of protein metabolism, more especially the end or intermediate products, may have a similar and perhaps more profound effect, not alone on connective tissue, as xanthin apparently has, but also on epithelial structures. If this can be established the importance of the fact and its application to the study of malignant growths needs no emphasis.

COLUMBIA UNIVERSITY.

AN OBSCURE CASE OF MILIARY TUBERCULOSIS (PULMONIC TYPE) DIAGNOSTICATED BY THE X RAY.

BY GEORGE ROSENBAUM, M. D.,
Philadelphia,
Skiagrapher to the Mount Sinai Hospital.

The following case is, to say the least, not common, even in hospital practice, and therefore I desire to present it. Obscure from its onset, it remained so almost until the fatal termination, for many weeks puzzling skilled internists, and although the true nature of the disease was suspected, it remained for the x ray to determine its exact nature and extent.

CASE. Israel C.; age, forty years; a presser of clothing, was admitted to the hospital November 20, 1910, as a typhoid fever patient.

Family history was good; patient had none of the diseases of infancy and childhood, and to his recollection, had never been ill.

Present illness began two weeks prior to admission, with chilliness and fever. The attending physician at first diag-

nosticated the illness as influenza, but as the fever did not abate after two weeks he concluded that typhoid fever had developed and sent the case to the hospital; on admission, temperature was 101.5° F.; pulse, 120; respirations, 30.

Physical examination.—A poorly nourished and emaciated white man. The color of the skin suggested a grave anæmia. There was slight bronzing of the skin, similar to that found in Addison's disease. Tongue was coated, but not typically as in typhoid fever. Breath was foul, no sordes. Lungs were clear throughout; heart was normal. In the abdomen there was a slight splenic enlargement; no rose spots. Pain in right loin was present.

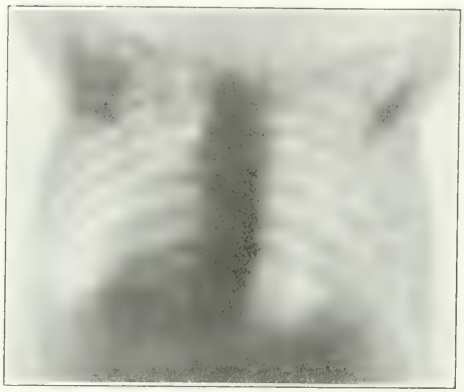


FIG. 1.—Plate 54 is the picture of the case reported and shows a general infiltration of tubercles throughout both lungs.

The following are a few of the daily notes appended to the history, which are of interest.

December 2, 1910. Urine showed a trace of albumin, hyaline, and granular casts, numerous leucocytes, and red blood cells.



FIG. 2.—Plate 84 is a picture of a normal chest.

December 12, 1910. Wassermann reaction negative. *Plasmodium malariæ* absent.

December 16, 1910. Four consecutive Widal's reactions were negative. Three tuberculin tests were also negative.

December 20, 1910. Blood examination showed hæmoglobin, sixty-five per cent.; white blood corpuscles, 14,600; red blood corpuscles, 4,000,000.

December 23, 1910. The temperature, which until now was intermittent, became profoundly remittent, the maximum being 104.5° F. A palmar abscess developed in the left hand and was at once opened by Dr. Staller. A foul smelling pus was evacuated. The pathologist reported numerous cocci and a few bacilli, not identified.

January 3, 1911. Fæces and urine showed no tubercle bacilli. A blood culture on blood serum tube was sterile after twenty-four hours.

January 5, 1911. Dr. Shmookler's examination of the thorax showed a slight bronchitis and a few scattered areas of dulness on percussion, especially in the right lung.

January 6, 1911. Temperature became again intermittent.

January 9, 1911. Sputum examination demonstrated no tubercle bacilli. Urine revealed nothing except albumin and pus.

January 22, 1911. X ray taken. Skiagraph showed

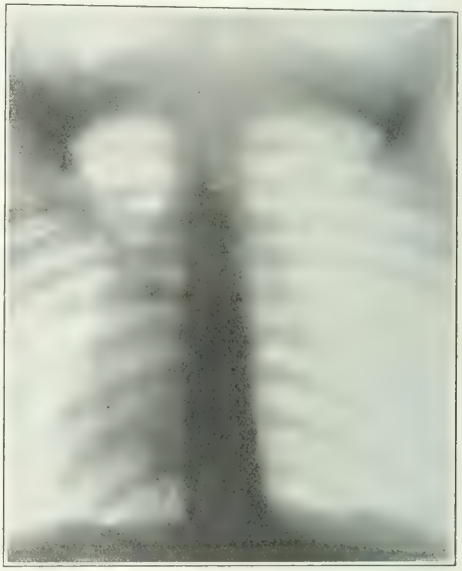


FIG. 3.—Plate 181 shows tuberculosis of the left lung under the scapula, and slight apical involvement, the right lung being clear throughout except for some apical involvement.

numerous small areas of tuberculosis in both lungs. Diagnosis, acute miliary tuberculosis.

January 30, 1911. Patient in collapse.

February 1, 1911. Patient died at 10 a. m.

CONCLUSIONS.

It is generally conceded that acute miliary tuberculosis frequently offers great difficulties in diagnosis. In fact, the disease is often only recognized post mortem. Physical examination usually shows only a moderate bronchitis, and laboratory methods all too often do not discover the causative agent, the tubercle bacillus. Chorioid tubercles rarely appear.

It is in such cases as the one cited that the x ray is of inestimable value. It at once reveals the true

nature of the disease and directs the physician to a correct diagnosis.

X ray negatives lose much of their fineness of detail in being transferred to paper, i. e., positives, and, therefore, to better understand the picture of our case, I wish to present two other pictures in contrast.

I wish to express thanks to Dr. Rosenfeld for the history and notes.

1900 North Thirty-second Street.

MORTALITY FROM VENEREAL DISEASES

By Hugh A. Brown, M. D.,
Washington, D. C.

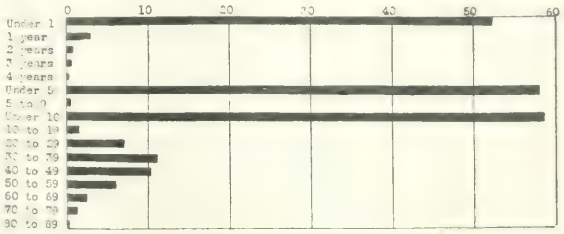
The actual number of reported deaths from venereal diseases is comparatively small. According to Bulletin 108, of the Bureau of the Census, Department of Commerce and Labor, which contains the latest census statistics on mortality, the total number of persons dying from this cause in the registration area[1] in 1909 amounted to only 2,999, or but little more than four tenths of one per cent. of the total deaths in this area from all known causes during the year. The great majority of these deaths are of course due to syphilis, gonorrhœa playing a very small part as an actual cause of death. This slight mortality is almost insignificant as compared with that in the same area from all forms of tuberculosis (81,720), cancer (37,562), apoplexy (36,463), heart disease (65,971), all forms of pneumonia (70,033), diarrhœa and enteritis (52,516), or nephritis and Bright's disease (48,430). The significance of the figures becomes more apparent, however, when the deaths from venereal diseases are distributed by age. The following table shows the number and percentage of deaths at each age from these diseases:

[illegible] DISTRIBUTION OF DEATHS FROM SPECIFIC DISEASES, 1909, IN THE REGISTRATION AREA

Age	Number	Per cent.
All ages	2,999	100.0
Under 1 year	1,582	52.8
1 year	192	6.4
2 years	98	3.3
3 years	58	1.9
4 years	35	1.2
Under 5 years	1,765	58.8
5 to 9 years	17	0.5
Under 10 years	1,750	58.5
10 to 19 years	56	1.9
20 to 29 years	217	7.2
30 to 39 years	329	11.0
40 to 49 years	304	10.2
50 to 59 years	187	6.3
60 to 69 years	86	2.9
70 to 79 years	41	1.4
80 to 89 years	7	0.2
Unknown	5	0.2

The large number of deaths of children under one year of age is appalling, 1,582, or nearly fifty-three per cent., occurring at that age. The percentages then drop sharply to 3.4 per cent. at one year, to nine tenths of one per cent. at two years, and, as might be expected, remain at less than one per cent. up to ten years of age, after which there is a steady increase in the proportions from 1.9 per cent. at from ten to nineteen years up to the period of life between the ages of thirty and thirty-nine years, at which period 336 persons, or 11.2 per cent., succumbed to the ravages of these diseases. The period from forty to forty-nine years shows a slight decline to 10.2 per cent., and this is followed by a steady decrease in the proportions to less than one per cent. during the period from eighty to eighty-nine years. The accompanying diagrammatic presentation of these percentages is even more strikingly indicative of the proportions dying at different ages, and especially of the comparatively large toll taken during the earliest period of life.

[illegible] DISTRIBUTION OF DEATHS FROM SPECIFIC DISEASES—PER CENT.



Of the total number of children under one year of age, namely, 139,441, who died from all known causes in the registration area during 1909, 1,582, or 1.1 per cent., were victims of these diseases, fostered by vice and crime. Surely the sins of the parents are visited upon the children.

The results accomplished by salvarsan, while brilliant in the extreme, are as yet so recent that it is impossible to determine with even approximate certainty what may be expected from its use after further perfection has been attained in the technique of its administration, and additional knowledge acquired of its final action, alone, or in conjunction with mercury and other drugs. At least the results so far accomplished, both in this country and abroad, would lead to the assumption that the percentage of deaths from syphilis may, within a few years, be materially reduced, although, should the registration area be extended to the southern States, this probable decrease may be more than offset by the undoubtedly large increase that may naturally be expected to be reported from the negro element of the population.

306 Fourth Street, S. E.

[illegible] Colorado, Connecticut, Indiana, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, South Dakota, Vermont, Washington, and Wisconsin, the District of Columbia, and fifty-four cities in non-registration States. The population of this area, according to the census of 1910, amounted to about 51,800,000, or over fifty-six per cent. of the total population of continental United States.

German Medical Students.—The total number of medical students in the universities of Germany during the winter semester, 1910 to 1911, was 11,156, being an increase of thirty-one as compared with the corresponding period of the academic year 1909 to 1910. Of the number 496 were women.

SIDE LIGHTS ON THE SOCIAL PERIL.

By Maude Glasgow, M. D.,
New York.

Members of the human family are not infrequently compared to sheep—"all we like sheep have gone astray," and, like sheep, we are very apt to follow a well beaten path, not because it is straight, or otherwise recommendable, but only because so many others have trod the same path; so that its only virtue is a hoary antiquity, which acts as a kind of soothing oil, to the consciences of those who are perfectly well acquainted with other less perilous highways. And so we are told that, as prostitution has existed since the beginning of things, it must endure to the end. Now this old world of ours is about seventy millions of years old; but, as man did not appear on it at all until the close of the tertiary period, and, as written history does not extend back farther than 5,000, or at the most 6,000, years, and, as prostitution was an unknown quantity during the matriarchal period of the world's history, we see that the existence of prostitution marks scarcely a moment on the clock of time; it really dates from the patriarchal period, which was also distinguished by the introduction of slavery, polygamy, and infanticide.

The standards and opinions which have governed the world since the close of the patriarchal period have been exclusively masculine; and by these all the activities of life, masculine as well as feminine, have been measured; so that we often see the wisdom of man, as expressed in law, religion, and social customs, directly opposed to the wisdom of Nature. Nature's laws are fixed and immutable, while man's are constantly changing as he advances in civilization, which means development in the qualities of justice and sympathy with his fellow beings. Nature intrusted the interests of the race to women. Woman is the life giver, and any question bearing on the sources of life, any question involving the maiming or destruction of the life giving power inherent in her, has a social importance second to none; and it is a question, moreover, which it is impossible to decide wisely, unless her voice is heard in the decision.

Transgression of the moral law has been regarded, hitherto, with comparative indifference, when the transgressor was of the right sex, for the price of immorality, C. Hamilton tells us, like the burden of taxation, has always been laid upon the shoulders of those least able to bear it. This doctrine of vicarious atonement, by which woman became the scapegoat, and carried alone the pains and penalties properly belonging to both offenders against the moral law, has had the logical effect of keeping in abeyance any effort of self control on the part of one sex, who forgot that true manhood is a victory over self. The self made immunity of one sex from any kind of punishment resulted in a social, and then in a legal, discrimination against women. The "stronger" sex surrounded itself with legislative safeguards, and gave itself a legal right to prey upon the weaker: thus it could gratify the same kind of impulse, implanted in both sexes for a natural and identical purpose, without fear of punishment, and could even boast of its transgressions, while even the suspicion of transgression in the party of the other part was punished most severely, and when actually offending, the sentence was so drastic, that death itself has been preferred to the life long ostracism, humiliation, and neglect which became her portion. And yet, a well known authority declares that "the sexual sphere is immensely larger in women" than in men, "so that when its activity is once aroused it is much more difficult to master or control," while at the same time "men posses a greater power of forethought and self control than women."

Lecky speaks of this anomaly in his History of European Morals, saying: "Much of our feeling on these subjects is due to laws and moral systems which were formed by men for their own protection," and further: "that the same act can never be at once venial for a man to demand, and infamous for a woman to accord," and that: "the temptation usually springs from the sex so readily pardoned; while the sex which is visited by such crushing penalties is proverbially the most weak," and that "in the case of women, the vice is very commonly the result of the most abject misery and poverty." It was not indeed because man considered the moral lapse greater in one sex than the other that the punishment was made so severe where women were concerned, but because property rights would be interfered with if women exercised the same degree of self control exhibited by man. And this protection of property, rather than humanity, permeates the whole structure of our androcentric civilization: our laws are saturated with it.

The evils of venereal origin, which we meet on every hand, are evils due, not to continence, but to incontinence. The normal use of any healthy organ in the body does not lead to disease, though its abuse almost certainly will. We know that any animal appetite responds to stimulation. How frequently do we hear that as a nation we eat too much, though not every one can afford to be a glutton, and we know that many drink themselves into the grave because controlled by an appetite for drink; a developmental defect perhaps, but one which can be removed by heredity and environment. When Nature's laws are transgressed, punishment is bound to follow, and the existence and prevalence of venereal disease is a proof that the sexual function, bestowed for the propagation of the race, has been grossly abused and its purpose violated.

By the exercise of unbridled license, practically secure from punishment of any kind, the sexual appetite in man has been developed to an abnormal extent; he is oversexed; and society is now crying out against the resulting evils, and the race is being decimated as a result. The sexual organs appear to be constructed along quite different lines from those of any other organ of the body, and to be created for intermittent rather than continuous use. James Foster Scott, an authority on questions of a sexual nature, says: "The reproductive glands have been so constructed that their specific activities can be suspended for long periods of time without their atrophy, or the slightest impairment of their function. In this particular, they resemble the inherent capabilities of woman's breasts, which can remain

quiescent for years, and when called into demand physiologically, respond with perfect function."

It was to justify the double standard of morality that the theory of the necessity of secret vice for men was created, an opinion disproved by the highest medical authority and which does not at all harmonize with the views so generally accepted and voiced by the poet: "That love is of man's life a thing apart, but woman's whole existence." If love is woman's whole existence, why is not secret vice also a necessity for her? The poet, no doubt, saw that woman depended upon the exercise of the sex function for food and clothes and shelter, but did not see that every other way of earning her living was arbitrarily denied her, and forgot that self preservation is one of Nature's first laws; and so he got cause and effect tangled up together. Our legislators may have held the same views as the poet, and so thought it necessary to shield man from the perils of seduction by the weaker sex, for they have carefully shielded him from the inconveniences which might arise if he weakly yielded to temptation under pressure; while the weaker sex has been left without any such protection and placed at the mercy of those willing to take advantage of a situation they had themselves created.

The tone of legislation bearing on these questions has changed but little, and there is an undercurrent of indifference to the need of protection for women as mothers of the race, woven into the fabric of our social and industrial life. We see it in the laws regulating the age of protection for girls, which is as low as ten and twelve years of age in some States, and which was but seven years in the State of Delaware until a few years ago; while in the States where these laws prevail, no contract of any other kind would be considered legal, because of immaturity of mind and body of these children. The same attitude may be seen in judges and jurors acting in their official capacity in our courts to-day, in cases of rape and seduction of minors. The sympathy of the jurors and their decision is not as a rule with the victim, but with the accused. Over seventy-five per cent. of the cases of rape and seduction of minors are dismissed without any punishment whatsoever. Our existing laws require evidence which in most cases it is utterly impossible to obtain, and the magistrate generally gives the accused the benefit of the doubt. The same legislative leniency is seen in the punishment meted out to "cadets" and those engaged in the white slave traffic. A man who deceives a woman, forces a life of shame upon her, and compels her to support him by the sale of her body, is punished for the first offense by being sent five days to the workhouse, and for other offenses of the same kind the maximum punishment is six months' imprisonment, but that is rarely imposed, for the "cadets," like other criminals, have good political friends who take care of their supporters.

How do laws of this kind compare with those which impose a penalty of from five to ten years' imprisonment on the man who steals twenty dollars? How much regard have they for the welfare of a poor and friendless woman? The same legal discrimination is seen in absolving the father of an illegitimate child from responsibility for its support, as well as for the care of the mother while incapacitated before and after her confinement. The mother, no matter how helpless, or ill, or destitute she may be, must carry the natural as well as the material burden without assistance. In France, where laws forbid research into the paternity of the child, the mother, not infrequently, when sick, destitute, and penniless, prefers death to an existence which is only misery, or she takes to the streets after killing her child. The records of the French court of assize show that in a period of fifty years, there were 8,563 cases of infanticide tried before that body. No wonder France has a diminishing birth rate—surely it is a retributive justice, and it is fear of the future which has now prompted that country to pension the mothers and to care for their children. The conclusion is inevitable, one must agree with the statement made by Havelock Ellis, that the degradation of sexuality and maternity is a masculine characteristic.

All the laws, social as well as legal, which safeguard one sex at the expense of the other, breed and foster immorality. They are accountable for the fact that the young man, before he has attained his majority, often years before it, is ashamed to confess that he is morally clean. It is because of our pernicious, abominable traditions in questions pertaining to sex, that an attack of gonorrhœa in a man is regarded by many as lightly as a cold in the head, and why the druggist is considered perfectly competent to prescribe for so common an affection; his prescription being passed around in a most sympathetic and fraternal manner.

Investigation of the social evil brings to light the fact that prostitution receives its support largely from married men—men who have wives and families at home, and not therefore subject to the temptation which conventional and fictional tradition has taught that the unmarried man suffers. Dr. Talmage made, at one time, a very thorough investigation of these public houses, and found that they had as their patrons "the aristocracy of finance, commerce, and industry," that there might be found judges of the court, lawyers, legislators, officers of the church, and other personages and dignitaries; men might be found there who were engaged in making laws to regulate social evils, marriage, and divorce. It is scarcely surprising, then, that attempts to check the ravages of venereal disease have hitherto been directed against one sex—against one of two equally offending parties, *both* suffering from the same communicable disease, although the sex exempt from punishment has always been the most culpable.

Our army bears the unenviable distinction of being the most diseased in the world, and venereal disease, according to Hoff, has increased fifty per cent. in five years. Our garrison towns, seaport towns, and university towns, are the centres of prostitution and accompanying diseases. An editorial in the *Medical Record* some time ago stated that, of the sailors annually entering the port of New York, and leaving it, 100,000 were estimated to be affected by venereal disease. When the infected sailor, soldier, or student travels to other

cities, he is a social menace, for he scatters and breeds disease wherever he goes; and yet our sanitarians and lawmakers have not thought it necessary to protect the community from these carriers of infection. Legislation, hitherto, has been mostly of an unscientific, hypocritical, and cowardly character; a small minority of the female sex has been placed under ban while the other, and numerically the most diseased, sex has been allowed to scatter disease without let or hindrance. Surely such laws as these are a travesty on justice, laughable in their transparent partiality and manifest absurdity.

Of the women who make of prostitution a trade, seventy-five per cent. are under twenty years of age, so that legislation should be directed not only toward their reform, but against the causes and conditions which have led them to adopt the life they have chosen. It is estimated that but twenty per cent. enter the life voluntarily and of this number some no doubt are moral degenerates, some have inherited their licentious tastes, as did the daughters of Charlemagne, who presented their august parent with a large number of illegitimate grandchildren. Many are mentally defective, and therefore more sinned against than sinning. Of the others, General Booth says: "Many find themselves where they are because of a too trusting disposition, while others are just as much the innocent victims of crime as if they had been stabbed by the dagger of an assassin." Quite a large number are recruited from the ranks of deserted wives, who are without any kind of business training, and are left desolate and penniless. Parent-Duchatelet has given us a table, in which he states that out of 5,000 prostitutes, there were 1,440 who engaged in the occupation because of want and misery; 1,250 were orphaned and without support; eighty prostituted themselves to feed poor parents; 1,400 were concubines left by their keepers; 400 were poor girls whom officers and soldiers had seduced and dragged to Paris; 280 had been deserted by their lovers during pregnancy. There may be found among the prostitutes a large number of girls who have been domestic servants. These young women are often seduced by their masters—married men, and sometimes by the sons of their masters. These women die in large numbers every year, but others are constantly taking their places, a melancholy fact, but scarcely to be wondered at when the many factors tending towards the making of the prostitute are taken into consideration. It is not alone the economic factor that is to be considered, although it is perhaps one of the most important. There is a very large number of women working in the unskilled trades for a mere pittance. Less than one fifth of our factory workers earn a living wage. Four fifths are not able to save one cent for possible sickness or loss of work, and one third are members of families where women are the only wage earners; so that undoubtedly the economic factor *is* a weighty one.

When we consider the effect of gonorrhœa and syphilis upon the human race, it is surprising that honest and sincere efforts have not been made to stay this scourge; but outside of the illogical and unscientific attempts at regulation and segregation, other efforts in this direction, at least in the Eastern States, have been the work of private individuals and societies who have undertaken a herculean but necessary task, in face of the indifference and open or covert opposition of the multitude. Many noble men and earnest women are using their best influence, their precious time, their energy and courage fighting against the laws and forces which create and foster prostitution. But they have to fight not merely a sensual appetite, induced or inherited and fostered by laws and custom; no, they have to fight also that octopus known as the "business interests," which encourage, foster, and stimulate in every possible way that fiendish industry, which in devious, unthinkable ways, fills the pockets of those who have a financial interest in the degradation of women. The statement of an expolice commissioner is no doubt true "that prostitution is no longer a woman's trade, but a man's trade, and it is carried on because of the large profits which it yields—to men." We learn from the same source that many men would be straitened financially if effective measures were taken to decrease prostitution; so there are many causes combining to maintain the trade in a flourishing condition. The "cadet" and the man who buys and sells white slaves are necessary factors in the maintenance of prostitution; they would not be, if women took up the life voluntarily.

The "interests" have their friends in the legislatures. Who can forget the opposition of certain senators and assemblymen in Albany to legislation (about two years ago); the object of which was the better protection of young girls? These wheels within wheels make the question a very complicated one; meanwhile, the resulting disease is like a worm, gnawing at the heart of the race. Vice is like an axe laid at the root of our national life. It is a breeder of evils, a symptom of degeneracy, of defective selfcontrol, and goes hand in hand with hypocrisy, falsehood, perjury, and dishonor. The increase of criminality in this country has gone hand in hand with the increase in social diseases. Moral imbecility and base betrayal of trust are met with on every hand.

Speaking of the social evil, Ernest Cushman says: "I could trace the connection of this influence, with the historic facts known, as to the degeneration and disappearance of the conquering races when subjected to the influences of older and more corrupt civilizations, as well as to the decline and fall of successive empires and peoples."

The economic loss from illness due to specific disease is large; according to Hoff, in 1907, the time lost through illness, approximated twenty-five million working days, the loss of service due to venereal disease being equal to the work of an entire regiment. Besides the enormous economic loss, due to illness, we are spending millions of dollars to support and educate the blind and to care for the physically deformed and mentally defective crowding our institutions, as a result of gonorrhoea and syphilis. A very large number of those suffering from nervous diseases, such as locomotor ataxia and syphilis, and about five per cent. of our insane owe their condition to the same cause; while a very large number, because of weakened bodies and minds, are predisposed to tuberculosis as well as epilepsy and allied nervous diseases, idiocy, and insanity. Vene-

real disease impairs the efficiency of the individual and the citizen and shortens the expectation of life by about one third.

Of the two diseases, gonorrhœa and syphilis, the former is more to be dreaded, although Osler says: "Syphilis is a disease almost unparalleled in the extent and intensity of its ravages." But gonorrhœa prevails to an even greater extent, is said to be the most prevalent of all affections among adults, and, contrary to former beliefs, the most difficult to cure. Findley says: "Now we are all but ready to say Noeggerath was right, when he said that gonorrhœa can exist in the tissues throughout the lifetime of the individual, and at any time, under favorable conditions, light up into what appears to be a new and acute affection." J. Taber Johnson has said that "we can obtain an approximate idea of the mortality due to gonorrhœa, when we consider the great number of major surgical operations, abortions, and the untold number of conceptions prevented by the disastrous results due to such infections." This authority also believes that the race suicide arising directly and indirectly from the ravages of gonorrhœa alone would equal the mortality due to tuberculosis, pneumonia, and typhoid combined, and would probably exceed the mortality due to these diseases.

Upon the organs of generation, gonorrhœa has a most destructive effect: thus Kehrer found, in ninety-six sterile marriages, that the husband was at fault in forty cases; while Grandin states that in fifty per cent. of instances man is responsible for sterility in woman. Noeggerath found that nineteen out of fifty-three women who became pregnant in the course of a gonorrhœa affection, aborted; and Sangar asserts that the abortive influence of gonorrhœa is as pronounced as that of syphilis. It is now believed that the common, one child sterility is due to infection during the puerperium from a pre-existing gonorrhœa infection. In 1898, in the clinic at Dresden, there were 2,300 labors, and of those cases, in which fever had occurred, the gonococcus was detected in one quarter of the cases. Albert found also in the Dresden clinic, 183 cases of puerperal sepsis with six deaths, which were attributed to the influence of the gonococcus.

A case is reported by Findley, in which a latent gonorrhœa, affecting the urethra and cervix, spread after labor to the appendix and peritonæum: and Hirst mentions a case in which the husband of the patient infected his wife in the seventh month of her pregnancy. The affection remained localized until after labor, when it rapidly spread by way of the endometrium to the appendix and peritonæum. Cumston states that "Of all the acute infectious diseases, it is certainly gonorrhœa which plays the most important part in the complications of the puerperium." Findley further remarks: "That every careful observer is keenly aware of the frightful prevalence of gonorrhœal puerperal infections."

Julian says that it is common to hear women who constantly suffer from uterine torture employ such words as these: "When I was a girl I was quite well. It is only since my marriage that I have become ill!" And that every day this confidence, this plaintive refrain saddens the gynæcologist. It is continued and inexorable. From the discolored faces, we may guess a whole past of disability, and the origin is always marriage. The same authority also quotes a husband as saying: "I was married eight years after my first infection, and believed myself perfectly cured, when, months later, I suffered a slight running." "Was your wife ill?" "Oh no! Thank God, she never knew anything about it. But, alas! Doctor, I lost her. She died of puerperal fever after her first accouchement, the year that we were married."

And this is the protection accorded "Divine Motherhood" by the sanctified marriage tie; this is why "the bloom is kept on the peach," why it blooms for a premature grave, so the ignorant victim may not know that her destroyer is he who should be her defender, he who has sworn to love and cherish her. If any one was rash enough to propose that the male inmates of our prisons should be sterilized in the interests of eugenics or destroyed by pathogenic germs, there would be raised a howl of indignation which would be heard from Maine to California; from the taxpayers, even, who are supporting the criminals. Are women, without whom the State could not exist for more than a generation, entitled to less consideration than the criminal? Why should it be a tragedy, rather than a glory, to be born a woman? Gonorrhœa in the child is fraught with the gravest consequences, as it is so likely to arrest development of the organs of generation. And it is not unusual to find epidemics of vulvovaginitis sweeping through children's wards, schools, and other institutions, with blighting effect on the potential motherhood of the infected child.

Of 189 patients coming under the personal inspection of Howard Kelly, all victims of rape, every one was infected with gonorrhœa, and six with syphilis as well. In Posen, 263 children contracted gonorrhœa from a common bathing pool, and in the same country there are 30,000 blind as a result of gonorrhœal infection, in spite of German science and regulation of the social evil. Perhaps indeed, it is a consequence of the latter; which has also given Germany the unenviable reputation of being the woman market for half the world.

Violation is a crime which has increased with our advancement in civilization, the helpless little ones being infected with loathsome diseases from which they may never completely recover, while those who assault them meet with little or no punishment. If every man guilty of such an offence was sterilized as a punishment, a notable decrease in crimes of this nature would soon be noticed.

The effects of syphilis upon the birth rate are even more appalling than upon the health and efficiency of the adult. In 500 marriages recorded by Fournier, the husband brought syphilis into wedlock 487 times, the wife but thirteen times. It is estimated that about eighty-five per cent. of syphilitic pregnancies terminate prematurely and the child dies. Morrow states that fifty per cent. of children born of syphilitic mothers are born dead; and the records of the Le Pileur hospital show three deaths in every four births. The multimortality of children is in some instances as high as ninety-nine per cent., and in some instances it amounts to complete

extinction. It is such facts as these, no doubt, which caused Dr. Grandin to remark: "Man is no longer lord of creation, but exterminator of the species."

In view of the facts presented, what is to be said of the attitude of those who counsel license combined with prophylaxis? So long as venereal disease can be present in the absence of all clinical signs, and so long as the more malignant affections arise from chronic cases, is it not another example of seeing how close one can go to the edge of the precipice? The burglar who provides himself with the most up to date, scientific equipment may be very expert in escaping detection, but he is still a thief, with the mark of the beast upon him, and an enemy to law and order. The murderer, who has learned where and how to stab in the dark, is as much the enemy of society as he who kills with a bludgeon. Venereal disease threatens our national life and is preventable. Temporizing with evil never yet eradicated it. Prostitution cannot be regulated or segregated out of existence, any more than murder, or arson, or larceny can be prevented by compelling thieves, murderers, and incendiaries to live in one certain district. Does any one think that the safety of the city would be adequately cared for if menslayers and burglars held a part of the city wherein they were free to practise, each his own profession? What about our confidence in the probity of those who would counsel segregation of thieves and murderers and incendiaries?

The report of the Chicago vice commission shows that body is to be congratulated on its sincerity and honesty. The report shows that Chicago spends $15,000,000 every year in vice, and that the city destroys annually 5,000 young girls. It declares that "prostitution can be suppressed by persistent efforts through a long period of years, and that constant and persistent repression must be the immediate method, absolute annihilation the ultimate ideal."

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[illegible] Fifth-third Street.

FORAMITTI'S "TUBULIZATION" METHOD OF NERVE SUTURE.

With Report of a Case.

By Gaston Torrance, M. D.,
Birmingham, Ala.

Foramitti reported his experiments in nerve suture by means of absorbable tubes in 1904, from von Eiselsberg's clinic in Vienna. In some cases he used the artery of the same animal, which was aseptically removed and placed in salt solution; in others, the blood vessel was removed and hardened in formalin before being used; the results were practically the same.

The aim of his operation was to isolate the ends of the nerve in a tube which would serve as a guide for the new growth in the restoration of the normal functions and prevent cicatricial adhesions around the point of suture. It was found to be essential for the tube to be of absorbable material, so as not to act as a foreign body in the tissues, and of such texture that the nerve would not become adherent to it. He found that for general use the veins and arteries taken from a freshly slaughtered calf combined all of these features; and prepared them in the following manner: The artery being stretched over a glass rod or tube was hardened in a five or ten per cent. solution of formalin for forty-eight hours; washed in running water for twenty-nine hours; boiled for twenty minutes; and then placed in ninety-five per cent. alcohol.

In 1907, Hashimoto and Tokuoka reported fifty operations done on forty-seven patients by this method (*Aus dem japanisch-russischen Kriege*, 1904-5). Their results were uniformly good when undertaken early enough. Good results were obtained in some cases, 200 days after injury, but the prospects were much more promising when undertaken earlier. They had thirty-one satisfactory results out of the fifty operations. None were good after 300 days had elapsed. Neuralgia vanished at once or soon after operation. Restoration of nerve function and normal nutrition in the limb did not become manifest in less than six months to a year.

A colored woman, 29 years of age, was admitted to my service at the Hillman Hospital, May 21, 1908, giving the following history: About six months ago she had her arm cut down to the bone on the outer part of the anterior surface at the elbow; this was sutured up and healed by primary union; since that time there had been wrist drop with the hand drawn toward the radial side; pronation and supination only slightly affected; the ring and little fingers were flexed on the palm and the other fingers were partially flexed; had lost all power of extension of the thumb; complete loss of sensation in the thumb and index finger and extending up to the wrist.

Operation: Under ether an incision was made to expose the musculospiral nerve, which was found to be severed just above where it divides into the radial and interosseous, so that the ends were not widely separated and were caught in the scar tissues of the wound; each end showed a bulb formation of the nerve and scar tissues; these were excised and the nerve terminals sutured together with fine cat gut in an absorbable tube prepared from the artery of a cow after Foramitti's method, slightly modified; good apposition was obtained. The wound was closed without drainage and a cast was applied with the arm at right angles. A small blood clot formed in the superficial tissues and became infected from the skin. The wound was opened and this infected material evacuated and lightly packed. The woman left the hospital at the end of a week with healthy granulating surfaces. When seen a month after the operation the wound was perfectly healed and she had regained sensation in the hand, except in a narrow strip across the thumb at the base of the nail, and she could extend the fingers to a right angle with the palm.

She was lost sight of for more than a year, when she reported that the numbness in the thumb had disappeared in about nine months and that the arm and hand were perfectly normal at the end of a year.

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Woodward Building.

RUPTURE OF THE INTESTINE FROM A BLOW ON THE ABDOMEN.*

By Hubert A. Royster, M. D.,
Raleigh, N. C.,

Cases like the following are not so very rare, for surgical literature is full of them, and while this one was under treatment I came across no less than four recent papers on the subject. Still, they are not so common but that it would repay us all to study every report with care, particularly with reference to prompt diagnosis. Just as the fate of the injured rests upon him who applies the initial dressing, so the outcome of these cases must be laid at the door of the one who sees them first. It is not easy to make an early diagnosis of subcutaneous injury of the abdominal viscera. When peritonitis comes, the picture is so unmistakable that the merest tyro can tell it; but what we most desire is to determine the existence of a lesion, if possible, before the peritonæum is widely infected. And here there is need for the soundest sort of judgment and the quickest sort of decision.

On January 27, 1911, Dr. R. F. Yarborough, of Louisburg, N. C., brought to me a boy (J. R. C., Jr.), eight years of age, who about forty-one hours before had been kicked in the abdomen by an unshod pony. Immediately after the accident, which occurred about five p. m. January 25th, the boy became pale and was nauseated, but complained of very little pain. No anodyne was required. The abdomen began to distend twenty-four hours later and vomiting set in with rapid breathing and a rise of temperature to 101° F. No sufficient bowel movement had been obtained since the injury—indeed, his bowels had not acted for over twenty-four hours previously, the child being of an obstinately constipated habit. For some time he had been "run down" and his physician had been called to see him the day before the accident, for the purpose of giving him a thorough overhauling.

Examination on admission: A frail looking boy with pallid face, dilated pupils, and mild delirium; temperature, 102° F.; pulse, 130; respiration, 44. The abdomen showed no visible signs of injury, but was distended and boardlike, especially below the umbilicus; dulness was present in the lower portion; no peristaltic movements could be elicited.

Operation at Rex Hospital, January 27th, 10:30 a. m.: A median incision just above the pubes evacuated a half pint of pus mixed with fæces and disclosed an advanced peritonitis with butterlike exudate over the intestinal coils. There was no evidence of contusion of the abdominal walls. A perforation large enough to admit the little finger, round and clear cut, was found in the ileum opposite its mesenteric attachment and about ten inches from the ileocæcal valve. Semisolid fæcal matter was still pouring out. The hole was rapidly sewed up with black linen, using a continuous Cushing suture, over which three interrupted stitches were inserted. The abdomen was sponged out, but not flushed, and drained by a large rubber tube placed at the lower end of the wound. Before the patient left the operating room, the stomach was washed and a large quantity of dark material removed. Four ounces of normal salt solution were given under the skin and a continuous rectal drip used for several days, with the patient in the exaggerated Fowler position.

For over two days the boy's pulse remained around 160 and he had a stormy time; but he finally recovered. During the convalescence a collection of pus in the left lower portion of the abdomen caused a rise of temperature. The pus was thick and could not drain through the tube. Eventually it came by way of the incision, aided by pressure. The little fellow was discharged from the hospital, March 4th, and is now very well.

A severe contusion of the abdomen without internal injury will often be attended by marked pain and shock; but if these persist, one should never be satisfied until the matter is safely and promptly cleared up, even at the cost of making an exploratory incision and finding no injury. In the beginning there are no absolutely trustworthy guides to intraabdominal mischief. Very soon, however, there may be manifested two signs which I believe are of value and may turn the scale for interference. These are, first, an anxious facial expression lasting beyond the first few hours; and, second, rapid and difficult respiration—mark of what I have chosen to call an internal rigidity. The temperature and the pulse are rarely altered at this stage and pain is not at all significant either when present or when absent. A peritonitis in full bloom is Nature's way of making her own diagnosis and of endeavoring to effect her own cure. It should be our earnest effort to make our own diagnosis in the præeruptive period. There is always such a period. In cases of any doubt early exploration is the only sane policy.

The mortality in this class of cases has been much too high. It bears a definite relation to the time at which the patient is submitted to surgical intervention. Without operation the mortality is practically 100 per cent. Of forty-two cases reported by one writer, eighteen were operated in during the first twenty-four hours with 44.5 per cent. of recoveries; in the remaining twenty-four patients, with operation delayed beyond twenty-four hours, only 25 per cent. recovered. In another series of 132 patients, forty-eight were treated without operation and all died; eighty-four patients were operated upon and seventeen were saved (12.8 per cent. of the whole number); no patient recovered when operated upon more than twenty-eight hours after injury, and only two when operated upon more than twelve hours after injury (Stone)[1]. Of 293 cases collected by Sherk[2], representing injuries of all viscera, 257 were operated in and thirty-six were not. The latter were all fatal. Of the former patients, ninety-six died, 155 got well, and the results in six were not stated. Sherk says: "In injuries of the intestines the mortality of the patients operated on in the first six hours was 20 per cent.; the second six hours, 35 per cent.; third six hours, 56 per cent., and over eighteen hours, 66 per cent." Some of the more recent statistics show decided improvement even in the late cases, owing to advances made in the treatment of peritonitis. No great strides are to be made further in our mortality series, unless practitioners everywhere realize the necessity of making the diagnosis in time and having the abdomen opened as soon as possible.

The portion of the bowel most frequently ruptured by an external blow is the ileum, next the jejunum, then the duodenum, and lastly the large intestine. Much depends on whether the gut is full or empty when injured, hence the importance of the time of day and of the last meal. The character of the injury will vary with this factor and with the kind of force applied. Crushing will produce a large contused wound; sudden percussive violence will cause a "blow out"; a shake up will tear loose

*Read before the [illegible]

the bowel from its moorings. Other organs may be injured along with or instead of the intestines. It is an unnecessary refinement to determine the actual character and location of the lesion beforehand.

There are two important admonitions which must not be left unsaid. First, do not give opiates unless you are obliged to; second, do not give purgatives at all. The reasons are obvious. As to the operation itself, that surgeon will have most success who gets in quickest, repairs the damage quickest, and gets out quickest.

202 Tucker Building.

AMYGDALOTOMY OR AMYGDALECTOMY.

By Max Lubman, M. D.,
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There has been much discussion of late, and a variance of opinion expressed in medical literature on what course to pursue when an operative tonsil presents itself. Various opinions have been expressed in favor of one or another procedure; whether of amygdalotomy or amygdalectomy. There is a general opinion, however, that no definite rule can be laid down but that every case must be studied upon its own merits.

The division of opinion seems to be due to our ignorance of the functions of the tonsil. Does the tonsil perform any function in the human economy? Has the tonsil an internal secretion that is necessary for the welfare of the human metabolism?

As long as these two questions are open for discussion, each case will be operated in by the surgeon according to his particular view upon this subject.

Let us now take a case of an operative procedure upon an organ, the functions of which are known—by that I allude to the appendix—the opinion as to its operative procedure is unanimous; we may deal with a mild catarrhal appendicitis; we endeavor our utmost to carry the patient over the attack and when the patient is well, we remove the appendix, or in case of laparotomy, we never neglect to inspect the appendix, and if any suspicion is found, it is removed in addition to the original operation.

Now the question arises, why do we act so radically with the appendix? Why do all surgeons agree to appendectomy? Simply through the knowledge that the appendix performs no function in the human economy, and its presence, when once diseased, is a constant menace to health. Did we know the exact office of the tonsil in the human body, we should all agree as to the operative procedure, and the intention of this paper is to show that the tonsil ought to be acted upon radically when it is diseased.

What is the office of the tonsil? Masini believes that the tonsil has an internal secretion comparable with that of the suprarenal gland. No experimental work has been done to verify this belief. Again, as far back as 1855, Addison pointed out that Addison's disease is associated with pathological alterations of this gland. Brown-Séquard tested it experimentally on animals, and found that removal of the suprarenals in animals is invariably and rapidly fatal. The same experiments were conducted later by Abelous, Schaffer, and others.

While tonsils are removed daily *in toto,* and still no deleterious effects occur, Ballinger alone states that he has removed 3,000 tonsils with capsule, without any ill effect to the human body except such sequelæ as may follow any operation, as hæmorrhage or sepsis. Hence we can readily see that the belief of Masini is unfounded and its function to the human economy is nil. So much for Masini's belief. On the other hand, let us now see the harm the tonsil produces. Dieulafoy shows that of ninety-six guineapigs inoculated with pieces of tonsil and adenoids, in fifteen tuberculosis developed. Piera has shown that bacteria were much more readily absorbed by the tonsil than was coloring matter. Ballinger in his book states: "Practically all writers agree that various pathogenic organisms do gain entrance to the deeper tissue of the tonsils, lymphatic glands, the lungs, the heart, and indeed through the whole system through these channels." Considering the effects of tuberculosis on the tonsil, he states: "It is probable, however, that tuberculosis infection of the cervical lymphatic glands is usually due to the entrance of the bacilli and other microorganisms of the tonsils."

Dawson advances the ingenious theory that scarlet fever has its primary lesions in the tonsils. Walsham (in the *British Medical Journal,* May 7, 1898) states that tonsillar tuberculosis was found in twenty cases out of thirty-four of tuberculosis. Woods (the Significance of Tuberculous Deposits in the Tonsil, *Journal of the American Medical Association,* May 6th, table of tuberculosis) gives sixty-nine per cent.

Enlarged cervical glands are invariably benefited by removing the tonsil. In the case of otitis media purulenta chronica, the removal of the tonsil is advantageous to the progress of treatment. In otitis media catarrhalis with deafness, the removal of hypertrophied tonsils is beneficial. Dr. S. P. Beebe, reading a paper on March 1, 1911, before the Harlem Medical Association on the Therapy of the Thyreoid Disease and enumerating its ætiological factors, stated that many cases of thyreoid disease are due to an infected tonsil, and he insisted that in those who suffer with frequent attacks of amygdalitis with acute exacerbations of the thyreoid gland, amygdalectomy should be done to cure the affection of the thyreoid gland. It is not necessary to go into any further details to show the avenues of infection to the human body through the tonsils.

Now let us see the histological anatomy of the gland. It contains a dozen or more crypts, usually tubular and almost invariably extended to the entire depth of the tonsil to the capsule on its outer surface. The crypts are lined with columnar epithelium.

Ballinger attributes to the columnar epithelium the following properties: 1. Biomechanical resistance to the invasion of the microorganism viscosity. 2. A biomechanical destruction or taming of the microorganism in the crypts through the agency of a ferment thrown out by the epithelium under the stimulus of retained bacteria. This process is known as bacteriolysis. Now, as long as the epithelium of the crypts is in a state of tonicity or

health, an equilibrium between immunity and infection is maintained, but when the cellular tonicity is impaired, the equilibrium between immunity and infection is disturbed and infection occurs.

Applying this theory to practice, it will mean that as long as the tonicity of the epithelium is normal the tonsils are not diseased, and we have no patient, but when the tonicity of the epithelium is lost, should we not, as in the case of appendicitis, resort to a radical procedure and remove the tonsil *in toto*, in order to exclude the impending danger of infection?

78 East Fourth Street.

Correspondence.

LETTER FROM EDINBURGH.

Edinburgh, May 27, 1908.

National Insurance Bill.—Scottish Census Returns.—Death of Dr. P. H. MacLaren.—Honor to Professor Cleland.—Appointment to Sir [illegible] Chair, Edinburgh.—Trypsin and Tuberculosis.—Arran Poisoning Case.—Typhus in the Hebrides.—Cremation in Scotland.—Voluntary Aid Work in Edinburgh.—Edinburgh Postgraduate Course.—Edinburgh Tuberculosis Exhibit at Dresden.—Glasgow Graduation Ceremony.—Abuse of the Carnegie Trust.

The scheme of national insurance as propounded in the bill now before Parliament is the subject of much discussion among members of the profession. The scheme, which is doubtless known to your readers, consists essentially in levying a small weekly premium upon all employees whose income is below a certain figure, this premium to be paid partly by the employee, partly by his employer, and partly by the State. For this a certain weekly sum is to be paid in case of illness or unemployment, and medical attendance and drugs are to be supplied free. As this medical attendance will be given through friendly societies on club lines, it follows that the scheme will have a ruinous effect on very many doctors whose practice is mostly confined to the poorer classes. The British Medical Association is organizing a strong protest against the details of the bill, and the Royal College of Surgeons of Edinburgh has forwarded a letter to the Prime Minister and to the Chancellor of the Exchequer, praying that the second reading of the bill may be delayed until next session in order that the public, and specially the medical profession, may have time thoroughly to consider the provisions contained in it, and, if necessary, to make suitable representations to Parliament. A medical writer in the *Scotsman* points out in detail the effect on the profession which the bill will have if it becomes law, and one can add only that the immediate and certain effect upon the public of the nationalization of medicine will be to destroy the personal relation between doctor and patient, and to interfere very seriously with the progress of medical science.

The results of the recent census show a remarkable decrease (or rather want of increase) in the population of the Scottish towns. The whole country shows a population of some 200,000 less than was estimated in accordance with previous numberings. Glasgow was estimated at 884,520, and shows only 784,455. Edinburgh was expected to have 360,276 inhabitants, and has only 320,315, or some 2,000 more than ten years ago. This is considered to be due in great part to the emigration that has been going on during recent years.

By the death, May 20th, of Dr. Peter Hume MacLaren, the medical profession of Edinburgh has lost one of its best men. Dr. MacLaren was by birth and education an Edinburgh man; he graduated in Edinburgh in 1857. After practising for a few years in Lasswadem, where he made many friends who still remember him, he returned to Edinburgh in 1877, where he soon built up a first class practice in the West End. He held many important appointments in Edinburgh, and as a teacher in the Royal Infirmary was much respected by his students. Some years ago he retired from private practice, to the great regret of his patients whose confidence in his skill was very great. He was a man of wide culture and interests, of a kindly disposition, and with a keen sense of humor, and his loss is felt by a large circle of friends by whom he was held in great esteem.

Professor Cleland, of Glasgow University, has had conferred on him, as a mark of the esteem in which he is held by his colleagues and friends, the double honor of an honorary degree and the presentation of his portrait to the University. Professor Glaister, in presenting Dr. Cleland for the honorary degree of Doctor of Laws, paid warm tribute to his worth as a professor and a scientific anatomist, and alluded to his literary work as editor of the seventh edition of *Quain's Anatomy*, as well as in other capacities. Principal Yule Mackay presented to the university the portrait, painted by Sir George Reid. On behalf of the subscribers a second portrait, also painted by Sir George Reid, was presented to Mrs. Cleland. In replying, Dr. Cleland gave a most interesting account of his early student life and medical training.

Principal Sir Donald MacAlister, K. C. B., of Glasgow, has been appointed by the Lord President of the Privy Council to be his representative on the International Committee for Postgraduate Medical Instruction. This committee consists of representatives appointed by the governments of Europe and America; its headquarters are at Berlin, and its functions include the organization and development of courses of practical instruction for medical officers of the various public services and for practitioners generally.

At a meeting of the Edinburgh Medicochirurgical Society held on May 3rd, Mr. J. W. Dowden related some of his experiences with 606 in the lock wards of the Royal Infirmary. During the past four months some forty cases had been treated with the drug, the dose usually administered being 0.6 gramme, given intravenously. About two hours after transfusion there was usually a reaction, the temperature rising from 99° to 103° F. Nausea or vomiting sometimes occurred. Women exhibited less reaction than men. All reaction was gone within twenty-four hours. Definite changes were seen in the syphilitic lesions within that time, these being mainly of a hyperæmic nature. The primary sore looked healthier and bled freely. In one rupial case the reaction of the drug was very slow; at the end

of a week mercurial inunction was employed with the result that rapid improvement took place. The lesions which reacted most promptly were secondary conditions about the throat, mouth, and tongue, and especially those about the soft palate, pharynx, and tonsils, in which there was extensive and rapid loss of tissue. Late secondaries and early tertiaries showed remarkable results. In the most troublesome condition, old standing leucoplakia of the tongue, salvarsan had practically no effect, nor would it restore scar tissue to the normal. All the patients expressed themselves as being remarkably improved in health, and as a rule put on weight. Intramuscular injections caused intense pain with persistent after stiffness. The drug had no effect on gonorrhœa. Mr. Dowden's general impression with regard to 606 was that it undoubtedly was the most potent and rapidly acting drug existent for the treatment of syphilis, but as to its ultimate curative effects time alone would show. He still used mercury treatment in combination with salvarsan, as, so far, the latter has not definitely proved itself to be a sufficient and permanent cure. Dr. Thyne, at the same meeting, said he had used the drug in a severe case of pernicious anæmia, with remarkable improvement in the blood condition. Dr. Chalmers Watson had used it in a similar case without benefit. Dr. Wade related a brilliant result in a severe case, while Dr. Logan Turner reported that he had tried it in four cases of lupus of the pharynx, larynx, and nose, without any benefit.

Dr. J. Beard, of Edinburgh, whose name is associated with some of the earliest reports on the action of trypsin on cancer, has a letter in the *Scotsman* of May 20th advocating the use of the pancreatic ferments in tuberculosis. He says that the open air treatment of this disease is, so far as it goes, natural and rational; fundamentally it is an attempt to improve the patient's metabolism, and to introduce normal ferments into his blood in a natural manner. He refers to the work of Dr. H. Edwin Lewis, of Burlington, Vt., U. S. A., who first used the injections of trypsin in tuberculosis (*American Medicine*, pp. 282-284, August 12, 1905). His success, says Dr. Beard, was not complete owing to deficiency in the injection used of amylopsin. These two ferments, he says, are the natural means of treating tuberculosis, and the writer of the letter claims to have been the first to insist on the essential addition of amylopsin. So far, Dr. Beard's letter has evoked no comment.

Considerable excitement has been aroused by the appearance of an epidemic of arsenic poisoning in the island of Arran. The poison has been traced to bread purchased at a baker's shop in the island, but examination of the bakery and materials shows the complete absence of arsenic, and no blame is attached to the baker. The matter for the present remains a mystery, but it is hoped that a clue may soon be forthcoming.

An outbreak of typhus fever took place recently in the small island of Eriskay in the Hebrides. The disease appeared in one of those primitive houses seen in such parts, in which disinfection in the ordinary sense is impossible. Fortunately, through the most praiseworthy devotion of the priest, the local medical officer of health, the sanitary inspector, and the nurse in charge, the spread of the disease was prevented, as gratefully acknowledged by Dr. Macdonald, medical officer of health for Inverness-shire, in his report.

The Edinburgh Cremation Society held its second annual meeting on May 17th, at which Lord Salveson, who was in the chair, gave some interesting particulars of the spread of cremation in other countries. Scotland, he said, was, in the matter of the intelligent disposal of our dead, among the most backward of civilized peoples. If we contrasted the state of matters which prevailed in Scotland with that in England, we would find there were in England twelve crematoria already established, whereas we had only one in Scotland.

There was furnished in Edinburgh recently a striking example of the progress which is being made in connection with the Scottish Territorial Red Cross Brigade in a parade and display of work by members of the local Voluntary Aid Detachments. The number of members (ladies) enrolled so far and the excellence of the work shown in the exhibition would seem to justify the belief that before long there will be in the country a complete organization for the rendering of competent assistance to our citizen army in the event of mobilization.

Previous postgraduate courses in Edinburgh having been so successful, the executive committee have this year arranged for special courses on diseases of children and of the ear, nose, and throat. A syllabus has been prepared containing full information, and copies may be obtained from the secretary, Postgraduate Courses, University New Buildings, Edinburgh.

On the invitation of the British Section of the International Exhibition at Dresden to contribute a satisfactory exhibit of "the complete antituberculosis system of Edinburgh, which is recognized in this country as the first serious attempt to deal with tuberculosis in all its forms thoroughly and nationally," a considerable exhibit has been completed under the auspices of the Royal Victoria Hospital for Consumption. The exhibit comprises a large number of photographs, drawings, and charts illustrating the many sided activities of the Edinburgh antituberculosis scheme. A conspicuous feature of the exhibit is the group of statistical charts, compiled from the returns of the Registrar-General (corrected by the 1911 census of population), and from those of the Public Health Department. These illustrate the remarkable decline in the mortality from consumption and other forms of tuberculosis which has taken place in Edinburgh during the past twenty years.

The spring graduation ceremony took place at the University of Glasgow on April 24th. Three medical men graduated M. D., while the degree of Master of Surgery was conferred on one graduate. The degrees of Bachelor of Medicine and Bachelor of Surgery were conferred on forty-nine graduates, among whom were five ladies. The degrees were conferred with honors upon two gentlemen, and with commendation upon five gentlemen.

The following notice has been posted in the University of Aberdeen:—"It is hereby intimated that a student in the Faculty of Medicine, having been

found guilty of obtaining payment of class fees from the Carnegie Trust by falsely representing that he had passed a professional examination, and was thereby entitled to continue as a beneficiary of the Trust, has been rusticated for an indefinite period." This is the first time that such action has been found necessary in connection with the operations of the Carnegie Trust.

Therapeutical Notes.

Hexamethylenamine in Common Colds.—On account of the reports of Crowe, Barton, Heitmuller, Hanzlick, and Brown, as to the reported excretion of hexamethylenamine in the saliva, and by the middle ear and bronchial mucous membrane, Miller has prescribed hexamethylenamine for common colds. In most cases, he says in the *Journal of the American Medical Association*, June 10, 1911, that it acts promptly and efficiently. The irritating, watery secretion of coryza stops; the fever, aching, and malaise of influenza cease; the threatening disease is averted. Hexamethylenamine should be administered at the earliest possible moment; that is, when the nose begins to feel stuffy or the discomfort begins—"when the cold is being caught." Its use, after the infection has existed for several days, is less gratifying, possibly on account of the mixed infection at that time with pus organisms. As to the dose, it seems necessary that a larger amount be given to obtain antiseptic results in the gallbladder, subarachnoid space, or on the nasal mucous membrane than is required as an antiseptic in the urinary tract. At the onset of a cold the following prescription, which makes the dose fifteen grains, four times in twenty-four hours, is efficient:

℞ [illegible]
Div. in chart. cerat. No. xii.
Sig.: One powder to be taken in a goblet of cold water four times daily.

Copious water drinking is encouraged, which lessens the possibility of bladder irritation. This latter is the only ill effect of the drug, but it occurs only occasionally and ceases at once when the medicine is discontinued. As a cure for colds it may be as great a boon as it has been proved to be as a urinary antiseptic.

Recession of the Gums.—In the *Atlanta Journal-Record of Medicine* for May, 1911, Adair states that tincture of iodine is too severe a mouthwash; he has devised a mixture to which he has given the name iodoglycerol:

℞ [illegible] 2 ;
Iodine, ... 25 parts;
Glycerin, ... 50 parts;
Water [illegible]
M. ft. mistura. Sig.: Mouthwash.

Compared with ordinary tincture of iodine the astringent properties are remarkable; the glycerin causes a rapid absorption and the irritating effects are reduced to a minimum. Long, round wood applicators with cotton wound on one end are saturated with the preparation and the gum margin above and below painted. The lips and cheeks are held away from the jaws till the iodine has dried. Frequent applications, says the author, will destroy all germs in the mouth and reduce mouth disease to a minimum.

Stomatitis.—Tyson, in his *Practice of Medicine*, gives the following elaborate formula for a mouth wash, which he says is known as *Spiritus thymol compositus* in the dispensary of the University of Pennsylvania:

℞ [illegible]
Oil of peppermint, ... mij;
Oil of [illegible]
Rectified spirits, ... 3ij;
Distilled [illegible]
M., filter, and color with fluid extract of hydrast

Phtheiriasis.—Célestin Huet is credited in the *Journal de médecine de Paris* for May 27, 1911, with the following notes on the treatment of phtheiriasis. He advises the methylene blue ointment of Thorel, made as below:

℞ Methylene blue, ... grs. xxx;
Distilled water, ... mccc.
Dissolve the methylene blue and add
[illegible]
When the methylene blue is thoroughly incorporated, add
Zinc oxide,
Bismuth subnitrate,
Petrolatum, of each, ... 3iij.
M. Fiat unguentum.

In children whose heads are not covered with crusts of impetigo an excellent lotion may be used, composed of ordinary vinegar and solution of Van Swieten equal parts (the solution of Van Swieten is composed of one part of corrosive sublimate, 100 parts of alcohol, and 900 parts of water).

Another excellent application is equal parts of olive oil and petroleum, less inflammable than petroleum alone and nontoxic if absorbed by the broken skin. This mixture is cheap and procurable everywhere; it acts by asphyxiating the lice and has, furthermore, an excellent action on the impetiginous crusts.

An Antiseptic Nasal Ointment.—Bourgeois is credited in the *Journal de médecine de Paris* for May 20th with the following:

℞ Balsam of Peru, ... grs. xxiij;
Wool fat, ... 5ijss;
Petrolatum, ... 5v.
M. ft. unguentum: dispense in a tin tube.

Taken early, as soon as the posterior nares are affected, this ointment will abort a coryza; it is also useful in simple chronic coryza. In atrophic ozænous rhinitis, in which the membrane is much inflamed, the dose may be largely increased.

Properly to use a nasal ointment the patient should lie flat on the back, introduce into the nostril the end of the tube, and inhale by repeated short efforts, while pressing the flexible container, until the ointment is felt to fall into the throat; he may then rise and expectorate, when much of the adherent mucus will be expelled along with the excess of ointment.

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THE HONORARIUM.

Those who discuss the physician's fee frequently miss the essence of it. As a matter of fact, under present social conditions, the charge made to the wealthy and well to do is the normal and proper fee; the lowered charges made to those less fortunate are concessions. The tremendous field of the physician's charity is, therefore, usually underestimated, for it extends to a great majority of his patients. In olden times, when medicine was nearly all art and but little science, the fee was unknown; like other artists the leech received an honorarium, the weight of which depended naturally upon the resources of the patient. The popular impression that physicians make the rich pay for the poor is incorrect; they extend their services to all alike and all are supposed to pay as much as they can afford for services really priceless and impossible to represent adequately in money values. Any attempt made to establish standard fees by law is sure to work injustice to the physician; the "standard" fee would have to be much higher than the average fee at present and there would have to be some method of enforcing its sure payment. Only with the standard fixed, as now, by the ability of the wealthy, is it possible for the poor to receive the benefits of the highest professional skill without losing their self respect.

As a matter of fact the present position of the physician is an anomalous one. The only scientific solution of the problem of disease is by the establishment of a sanitary police, paid by the government, with the power to remove at once to a government hospital all patients with infectious disease as well as surgical and obstetric subjects, and to enforce without mercy all regulations concerning cleanliness, the disposal of sewage, the extermination of insects, etc. No doubt the day will come when such a body will, if not replace, at least coexist with the army and navy.

THE ST. JOACHIMSTHAL RADIUM CARRIER.

For use in medicine it was found necessary to enclose radium in capsules, and such capsules have been made of celluloid, rubber, metal, or glass. Although these covers prevented loss of the precious metal, there appeared certain disadvantages, which showed themselves especially if the treatment combined cosmetic effects with a cure or larger fields were to be treated. To overcome this disadvantage, a French firm manufactured, some years ago, a type of radium ray apparatus in which metal or hemp was used for a basis of the radium salt, enclosed in a capsule of varnish. Wickham and Degrais experimented with these apparatus and published their results in their book on *Radium Therapie*. The special disadvantage of these apparatus were the vulnerability of the covering and the impossibility of keeping the cover clean and thoroughly disinfected. This, together with the very high price, made a general introduction of these apparatus impossible.

Dr. F. Dautwitz, of St. Joachimsthal, Austria, reports his experiments with a radium carrier, which he has made under the auspices of the Imperial Austrian government, in the *Wiener klinische Wochenschrift* for June 1, 1911. He paid special attention to the resistance of the radium basis, to the easy cleaning, to the asepsis, and to the covering, which not only would protect the radium, but would neither be attacked by its rays nor absorb them. Dr. Dautwitz states, in his report, that he has succeeded with a metal base of radium salt in producing such a carrier, which he calls the St. Joachimsthal radium carrier.

SALVARSAN MILK.

Professor Jesionek, of Giessen, Germany, gives a very interesting report of his experience with salvarsan milk in the *Münchener medizinische Wochenschrift* for May 30, 1911. He is of the opinion that nonsyphilitic milk, that is, milk of a cow or goat not affected by syphilis, is more healthful for a syphilitic child than the milk of a syphilitic mother or wetnurse, even if this milk should contain antibodies. It would be advisable to suspend the nursing of a syphilitic mother for a few days after intravenous treatment with salvarsan—as long,

at least, as the organism of the mother may be overcharged with endotoxines. The best method would be to nurse the child from a nonsyphilitic wetnurse who had previously received salvarsan. As it would be nearly impossible to carry out such a plan, Professor Jesionek proposes the injection of salvarsan into a goat or cow and nursing the infant with this salvarsan milk until the dangers from endotoxines and the worst symptoms of hereditary syphilis have disappeared. When this stage has been reached, and not before, the infant may be treated directly with salvarsan; but, so far, we do not know when this condition has been actually attained. In the meantime, until experiments have shown us the therapeutical effects of salvarsan milk, the author proposes nursing the infant therewith and treating the baby as soon as possible with mercury inhalations.

DIGESTION LEUCOCYTOSIS.

The occurrence of a leucocytosis referable to digestion has been accepted by the majority of investigators, but there are still many who deny its existence. There is also much discussion among the former as to the form of leucocytosis, whether multinuclear or uninuclear, the time of its occurrence, and the influence of the quality of the food upon the grade of the leucocytosis. Moro and Finkelstein state that in breast fed infants there occurs a leucopenia which disappears, or is replaced by a leucocytosis after ingestion of cow's milk.

In order to confirm this observation, which may prove a step toward the solution of the problem of the inferiority of cow's milk to woman's milk, Wernstedt has taken up the study of digestion leucocytosis (*Nordiskt medicinskt Arkiv*, xliii, 1910, published January 31, 1911). Basing his investigations upon the opinion that healthy infants would yield the most uniform results, leucocyte counts were made on thirty infants after feedings with cow's milk, breast milk, raw and boiled; after feedings at regular intervals of two and a half hours; after absolute fast lasting from five to eight hours; and after all fluids, except water, had been withheld for twelve to thirty-four hours. The blood counts, 135 in all, were made from fifteen to twenty minutes after each feeding. It was found that the time of feeding, form of diet—whether breast milk or cow's milk, boiled or raw milk—and conditions of fasting could be absolutely eliminated as factors influencing the leucocyte content of the blood, nor was leucocytosis produced by the first digestive activity in the newly born, nor by the change from breast milk to cow's milk. All infants showed, however, a striking variation in the leucocyte curve at each test. This sudden and transitory change in successive counts, made at intervals of from ten to fifteen minutes, has also been observed by Kjer-Petersen and ascribed by him to lack of homogeneity of the blood, that is, to an uneven distribution of the leucocytes in the blood stream. Wernstedt found that in every case the rise and fall of the leucocyte curve stood in a direct relation to the conditions of rest and activity, the leucocyte count being lowest when the child was sleeping or resting quietly, and reaching its maximum when the child was crying or tossing about. Accepting Kjer-Petersen's explanation, Wernstedt believes that the lack of homogeneity is caused by muscular activity, and names this apparent leucocytosis a *motor leucocyte reaction.*

It has long been known that excessive muscular activity in adults is followed by leucocytosis, which gives support to Wernstedt's theory. This new version of digestion leucocytosis may have some bearing upon leucocyte counts in general, as inaccurate conclusions must result from a failure to take into consideration the state of rest or excitement.

McGILL UNIVERSITY.

We are enabled, through the kindness of a distinguished graduate of McGill University resident in New York, to present a short account of the recent reunion of the graduates in medicine of that institution. McGill is one of the great medical schools of the world and, as science knows no country, she has always drawn students from all English speaking corners of the earth, not least from the United States, where the facilities for study are acknowledged to be unsurpassed. The dry and invigorating winter climate has attracted some Americans, the opportunity to learn French others, the desire to see a foreign land still others, while many have doubtless thought that a five years' course in medicine must present certain obvious advantages over one completed in four years, besides conferring the privilege of practice without further examination in any part of Great Britain or her colonies. The disastrous fires from which the medical buildings suffered some years ago were the signal for the most generous offers of assistance from numerous sources, museums and libraries, even those of the United States at Washington, parting freely with their treasures to help the sister in need, while money counted in millions was poured out by native friends. Osler, Buller, Adami, Shepherd, and countless other honored names have made McGill known wherever modern medicine fights her battles. It is interesting, however, to know that large numbers of Canadians seek the teeming clinics of New

York, Chicago, and Philadelphia, wherein to lay the foundations of their careers, and it is well for science that it is so; the stimulus of friendly rivalry is as essential to the mental health of her devotees as to that of all other toilers.

SODIUM CITRATE IN INFANTILE VOMITING.

The almost specific effect of sodium citrate in the vomiting of nurslings and of bottle fed babies is the subject of an article in *L'Union médicale du Canada* for June, 1911, which cites Variot (*La Clinique infantile*, 1911), who has established, after seven years' experimentation, the absolute harmlessness of the salt and its action, previously unsuspected, of regularizing the peristaltic contractions of the intestines, as well as its property of attenuating the curd of cow's milk. A neutral combination results from mixing twenty-three grains of sodium citrate with thirty-five grains of sodium bicarbonate, and from fifteen to thirty grains may be given daily to a nursling. Vomiting is due not only to superalimentation, but to insufficiency of food, which also produces spasmodic contractions of the infantile stomach; in cases of both kinds sodium citrate acts with delightful certainty. To four ounces of water, two thirds of an ounce of simple syrup may be added, and twenty-five grains of the sodium salt dissolved therein; of this mixture six or seven tablespoonfuls may be given in the twenty-four hours. It will be found to control vomiting, even in those cases where the mother's milk acts as an irritant.

THE DIAGNOSTIC DIFFICULTIES IN CASES OF LARGE HYDRONEPHROSIS.

The many difficulties in making a diagnosis of large hydronephrosis have been studied by Maire (*Thèse*, Lyons, 1910), and he considers carefully the innumerable syndromes by which this interesting lesion may be concealed. Tumors whose lower pole dips into the pelvis, behind or beside the uterus, and located by vaginal examination, are frequently mistaken for ovarian cystomata, while if they project from the under surface of the liver, without giving rise to urinary symptoms, they easily simulate an hydatid cyst of the liver. When the hydronephrosis produces compression icterus a diagnosis of a pancreatic neoplasm may be made, and if it makes itself manifest by paroxysms of violent pain, with vomiting and digestive disturbances, it readily simulates appendicitis. Lastly, hydronephrosis may be mistaken for a lesion of the pylorus, biliary lithiasis, or even pregnancy. The diagnostic measures for avoiding mistakes are, according to Maire, radiographic examination and particularly ureteral catheterism. He advocates transperitoneal nephrectomy, but believes that in many instances nephrotomy may be given a trial before resorting to removal of the kidney. As to conservative methods, they have not given the results expected.

AN ANCIENT TREATMENT OF TETANUS.

The *Lancet* for June 3d publishes the presidential address of J. Mitchell Bruce on Medicoliterary Transactions a Hundred Years Ago, an interesting item in which is the treatment of tetanus, or trismus as it was then called. J. Harkness, Esq., surgeon, of Ratcliff, published a case of traumatic trismus which, in consultation with Dr. Thomas Blizard, surgeon to the London Hospital, he treated successfully with an average daily dose of one fluid ounce of tincture of opium, forty grains of calomel, fifty-one grains of gamboge, two bottles of wine, and six pints of porter. "Under this mode of treatment," says the daring prescriber, "symptoms of amendment soon began to show themselves, inasmuch that in three or four days the patient was able to open his mouth tolerably well." By the time the treatment was complete, the patient had taken a total of 485 grains of calomel, 825 grains of gamboge, 204 drachms of laudanum, 58 bottles of wine, and 191 pints of porter. A Dr. John Parkinson, surgeon, was so impressed by the report of this case that, on June 18, 1811, he presented one of a lady who was attacked with trismus three weeks after a fracture of the leg. She was ordered a drachm of laudanum every hour and a powder, containing six grains of calomel and a scruple of jalap and scammony, every two hours. The dose of opium was slowly reduced and in five weeks' time the lady was completely restored.

We have no reason to doubt the accuracy of the reports of the worthy surgeons of a century ago; such a powerful combination of narcotics and cathartic artillery should discourage any germ, even the recalcitrant *Bacillus tetani;* our professional forbears, guided solely by their rational empiricism, obtained many a brilliant victory by what was apparently sheer fearlessness in the handling of their primitive weapons.

MONKEYS AND MEASLES.

Anderson and Goldberger publish, in the *Public Health Reports* for June 9, 1911, the results of a series of experiments with rhesus monkeys, into which they injected the blood from a human patient with measles; some were unaffected, some presented only a rise in temperature, but others had fever, a hacking cough, and well marked maculopapular eruptions, followed by desquamation in certain

areas. Reinoculation from one of these infected monkeys was successful in communicating the disease to two more animals, two others presenting a febrile reaction only. In view of the results, the authors seem to be justified in concluding that they have proved the susceptibility of the rhesus monkey to inoculation with the blood of human measles drawn early in the eruptive stage.

Obituary.

CARL BECK, M. D., of New York.

Carl Beck died on Friday, June 9th, after a short illness, from an attack of pneumonia. Born at Neckergemuend, Germany, April 4, 1856, he studied medicine at the universities of Heidelberg, Berlin, and Jena, graduating in 1879. Three years later he came to New York, where he practised thenceforward as surgeon. For twenty-five years he held the position of president of the St. Mark's Hospital; he was connected with the New York Postgraduate Medical School as professor of surgery, and had been president of several medical societies, among them the German Medical Society of New York, in which capacity he presided at the Koch dinner in 1908, given to the distinguished pathologist on the occasion of his visit to America. Dr. Beck, besides his many duties as surgeon, found the time to take active part in civic affairs. He was one of the founders and, for many years, president of the Society of Old German Students. He contributed many essays to the medical journals and was the author of several works on surgery, and also of a novel, *Der Schwabenkonrad* (1906), in which he described the life of one of his ancestors during the Thirty Years' War. During the last few years he resigned from all his offices and had intended to retire from active practice.

In Carl Beck we have lost a conscientious surgeon, an honored contributor to the *Journal*, and a pleasant companion, whose qualities were fully acknowledged by his friends.

News Items.

A Pasteur Institute in Philadelphia.—A Pasteur department has been opened at the University of Pennsylvania Hospital, which will be in charge of Dr. Alfred Stengel.

The Cartwright Prize.—This prize, which is awarded every two years, by the College of Physicians and Surgeons, Columbia University, has been awarded this year to Dr. Martin H. Fischer, a graduate of the University of Cincinnati, of the class of 1901.

Appointments at the Royal Victoria Hospital, Montreal.—[illegible] appointed surgeon to the Royal Victoria Hospital, to succeed the late Dr. James Bell, and as a result Dr. Armstrong will retire from the position of attending surgeon to the Montreal General Hospital, which he has held for several years. The committee of management of the hospital also announce the appointment of Dr. A. Howard Pirie, from St. Bartholomew's Hospital, London, as x ray [illegible]

The Sea Side Hospital of St. John's Guild, at New [illegible] floating hospital *Helen C. Juilliard* will make its first trip on that day. The guild has issued an appeal for funds to aid in carrying on the summer's work of caring for sick babies.

New Officers of the Harlem Medical Association.—At the annual meeting of this association, held on the evening of June 7th, the following officers were elected to serve for the ensuing year: President, Dr. Thomas F. Reilly; vice-president, Dr. Carl Goldmark; secretary, Dr. F. C. Heckel; treasurer, Dr. Seymour Oppenheimer; trustees, Dr. Frank C. Yeomans, Dr. John Remer, and Dr. Martin Cohen.

A Bequest to the Academy of Medicine.—By the will of Margaret Gray, widow of Dr. Landon Carter Gray, the New York Academy of Medicine receives a bequest of $50,000 to be devoted exclusively to the purchase of books. Each book must contain a specially designed bookplate on copper, containing a portrait of the late physician and the motto *Per vitam sine culpa.*

The Tri-State Medical Association of Ohio, Indiana, and Michigan, met in semiannual session in Toledo, Ohio, on June 7th, and elected the following officers: President, Dr. C. N. Smith, of Toledo; vice-president, Dr. Victor C. Vaughn, of Ann Arbor, Mich.; secretary, Dr. George W. Spohn, of Elkhart, Ind., and treasurer, Dr. J. A. Weitz, of Montpelier, Ind. The members decided to hold the next semiannual meeting in Fort Wayne, Ind.

Johns Hopkins Commencement.—The thirty-fifth commencement exercises of Johns Hopkins University were held on Tuesday, June 13th. One hundred and fifty-five degrees were conferred, of which eighty-five were given to graduates from the medical school, the largest class in the history of the institution. Dr. Eugene A. Noble delivered the principal address and Governor Crothers and Mayor Preston assisted in the ceremonies.

New Officers of the Louisiana State Medical Society.—At the annual meeting of this society, held recently in New Orleans, the following officers were elected: President, Dr. R. O. Simmons, of Alexandria; first vice-president, Dr. J. C. Willis, of Shreveport; second vice-president, Dr. B. A. Ledbetter, of New Orleans; third vice-president, Dr. Otis Edgerton, of Arcadia; secretary, Dr. Joseph W. Martin, of New Orleans, and treasurer, Dr. C. C. Bass, of New Orleans.

To Aid Research Work at Yale Medical School.—Secretary Stokes of the Yale Corporation has announced the receipt of a gift of $20,000 from Francis E. Loomis of the class of '64. The fund is to be "devoted to aid original research in the study of diseases" in the Yale medical school. A further gift of $10,000 toward the endowment of the university clinic was also announced.

National Conference of Charities and Correction.—The thirty-eighth annual meeting of this organization was held in Boston during the past week, with representatives from every State and Territory in the Union in attendance. Practically everything within the scope of "social work" was discussed. President Homer Folks, of New York, presided at the opening session, and among those who made addresses were Mr. Frank B. Sanborn, who was president of the conference thirty years ago, Dr. Charles W. Eliot, former president of Harvard University, Dr. Frederick Howard Wines, statistician of the Board of Administrations of State Institutions of Illinois, and Dr. Richard C. Cabot, of Boston.

Resolutions on the Death of Dr. Carl Beck.—The board of managers of St. Mark's Hospital, New York, has passed the following resolutions on the death of Dr. Carl Beck:

[illegible] good friend and honorary president, Dr. Carl Beck, and

[illegible]

[illegible] the loss of their good friend, Dr. Carl Beck, and further express their heartfelt sympathy with and tender their condolence to his bereaved family; and

Resolved, That the secretary be instructed to spread these resolutions in full upon the minutes and that a copy of same, signed by all the members of the board, be forwarded to his widow, and [illegible] daily and medical papers.

Cholera on an Ocean Liner.—The North German Lloyd liner *Berlin*, in from the Mediterranean, on June 13th, was held in Quarantine because one of her steerage passengers died of cholera four days after the liner departed from Naples. The patient was buried at sea on the day he died, after an autopsy that satisfied the ship's surgeon and Dr. Stocsi Ippolito, the Royal Italian Commissioner, that death was caused by cholera. A bacteriological examination showed Health Officer Doty that the diagnosis was correct. The steerage was disinfected and, as a matter of precaution, all the 836 steerage passengers were sent to Hoffman Island for observation.

Banquet for Alumni of University of Pennsylvania.—Announcement is made by Dr. T. Perceval Gerson, secretary and treasurer of the University of Pennsylvania Alumni Society of the Pacific Southwest, that a banquet will be held for all alumni of the University of Pennsylvania who may be visiting Los Angeles during the sessions of the American Medical Association. This banquet will be held at the Hotel Alexandria, corner of Spring and Fifth Streets, Los Angeles, at 6:30 o'clock, on the evening of Tuesday, June 27th. The price for each plate is $5.00. All alumni who intend to attend the banquet should notify the secretary at once. Among those who will speak are some of the leading physicians and surgeons of America, graduates of "Old Penn," and a good time is anticipated.

The Tri-State Chapter of the graduates of the College of Physicians and Surgeons of Baltimore has been organized, to include the graduates of that college residing in New York, New Jersey, and Connecticut. At a meeting held on May 27th, at the home of Dr. H. B. Sheffield, of New York, the following officers were elected: President, Dr. W. E. Fitch (1891), New York; first vice-president, Dr. William J. A. O'Hara (1893), Bridgeport, Conn.; second vice-president, Dr. John H. Carman (1881), Plainfield, N. J.; secretary, Dr. J. G. Callison (1909), New York; treasurer, Dr. H. B. Sheffield (1895), New York; librarian, Dr. Arthur C. Palmateer (1906), New York; executive committee, the above officers, with Dr. Frederick M. Luther (1880), New York, chairman; Dr. Otto C. Thompson (1906), Cassville, N. J.; Dr. D. J. McCarthy, Bridgeport, Conn.

The American Society of Tropical Medicine.—At the eighth annual meeting of the American Society of Tropical Medicine, held in New Orleans on May 17th and 18th, under the presidency of Dr. William S. Thayer, of Baltimore, the following officers were elected: President, Dr. Joseph H. White, of the United States Public Health and Marine Hospital Service; first vice-president, Dr. Judson Daland, of Philadelphia; second vice-president, Dr. Richard P. Strong, of Manila, Philippine Islands; secretary, Dr. John M. Swan, of Watkins, N. Y., reelected; assistant secretary, Dr. Allen J. Smith, of Philadelphia; treasurer, Dr. Charles Lincoln Furbush, of Philadelphia; councillors, Dr. Ramon Guiteras, of New York, and Dr. Charles C. Bass, of New Orleans. A committee was appointed to arrange for a congress of tropical medicine at the Panama Exposition, composed of the following members: Dr. White, the newly elected president, Dr. George Dock, of St. Louis, Dr. William H. Welch, of Baltimore, and Dr. S. Creighton Wellman, of Oakland, Cal.

The Health of Chicago.—During the week ending June 3, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 15 cases, 7 deaths; measles, 219 cases, 4 deaths; whooping cough, 24 cases, 1 death; scarlet fever, 175 cases, 11 deaths; diphtheria, 130 cases, 8 deaths; chickenpox, 94 cases, 0 death; tuberculosis, 160 cases, 69 deaths; pneumonia, 29 cases, 61 deaths. There were reported 7 cases of German measles, 1 of smallpox, 1 of cerebrospinal meningitis, and 48 of contagious diseases of minor importance, making a total of 903 cases, as compared with 1,044 for the preceding week and 991 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 45, and there were 26 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 152, of whom 93 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 546, corresponding to an annual death rate of 12.7 in a thousand of population, as compared with a rate of 14.1 for the preceding week, and

Annual Meeting of the Wisconsin State Society.—The sixty-fifth annual meeting of the State Medical Society of Wisconsin was held in Waukesha on June 7th, 8th, and 9th, under the presidency of Dr. B. M. Caples. There was a good attendance and the meeting was in every way a great success. Officers for the ensuing year were elected as follows: President, Dr. J. M. Dodd, of Ashland; first vice-president, Dr. T. J. Redelings, of Marinette; second vice-president, Dr. C. A. Armstrong, of Boscobel; third vice-president, Dr. Hoyt E. Dearholt, of Milwaukee; secretary, Dr. Charles S. Sheldon, of Madison (reelected); assistant secretary, Dr. Rock Sleyster, of Waupun (reelected); treasurer, Dr. Sidney S. Hall, of Ripon. Next year's meeting will be held at Wausau.

Meetings of Local Medical Societies to be Held During the Coming Week:

MONDAY, *June 19th.*—Medical Association of the Greater City of New York; Medical Society of the County of Erie; Elmira Clinical Society; Hartford, Conn., Medical Society.

TUESDAY, *June 20th.*—Buffalo Academy of Medicine; Syracuse Academy of Medicine; Medical Society of the County of Kings; Ogdensburgh Medical Association; Oswego Academy of Medicine; Clinical Society of the Elizabeth, N. J., General Hospital.

WEDNESDAY, *June 21st.*—Medicolegal Society, Buffalo Medical Club; Northwestern Medical and Surgical Society of New York; New Jersey Academy of Medicine (Jersey City); New Haven, Conn., Medical Association.

THURSDAY, *June 22d.*—East Side Physicians' Association of New York; Bronx Medical Association; New York Celtic Medical Society.

The Alumni Association of the Boston University Medical School held its annual banquet on the evening of June 6th. Over a hundred members of the association were present, and the graduating class of the class were the guests of the association. Dr. Edward D. Allen, of Charlestown, president of the organization, was toastmaster. Dr. Wesley T. Lee, of Somerville, made an address of welcome on behalf of the faculty to the graduating class, and Dr. John P. Sutherland, dean of the medical faculty, also spoke, making special reference to the new Robert D. Evans memorial for clinical research. Dr. Frank C. Richardson, of Boston, registrar of the medical school, made the announcement from ex-Governor John L. Bates, president of the Boston university corporation, that the trustees offered the school $50,000 for an endowment fund, providing the alumni before next commencement raised an equal amount. The trustees' offer was accepted with great enthusiasm. The officers elected are: Dr. S. E. Fletcher, of Fall River, president; Dr. Frank R. Sedgley, of West Roxbury, secretary, and Dr. Herbert D. Boyd, of Boston, treasurer.

Leprosy in North Dakota.—A report from Dr. J. Grassick, secretary of the State Board of Health of North Dakota, to the surgeon general of the Public Health and Marine Hospital Service, dated May 26th, contained the following information: A case of leprosy has recently been found in Nelson County, in the person of a Norwegian who has resided in the United States for a period of twenty-three years. The patient is a farmer. He arrived at Larimore, North Dakota, in 1888, *via* Quebec. The source of the infection is not known. The last known exposure occurred twenty-three years ago. The father of the patient is said to have been a leper. The type of the disease is tubercular and the duration of the disease has been about two years. The Nelson County board of health has ordered the complete isolation of the patient.

Vital Statistics of New York.—During the week ending June 3, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,334, corresponding to an annual death rate of 13.97 in a thousand of population, as compared with a rate of 14.64 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 15.20; the Bronx, 11.02; Brooklyn, 13.15; Queens, 12.60; Richmond, 17.47. There were 113 stillbirths. The deaths of children under five years of age numbered 411 of whom 249 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 57. There were 17 deaths from suicide, 5 from homicide, and 79 due to accidents. Eight hundred and thirty-nine marriages and 2,368 births were reported during the week.

Reunion of the Medical Graduates of McGill University, Held at Montreal, June 5th and 6th.

Five Hundred Physicians Assembled.—The First Reunion in Twenty-Nine Years.—Many Distinguished Guests Present, including Earl Grey, the Governor General of Canada. Dedication of the New Medical Buildings.—Social Gatherings.—An Enthusiastic Banquet.—Munificent Gifts to the University.

The second reunion of the graduates of McGill's oldest faculty—that of medicine—closed on the evening of June 6th. The first was held in 1882. All of the events that have just reached such a successful termination were intended for 1910, when the death of King Edward VII led necessarily to a postponement.



Fig. 1.—Front view of the new medical buildings of McGill University, as seen from University street.

To state that the sons of old McGill reassembled from far and near but faintly expresses it. Dr. Tunstall, of Victoria, British Columbia, accompanied by seven fellow graduates from the modern Dorado, were present; also Dr. Paul Zotique Hébert, of London, England, men from distant California, as well as from all parts of the United States and Canada.

Monday, June 5th, they met at the McGill Union, a new building on Sherbrooke Street, facing the campus. As many as five hundred assembled. The olden day, warm, Canadian greetings of amity and fraternity were exchanged. The oldest graduates present were Sir James Grant, K. C. M. G., of Ottawa, and Dr. Thomas Simpson, of Montreal.

Monday was a busy day of reunions, meetings, chiefly the renewing of olden day friendships, the mutual and kindly inquiries, and an earnest gaze into the faces of men who, fifty and forty years ago, set out in the battle for life, many of whom, while well advanced in years, are still in active practice, men who owe their success in life to the teaching received at McGill; men who knew several of the deans of the medical faculty; graduates whose knowledge of medicine and surgery they owe to the sound teaching of the professors of McGill's oldest faculty. Their instruction was a Canadian product and largely from men educated in "Auld Reekie" or Edinburgh—alike Scotchmen, Englishmen, and Canadians; men who left Alma Mater to enter on the battle of life, having in mind the maxim of the famous Maisonneuve, the first governor of *la nouvelle France*. He said in French: "It becomes my honor to accomplish my mission." The men who assembled have done so, and have returned to the old time and historic city to lay their honors and successes at the shrine of old McGill.

The new medical buildings are most extensive and modern. To-day they stand in the front rank



Fig. 2.—Rear view of McGill medical buildings, as seen from the grounds of the Royal Victoria Hospital.

of the medical colleges on this continent. They occupy a truly commanding site in the upper part of the university grounds. Their near neighbor is the modern Royal Victoria Hospital, a large and very handsome building, the joint gift of Lord Strathcona and Lord Mount-Stephen.

OPENING THE NEW BUILDINGS.

The new medical building was formally opened by His Excellency, Lord Grey, the Governor General of Canada, on Monday, June 5th. The service was most impressive. An idea of the extent of its buildings, all under one roof, may be conveyed by stating that between five and six thousand people were present at the conversazione on Monday evening; despite that, there was no crowding. A reception by Lord Grey, advance meetings, and class-room demonstrations were in order. The whole building was thrown open. The fair daughters of this city and their escorts, lay and medical, wandered through the marble halls, listened to the music, danced, or talked science. It was a red letter evening. The long corridors lent themselves to the electric illumination. The whole scene of handsomely attired women, the robes and hoods of the teaching staff, including Principal Peterson, who accompanied His Excellency and Dr. Shepherd, the dean of the medical faculty, made a scene of indescribable interest to all whose privilege it was to be present; a vista to take back into their own lives, an evidence that McGill, like Maisonneuve, recognizes that "It becomes her honor to accomplish her mission."

Monday afternoon, at one o'clock, Dr. Roddick and Dr. Shepherd met the graduates, when they were grouped on the lower part of the campus, near Sherbrooke Street and a photograph was made. The background of the picture was the campus, and its noble avenue of maples, the University buildings, and back of all the mountain from which Montreal takes its name.

A luncheon at the McGill Union followed. Its large rooms were comfortably filled by the graduates. An excellent luncheon, given by the teaching body of the medical faculty, was a veritable "feast of reason and flow of soul." Ay, it was a further reunion of the reunionists *à la* McGill.

Tuesday morning, all assembled on the grounds of the Montreal General Hospital, when His Excellency the Governor General, Lady Grey, and Lady Evelyn Grey were present, as well as the leading citizens, and His Excellency laid the corner stone of a new building. The rapid growth of the city, to-day with a population of nearly 600,000, forces the hospital to meet new duties, and again after the manner of the historic Maisonneuve "accomplish its duty." The hospital authorities are alert and they are recognizing their responsibility and are meeting it. The hospitals of this the chief city of the Dominion of Canada are doing their duty well and nobly, one and all.

Tuesday afternoon a garden party was in order. It was given within the grounds of the Royal Victoria Hospital. In that truly classic location, adjoining the hospital, amid the noble trees, the whole ground carpeted by greensward in "leafy June." Her Excellency, Lady Grey, received. She was assisted by Mrs. William Gardner and Miss Shepherd.

The very gracious and kindly reception by Her Excellency of the sons of McGill will ever remain with them as a grateful and heartfelt memory of an eventful day and an eventful occasion. A band was present; refreshments were served from a large marquee; the white clad nurses of the Royal Victoria Hospital made a charming contrast with the sylvan scene.

THE DINNER.

The dinner given by the teaching staff of the medical faculty of the University to the graduates was the crowning event of the two days in the annals of McGill's oldest faculty. It was held on Tuesday evening, June 6th, in the new dining hall of the Windsor Hall, Montreal's palatial hotel. Fully five hundred graduates dined together. At the head of the room was the high table. The centre was taken up by the Dean of the Medical Faculty, Dr. Frank Shepherd. The guest of honor was on his right, His Excellency Lord Grey, the Governor General of Canada and the visitor of the University. On the right of the latter was Sir James Grant, M. D., C. M., K. C. M. G. On Dr. Shepherd's left was Principal Peterson, next, Dr. Thos. G. Roddick, Dean Emeritus of the medical faculty, Dean Reeve, University of Toronto, Lord Lascelles, Dr. Gardner Armstrong and Dr. Gilbert Prout Girdwood, Dr. Guérin, Mayor of Montreal, Dr. Casey Wood, of Chicago, and others.

The toast "The King," was honored at 9.30 o'clock, followed by "God Save the King" and three rousing cheers and a tiger for His Majesty, by which time the "Rah, Rah, Rahs" were frequent and energetic, and in vain did Dean Shepherd lean over the vase of peonies and roses and appeal for silence. When a fraudulent imitation of profound quiet had been restored he read the following telegrams:

"Heartiest congratulations and best wishes for the old school." (Signed) OSLER.

"Best wishes for your reunion. I am with you in the spirit and regret that am not in person."
(Signed) HOWARD,
Dean of Medical Faculty, Iowa University.

"Sincerest congratulation on your reunion."
(Signed) CHARLES WOLFF,
On SS. *Minnewaska* crossing the Atlantic.

Dr. Wesley Mills sent a letter which Dr. Shepherd showed to the guests, but did not read.

Loud applause welcomed the cablegram of McGill's distinguished graduate, Dr. William Osler, regius professor of medicine at Oxford, England.

PRINCIPAL PETERSON'S ADDRESS.

Principal Peterson in proposing the toast The Visitor, said it was one which evoked in the hearts of McGill men feelings of loyal homage. He was proud to be bracketed with the Governor General, because they both were distinguished in the obscurity which differentiated them from the gathered assembly, as they were the only nonmedical men there with his friend, the president of the General Hospital. McGill possessed the proud distinction of

having for its visitor the Governor General, and in that she was unique among Canadian universities.

"Across the water," he continued, "I have a friend who boasts a large acquaintance with crowned heads, and he says that the Emperor of Germany is the nicest Emperor he knows. Now we cannot claim the wide acquaintance of my friend, but we can say that Earl Grey is the nicest Governor General we know. He has always taken the keenest interest in McGill, and during the tenure of his high office has upheld the august tradition of representative of the sovereign in a manner which will ever remain in our memories."

EARL GREY'S REPLY.

His Excellency Earl Grey was given a great ovation when he arose to reply. He said: "Principal Peterson has reminded me that he, I, and Mr. Stikeman and Lord Lascelles are probably the only gentlemen here present. (Laughter and applause.) I meant to say the only victims here present.

At the same time I am not half as afraid of you as you are of one another, because many of you have come from the United States where your high standing has enabled you to march into that country, already overstocked with your profession and take the soft places by reason of the high standards you represent.

I congratulate you who have come from long distances to see once more your Alma Mater. You must have been delighted to see again the old building. I am convinced also that your sons come to be educated. You will go past the colleges of the United States and send them to your Alma Mater, McGill. I regard the medical profession as the most honorable a man can attach himself to. It is the business of the medical profession to conquer disease. I understand disease is the result of the violation of nature's laws.

It is for you to determine the causes and put a brief in the hands of the reformers with full power to act. In Montreal, and I say it before my friend the mayor, there is much to be done before it can be called a model city. If you will point him the way he will do everything to make it so, and the same applies in every city in this Dominion, so that Canada may be more free from disease than any other country on the face of the earth.

We look to you to diminish disease, to enforce the remedies on politicians, town councillors, and the average citizen—to dictate the conditions under which they should live so that the economic loss to the cities may be prevented. And I wish you luck in your professions in whatever part of the country you may belong."

Dr. Casey Wood, of Chicago, paid an eloquent tribute to the early day medical teachers of the university over the new, who had laid the foundation of the medical faculty—men who made the name of McGill a household word wherever the English tongue is spoken. He was followed by Dr. Shepherd.

DEAN SHEPHERD'S SPEECH.

Dean Shepherd, in responding to the toast of the Medical Faculty, referred to the last meeting of graduates held in 1882, and in reading over the accounts of that dinner thirty years ago, he had been struck by the earnestness and spirit of hopefulness then. McGill was not yet perfect as a teaching body. They were, however, tending that way, and desired to keep in the forefront of those who were striving to make medicine a science and not an art.

Referring to the humbler days of McGill the dean said that when he began to teach in McGill he was the demonstrator in the university. There were sixteen professors, and one demonstrator for 189 students. Now they had 19 professors, 10 associate professors, 23 lecturers, and 46 demonstrators. That made 98 in all for 336 students.

In conclusion, he said he felt the growth of the university was largely due to Lord Strathcona. He had helped them in 1882, and had done it on Monday last, and he thought a message should be sent to express their gratitude and love to their old benefactor.

GIFTS TO THE COLLEGE.

Apropos of Lord Strathcona, during a meeting on the campus, Monday afternoon, Principal Peterson read a cablegram from his Lordship, in which he announced an additional gift of $100,000 for the endowment of the medical faculty. Lord Strathcona's princely gifts to McGill now exceed $2,000,000, and Sir William McDonald's kingly benefactions to the university exceed $4,000,000.

At the meeting of the medical faculty on Monday afternoon Principal Peterson announced a gift of $25,000 from Dr. James Douglas of New York. Dr. Douglas is a graduate of Canada's oldest college, that of Laval University, Quebec, a university founded in 1663, when Canada was known as *La Nouvelle France*. Dr. Douglas is also a graduate of Queen's University, Kingston, and an honorable LL.D. of McGill. Dr. Douglas, when president of the Canadian Society of New York, one of the five allied British societies of that city, was one of the founders of an endowed bed in the Presbyterian Hospital. Dr. Douglas, following the visit to this city of vice-principal Moyse, of McGill, three years ago, gave $5,000 towards the fund for restoring the buildings destroyed by fire.

Dean Shepherd, at the request of His Excellency, called on Sir James Grant, M. D., C. M., K. C. M. G., of Ottawa, to speak. That veteran of McGill in part spoke of the changes which had taken place in the institution since his student days, and doubted if Montreal had ever had such a great aggregation of intellectual men in its midst at one time before. In fifty or sixty years the fame of McGill had radiated throughout the world. He spoke of the power for good that His Excellency the Governor General had exerted, and as the ship which was to carry him away to England sailed away those on the shore could only sing one song, "Will Ye No Come Back Again."

He spoke of the importance of Dr. Roddick's bill making the profession uniform throughout the Dominion and characterized it as the greatest measure which had ever been prepared. McGill was established, and it meant something when English doctors sent their sons here to be trained.

In the "sma' wee hours" Auld Lang Syne was sung, and a red letter night closed the event.

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

June 8, 1911.

1. Classification of Diabetes Mellitus, By A. E. AUSTIN.
2. Prognosis and Treatment of Tuberculosis of the Ankle of Adults, By MARK H. ROGERS.
3. Some Problems of School Inspection, By W. PEARCE COUES.
4. Tuberculous Meningitis, with Leucocytosis and a Purulent Exudation Containing Many Bacilli. A Case Report, By T. CHANDLER WALKER.
5. The Public Health Laboratory, By B. L. ARMS.
6. Pregnancy as a Possible Relief for Visceral Ptosis, By LLOYD T. BROWN.

1. Classification of Diabetes.—Austin remarks that utilization of sugar indicates a hopeful outcome of diabetes, and though the patient may have to maintain a moderate deprivation of carbohydrate food for a long period, and possibly for life, yet after a time a diet in which sugar alone is eliminated may be possible. In a restricted diet, however, too strong a warning cannot be given against the so called gluten breads, which are always exploited as containing a large protein content, but nothing is ever stated in regard to the amount of starch contained, or at least the term "practically starch free" is used. If the amount of protein is worthy of being accurately stated in terms of percentage, certainly their starch is worthy of the same treatment, and they could then be much more intelligently employed, for it would be easy to add the amount of carbohydrate ingested in this way to that taken in other ways, so that a basis for our calculation of utilization could be had. It has been his experience in the use of every diabetic bread but one, and that not particularly palatable, that even their restricted use causes an increased elimination of sugar when the utilization factor is 0, which can be determined either by the collection of the urine after twenty-four hours fasting or comparing elimination with the intake; three possibilities are always present, either that the tolerance will remain stationary, that it will increase, or that it may diminish. By complete removal of starch and sugar for a period, during which the urine should be carefully watched for sugar, and particularly for diacetic acid, we can soon determine in which direction the indications with reference to tolerance point and govern ourselves accordingly. If the utilization is minus and the body cannot even oxidize the amount of sugar that theoretically ought to be derived from proteid containing not more than ten grammes of nitrogen daily, then tolerance has reached its lowest ebb and there is very little likelihood that restoration will take place. Such individuals usually die from steadily increasing acidosis. In the determination of the utilization factor where actual weighing of food is not practical, as in private families, the diet charts of Dr. Arnold are of great assistance and, while not absolutely as accurate, of course, as weighing each article of food, serve admirably for an approximate estimation of tolerance.

2. Tuberculosis of the Ankle of Adults.—Rogers observes that fixation is not sufficient to control tuberculosis of the ankle joint in adults in a large percentage of cases, and even in mild cases it requires a long period of time. Chronic invalidism, meaning by that a certain mental condition that these people are sure to reach, when they are of no use to society, should be avoided. This can be done by an early diagnosis, and by outlining the treatment so that the end result is obtained within one or two years. A complete operation, a radical removal of the focus, should be performed before there is much involvement of the various joint surfaces, and it should not be undertaken only because fixation has failed. Better results can, undoubtedly, be obtained if this is done as soon as the diagnosis is established, and seems justifiable since fixation is not sufficient. Amputation has been necessary in over fifty per cent. of these cases. It should be advised when the process has invaded several joint surfaces especially posterior to the astragalus. The results of amputation are good from the patient's point of view, and an artificial leg is much preferable to long continued dressings and sinuses. The length of time of treatment should be diminished to within two years.

6. Pregnancy as a Possible Relief for Visceral Ptosis.—Brown states that it is most important that when the time comes for the patient after pregnancy to be up and about, she should be given a properly fitting corset, with or without pelvic belt attached to it, this latter depending mostly on the amount of backache she had before pregnancy. The principal points to be careful about in selecting such a corset are to be sure and have no constriction about the lower ribs and upper abdomen; also that the corset should not press on the iliac crests, but should fit snugly about the pelvis. Exercises are very important and should be begun as soon as the danger of an embolus is passed. These should consist at first in general massage, and later in active motions of the legs and arms. All straight leg raising, which, of course, puts all the strain on the pelvic joints, should be avoided. When the patient is up and about a modification of the regular setting up drill should be given, and if this is not made too long and too arduous, it usually will be carried out by the patient.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

June 10, 1911.

1. The Possible Diagnosis and a Technique in Excision of a Chronic Indurated Ulcer of the Posterior Wall of the Stomach, By JOHN E. SUMMERS.
2. Definite Knowledge Obtained by Means of the X Ray, By E. M. SALA.
3. A Certain and Simple Method of Obtaining the Knee Jerk, By CURRAN POPE.
4. A Drum Splitting Attachment for an Ordinary Cymographion, By D. E. JACKSON.
5. The X Ray Treatment of Ringworm of the Scalp, By L. DUNCAN BULKLEY.
6. The Present Status of Therapeutics and the Significance of Salvarsan, By S. J. MELTZER.
7. Sambon's New Theory of Pellagra and Its Application to Conditions in Georgia, By STEWART R. ROBERTS.
8. A Directory for Wet Nurses: Its Experiences for Twelve Months, By FRITZ B. TALBOT.
9. Contamination of the Fly with Poliomyelitis Virus, By SIMON FLEXNER and PAUL F. CLARK.
10. Hexamethylenamine: A Remedy for Common Colds, By AUSTIN MILLER.
11. Tuberculous Joint Disease. Report of a Case Illustrating the Critical Watchfulness Demanded during Convalescence, By JOHN JOSEPH NUTT.
12. Another Case of Sporotrichosis in Man, By ALBERT BEAM.

2. Röntgenography.—Sala remarks that the x ray is no longer estopped by the query whether these things can be taken; it is now only how well they can be taken; that is, radiography is a highly developed art. Much of our work previous to the x ray was problematical. A fracture would be adjusted so that the part looked all right to the naked eye and allowed to go at that, but to-day it is different. After the fracture is adjusted an x ray is taken, and if the bones are improperly adjusted the fracture is treated accordingly. Time was when a surgeon might say that an injury to a joint was a simple sprain and stick to his opinion without fear of contradiction, but to-day he may be forced to change his opinion when confronted by the x ray findings. It is surely a great source of satisfaction to be in practice in the present age as compared with the many uncertainties which existed in the practice, say twenty years ago. In fractures the x ray shows us, many times, a very imperfect adjustment of the bones in what had seemed a perfect adjustment when examined without the aid of the x ray. Frequently amputations refuse to heal and it is not always possible for one to say why, without the aid of an x ray. A small piece of bone may have been left in rounding off the edges of the bone; or it may be found that the bone was left long when it should have been short. The course of the ureters can be outlined when they contain metal catheters; the stomach can be clearly outlined when injected with bismuth and the work on the thoracic cavity, so beautifully worked out by Beck, makes the knowledge we may obtain with the x ray very extensive. The aid which the x ray bears to a correct diagnosis (within its limits of course) cannot be underestimated. Many of these points are illustrated by the accompanying radiographs and case reports. The x ray, when in good working order, is one of the most valued adjuncts to good surgical work we have at our command. It helps to make surgery a more exact science. It gives us a much clearer understanding of our cases and will, eventually, lessen to a great extent the vast number of cripples that were unavoidable previous to the time of the x ray.

3. The Knee Jerk.—Pope describes his method of obtaining the knee jerk: The patient, male or female, should sit in an ordinary straight backed office chair, relaxing the entire body as far as possible. The feet are then pushed forward so as to extend the lower limbs comfortably. This position produces complete relaxation of the flexor groups of muscles of the lower limbs, and, as it is these groups of muscles that inhibit the response, it seems rational to believe that the inhibition would be prevented. With the limbs in the position indicated, and with the ends of the toes of both shoes on a line, the clothing is drawn reasonably snug over the patella with the thumb and forefinger of the left hand in right handed individuals. The three remaining fingers and the palm of the hand should rest on the thigh just above the patella. With a percussion hammer a gentle tap is given the tendon and its response or the absence thereof can be both seen and felt, for the palm and three fingers of the left hand will give an excellent index of the prominence and activity of the response. In this position, reinforcement is most satisfactorily performed, and a wider range of action obtained.

6. Salvarsan.—Meltzer remarks that the value of salvarsan is being discussed at present almost exclusively by syphilographers and simply as a new remedy for syphilis. From this point of view the verdict as to its importance will depend on its efficiency as a therapeutic agent compared with that of mercury, whether it is more efficient or at least as good as that old specific remedy. General medicine, however, offers another point of vantage. Salvarsan is not simply an additional remedy for syphilis; it marks an epoch in medicine. This, he believes, will remain true, even if it be finally established that for syphilis this new remedy falls short of the old ones. Salvarsan presents a new departure and a new principle in therapeutics. It is proved beyond controversy that salvarsan is capable of completely destroying in the animal body the spirochætæ of syphilis and of framboesia, the spirilla of European and African relapsing fever, and the microorganisms of chicken spirillosis; in short, salvarsan is a specific remedy against a group of diseases caused by protozoan spirilla; it is a spirillocide. And it is not an accidentally discovered drug. We have here the first instance in the history of medicine of an efficient, specific, synthetic drug scientifically developed by the mental efforts of a single scientist. As a specific remedy and a drug it can be compared only with the two other specific remedies, mercury and quinine. Regarding mercury it is known that corrosive sublimate and calomel were used for skin diseases by Arabian physicians as long ago as the ninth century. The gray ointment was invented in the thirteenth century and was used for the same purpose. When at the end of the fifteenth century syphilis broke out in Europe epidemically, the skin manifestations were treated as before by these mercurial preparations. When later it was recognized that these skin sores were manifestations of a specific disease, gray ointment, calomel, and corrosive sublimate remained as remedies for syphilis; and so it went on for centuries. Wood introduced in 1854 the method of administering medicine by means of hypodermic injections; fifteen years later syphilologists began to administer mercury by this method and again corrosive sublimate, gray ointment (oil), and calomel were and still are the chief mercurial preparations employed in this manner. However much modern syphilologists may have contributed to the knowledge of the pathology and symptomatology of syphilis, it is quite evident that they have added very little of fundamental importance to our knowledge of its treatment. At any rate, neither syphilologists nor any one else can claim the credit of having discovered the value of mercury as a specific for syphilis. That knowledge was never discovered; it simply grew gradually in the course of many centuries and, in spite of violent opposition. For again and again the claim was set up by the antimercurialists that many of the manifestations which were considered as being due to syphilis were only symptoms of mercurial poisoning. Only within the last few years and before the recent salvarsan period, we find statements in the literature to the effect that the mercurial treatment of syphilis led in

some cases to polyneuritis, to optic neuritis, to deafness, and other affections of the nervous system. To this the syphilologist retorted that the affections of the nervous system in these cases were syphilitic manifestations and due to an insufficient treatment with mercury. Our knowledge of quinine as a specific remedy for malaria has a well defined beginning. At about the middle of the seventeenth century the Countess of Chinchon, the wife of the Spanish viceroy of Peru, had malarial fever and was persuaded to use the bark of a Peruvian tree which the natives were in the habit of using for the same fever. After testing it first on a servant, she took the remedy and was cured. Her physician, del Vego, brought the remedy to Europe. As to the effect of salvarsan upon syphilis Meltzer states that it was found that with but few exceptions an injection of this drug causes disappearance of all accessible spirochætæ. There are already a considerable number of cases on record, in which an early injection prevented so far the development of secondary manifestations, the time elapsed being in some cases seven or eight months. Syphilitic manifestations of nearly all forms and in all stages were profoundly affected by a single injection; there were only a few exceptions to this rule. There are a good many cases in which all the external manifestations disappeared without recurrence so far. These facts are surely sufficient to show that salvarsan acts on human syphilis in a definitely specific manner, that is, it destroys the cause of the disease. Its action is at least as specific as that of mercury on the same disease. It differs from mercury and has some advantages over it in the following points: Salvarsan destroys all spirilla; mercury affects only the spirochætæ of syphilis. Salvarsan produces apparently antibodies in the blood as is shown by the effectiveness of the serum and the milk of those who were injected with it; there is no evidence of the formation of antibodies by mercury. The effect of salvarsan is much more rapid than that of mercury; one injection of salvarsan accomplishes in two weeks as much as repeated injections of mercury accomplishes in six weeks. Finally, whereas mercury is inimical not only to the parasite, but also to the host, causing cachexia of the patient, salvarsan, reversely, acts rather favorably toward the host; it stimulates to rapid healing and causes an increase of the weight of the patient. Careful future studies will bring to light any further quantitative and qualitative differences between the actions of the two specifics for the same disease and will determine the conditions in which they may compete or they may supplement each other. This desirable end, however, can be brought about only by an unbiased, judicial, and scientific attitude toward the merits and demerits of either of the specific remedies.

9. **Contamination of the Fly with Poliomyelitis Serum.**—Flexner and Clark report experiments with flies contaminated with the virus of poliomyelitis, which harbored the virus in a living and infectious state for at least forty-eight hours. The experiments do not show that this is the limit of the period of survival, and they throw no light on the question whether the virus is retained merely as a superficial contamination or whether it can survive in the gastrointestinal tract. Experiments relating to these points are in progress.

MEDICAL RECORD

June 10, 1911.

1. Stretching of the Pylorus in Benign Stenosis, By Max Einhorn.
2. Pollution of Harbor Water Used in the Free Floating Baths, By Linsly R. Williams.
3. "Carriers" in Relation to the Spread of Diphtheria, By Eben C. Hill.
4. Acute Psychosis Due to Belladonna Poisoning, By M. Allen Starr.
5. Possible Causes of Failure Following the Use of Bacterial Vaccines and Antisera, By H. E. Plummer.
6. Stokes-Adams Disease; the Status of Heart Block; Report of Cases, By James C. Johnston.
7. A Neglected Phase of the Prevention of Summer Gastroenteric Disease in Infants, By Le Grand Kerr.
8. A Case of Pulmonary Tuberculosis with Heart Displaced to the Right Side, By Horace Greely.

1. **Stretching of the Pylorus in Benign Stenosis.**—Einhorn remarks that the pylorus can be stretched in infants without much difficulty. Cases of congenital stenosis thus treated will reap benefit from it, provided this measure is undertaken before they are in the last stages of marasmus. As to the treatment of real benign stenosis of the pylorus in grown patients in its beginning stage by stretching, he says the following two conditions must obtain: 1. There should be no active ulceration in the pylorus or in its immediate vicinity. 2. The stricture must not be too far advanced. Most appropriate for this mode of treatment are those cases in which the duodenal bucket (23 F.) still passes the pylorus. If the pylorus is not any more permeable for the bucket, metal olives (17, 15, 13 F.), with a thread attached, may be tried in a similar manner as the bucket. In case one of them still passes the pylorus an attempt at stretching may first be undertaken with the dilating pyloric catheter. When the pylorus has been somewhat widened the ordinary pyloric dilator may then be employed. Cases in which fresh ulcerations in the pylorus or vicinity exist must first be subjected to some mode of treatment with the object of curing them. As soon as the thread test becomes negative, thus showing the absence of denuded mucosa, the pyloric dilator may be employed. The ideal way of treatment of benign stenosis of the pylorus consists in widening this outlet. This may be accomplished by stretching of the pylorus or when this is not any more possible (advanced stricture) by the Heinecke-Mikulicz or Finney's operations (pyloroplasty or gastroduodenoplasty). Gastroenterostomy, which is the easier operation and most often practised, presents the disadvantage that the physiological relations between the stomach, pylorus, and duodenum are thereby more or less disturbed. The internal means and the surgical measures for the treatment of benign pyloric stenosis are no rivals to each other, but rather work hand in hand. Where one ceases the other steps in, always harmonizing with each other.

2. **Pollution of Harbor Water Used in the Free Floating Baths.**—Williams states that there are a large number of people in the metropolitan district constantly ill of specific diseases. The dis-

charges of many of these patients containing specific disease causing bacteria are emptied undisinfected into the sewage. Some of these bacteria, notably the typhoid bacillus, may live for days in sewage and sea water. Other bacteria causing specific diseases may live in sewage and sea water, though less is known about them, and this seems only possible, rather than probable. There is danger in bathing in the harbor waters. The floating baths have but little cleansing value and the water is unwholesome for bathing purposes. They may be refreshing to some and give pleasure to thousands, some of whom learn to swim. Floating particles of sewage enter many of the baths even though they are situated 500 feet or more from the sewer outlet. The quality of the water adjacent to the shores of Manhattan and Brooklyn in the East and Hudson Rivers and the Harlem River is such that it is unsuitable for bathing purposes even though it were possible for the baths to be so situated and protected that floating particles of sewage did not enter the floating baths. This water is constantly diminished in oxygen, contains large numbers of bacteria, among which are colon bacilli in 0.01 to 0.001 of a cubic centimetre of water. While bathing in these waters it is hardly possibie to prevent water from entering the mouth and nasal passages and also the mucous membrane of the eye, and bathing in such water is a constant source of infection.

3. **Carriers in Relation to the Spread of Diphtheria.**—Hill concludes that carriers, missed cases, and atypical or undiagnosticated cases of diphtheria must be considered as of as much more importance in the spread of the disease than fomites. House disinfection and quarantining healthy as well as sick inmates of a household is an unscientific method of controlling epidemics if no attention is paid to carriers. A rational use of antitoxine, *i e.*, sufficient dose at frequent intervals, will, undoubtedly, greatly reduce the present high death rate from diphtheria.

7. **Prevention of Summer Gastroenteric Disease in Infants.**—Kerr states that when gastroenteric disease is once fully established, prophylaxis is restricted to the prevention of general disease and the avoidance of accidental complications. In the accomplishment of these objects there are several things that must be done. These might be briefly summarized as follows: 1. The expulsion of the offending material from the stomach or bowel; 2. the dilution of the toxines; 3. the introduction of a food that is completely suited to the immediate needs and the securing of its absolute cleanliness and freshness; 4. the establishment of adequate hygiene of the mouth; 5. the maintenance of a clean skin, particularly that of the napkin area; 6. the protection of the food by clean utensils and careful attendants; 7. the protection of the infant by clean, fresh air and the best possible surroundings; 8. the isolation of the patient sufficiently to protect other children.

BRITISH MEDICAL JOURNAL

May 27, 1911

1. Observations on Rational Treatment and Specific Medicine; the Boundaries Dividing Them. By Sir Dyce Duckworth, Bart.
2. Remarks on Food and Feeding. By Robert Saundby.
3. Cancer, Cruelty and Legislation. By [illegible].
4. Bonesetting. By [illegible].
5. Quackery—With Special Reference to Female Complaints. By St. John Ervine.
6. Skin Diseases and Cosmetics. By George Pernet.
7. The Practice of Medicine and Surgery by Unqualified Persons. By J. H. Taylor.
8. Quackery in Rural Districts. By Charles [illegible].
9. Unqualified Practice in East Anglia. By Edgar G. Barnes.
10. Bonesetting and the Treatment of Painful Joints (*To be continued*). By [illegible].

1. **Empiricism and Medicine.**—Duckworth wishes more attention was given to the known materia medica on the part of physicians and less to the flood of new laboratory products. None of the latter can possibly be known to be valuable until it has been subjected to thorough clinical tests. Readers are reminded that empiricism is not a reproach; "we have therefore to affirm boldly and without any misgiving that much of the best medical practice is still empirical, and that a great physician is a great artist. It has always been so." People who demand that therapeutics be placed upon a mathematical basis have no *mens medica* and have not the faculty for acquiring an art. Dogmatic opinions issue from laboratories which are contradicted by clinical experience, regarding alcohol, e. g., strychnine, and aconite; we are content to note their beneficial action in disease and to await a scientific explanation of their *modus operandi*. Empiricism has often anticipated science in medicine. We are frequently obliged to act promptly on mere probabilities. Laboratory research must be carried on with close and prolonged clinical cooperation. The patient and painstaking truth seeker need expect little encouragement from the public.

2. **Food and Feeding.**—Saundby says opposing views are now held on diet with a vehemence that used to be confined to religious doctrines. White bread is in reality unobjectionable if the whiteness is not due to chemicals. As to the effect of diet on the teeth, careful use of the toothbrush has a greater effect. Bread should certainly be mixed solely by machinery, and never handled by possibly phthisical bakers. The author states plainly that the teachings of Sinclair regarding the alleged benefits of fasting are dangerous; nobody doubts, however, the value of restricted feeding in gout, diabetes, and certain nervous ailments. The poor eat too many canned foods and are deceived in attributing the greatest amount of nutrition to the costly foods.

3, 4, 5, 6, 7, 8, 9. **Quackery.**—This subject is treated in masterly and entertaining fashion by many writers; we regret the character of the communications prevents their being summarized.

LANCET

June 3, 1911

1. Progressive Spinal Muscular Atrophies of Infants (Werdnig-Hoffmann). By Frederick E. Batten.
2. Medicochirurgical Transactions a Hundred Years Ago. By J. Mitchell Bruce.
3. Position of the Present Reform Movement in Anæsthetics (*To be continued*). By Frederick W. Hewitt.
4. "Förster's Operation" of Posterior Root Section for the Treatment of Spasticity. By Otto May.

5. Successful Removal of a Sarcoma from the Head of the Pancreas, By James Sherren.
6. Referred Penile Pain in Intussusception, By George E. Waugh.
7. Chronic Pancreatitis, with Especial Reference to the Diagnosis and Treatment, By P. J. Cammidge.
8. Gangrenous Pancreatitis; Operation; Recovery, By G. A. Wright and E. L. Luckman.
9. Tobacco Dyspnœa, By J. D. Reckitt.
10. Severe Burns of the Anterior Aspect of the Chest and Neck, with Part of the Lateral and Posterior Aspects, By Ernest F. Travers and D. F. Maunsell.

8. Chronic Pancreatitis.—Cammidge lays stress on the clinical features of this disease. The diet in all cases of pancreatic insufficiency must be selected with care. A loss or marked diminution in the amount of the pancreatic ferments seriously interferes with metabolism, even when there is partial compensation by the use of artificial preparations, but much may be done to mitigate this if the physiology of digestion and the results of experiments on animals deprived of their pancreas are borne in mind. It is advisable that the diet should contain a considerable proportion of milk and that other fats should be emulsified by the addition of desiccated bile or soaps. Solid fats, particularly those with a high melting point, should be avoided, as they are liable to undergo chemical changes in the intestine with the formation of irritating by products and consequently give rise to discomfort. If the functions of the stomach are being carried out satisfactorily a considerable amount of proteid may be digested both in the stomach and upper part of the intestine, where the action of the gastric secretion will continue owing to the absence of the pancreatic juice, but even then less than half the albumin of the food is absorbed. Proteids which are digested with difficulty, such as pork, white of boiled egg, etc., must be excluded from the diet. The most useful proteid in cases of pancreatic insufficiency is casein. It may be used in all cases, whether the stomach is functionating normally or not, for it alone among the proteids appears to be broken down without any preliminary preparation by the ferment erepsin discovered by Cohnheim in the succus entericus. It may be given in the form of milk, or in larger quantities as one of the artificially prepared powders, biscuits, etc., which are now so numerous. In cases of pancreatic insufficiency the carbohydrate intake should be limited and should consist mainly of sugars and predigested starches which will be rapidly absorbed. Even these must be given with caution, however, for although they make no call upon the external digestive secretions of the pancreas they may readily overtax its internal metabolic functions and give rise to alimentary glycosuria. The maximum amount that can be safely taken by each patient can only be learnt by experiment, and when this is found it is advisable that the diet should be arranged to contain slightly less. In cases where cane sugar or dextrose is not well borne it is often found that lævulose can be assimilated with comparative ease. It is most important that in every case of pancreatic disease, and more especially in the chronic forms of pancreatitis, the possibility of alimentary glycosuria, and subsequently of frank diabetes, should be remembered and that the urine should be tested from time to time. The onset may be long delayed, eight or ten years in some cases, but once it is established the treatment can only be palliative. The better plan is to prevent such a serious complication by the diagnosis and rational treatment of the pancreatic disease in the early stages before serious and irreparable injury has been done to the gland.

9. Tobacco Dyspnœa.—Reckitt says this symptom may become alarming in unconscious abuse of tobacco; mere tachycardia is very common, but in one case, in a man fifty-four years of age, the dyspnœa was urgent and continuous. Reckitt found it was due to the use of a pipe ten years old which was saturated with empyreumatic products (the author says nicotine). Turkish cigarettes were substituted for the pipe and a mixture of potassium bicarbonate and tincture of nux vomica prescribed with good results. Reckitt concludes that looking at this case from a physiological standpoint, the action of nicotine on the heart, it seems pretty clear that the depressant effect of the poison caused a sort of air hunger, the respiratory centre being overstimulated in consequence of the want of tone in the first beat of the heart. It also seemed evident that the smoking of such a foul pipe, saturated as it was with concentrated nicotine and tobacco juices of ten years' standing, was the means of introducing into the system such a continuous amount of the poison daily that it indirectly, through its action on the heart, affected respiration, causing inspiratory dyspnœa. The change from the use of a foul pipe to cigarettes seemed clearly to benefit the patient, although, of course, the rational treatment would have been total withdrawal of tobacco. It is also to be borne in mind that as regards the use of tobacco, or rather the habitual use of it, idiosyncrasy may play a part, inasmuch as one person may find even a foul pipe to have less effect in the way described than cigarettes or other forms.

PRESSE MÉDICALE

May 24, 1911.

1. The Domain of Psychiatry, By Dejerine.
2. Should We Always Combat Arterial Supertension? By Martinet.
3. Hay Fever, By Maurel.

May 27, 1911

4. Clinical Methods of Exploring the Duodenum, By Gaullier.
5. A Theory of Acute Posterior Poliomyelitis, By Claude and Schaeffer.
6. Parasitology, Etiology of Ankylostomiasis, By Benoit-Bazille

1. Psychiatry.—Dejerine desires to make clear his views on the exact domain of this science. In certain cases it would make an insane person of a mere neuropath. The author does not believe in an organic basis for all neuroses. Owing to the habit of Catholics of minute selfexamination, Dejerine avers that they are more susceptible to hypnosis than Protestants. He repeats his epigram: In man sentiment is everything, reason but little.

2. Arterial Supertension.—Martinet says it is not always well to combat this condition; in pathological supertensions there is a lower limit of irreducible supertension below which the maximum

tension cannot be lowered without interfering with the cardiovascular equilibrium to the detriment of the myocardium, by transforming a compensated supertension into an asystolia. Any raising of the maximum tension that is accompanied by an elevation of the minimum tension is harmful. Any progressive lowering of the maximum tension accompanied by an appreciable lowering of the minimum tension is a sign of a true primitive arterial subtension and is favorable. Finally, in a given case of supertension there is a lower limit of irreducible supertension which cannot be overcome without danger to the myocardium.

3. Hay Fever.—Maurel finds most of his patients are adult males with neuroarthritic heredity; he advises a trial of all the known treatments without faith in any.

4. The Duodenum.—Gaultier says of all methods of diagnosticating diseases of the duodenum, that of systematic examination of the fæces is by far the best and the only one that leads to a scientific therapeutics.

SEMAINE MÉDICALE.

May 24, 1911.

1. Chronic Intestinal Stasis, By LEJARS.

May 31, 1911.

2. Diffuse Phlegmons of Slow Growth; Their Treatment, By MOTY.

1. Chronic Intestinal Stasis.—Lejars likes this expression of Lane's, first used in the *British Medical Journal* for April 22d; as a matter of fact, constipation, if uncorrected by medicinal means, may lead to grave conditions. Civilized man stands or sits erect some sixteen hours daily, a posture that renders the function of the large intestine difficult; small deformities of the colon are not rare. In addition to the severe pain and the constipation in chronic stasis, a great danger is autointoxication, signalized first by vomiting, cold feet, muscular pains, loss of appetite, and proceeding to such grave conditions as mammary abscesses which may become malignant, and to a strong predisposition to tuberculosis. Ileosigmoidostomy or partial or total colotomies are indicated in such circumstances and are usually followed by completely restored health.

2. Phlegmons.—Moty describes several cases of these abscesses, appearing first in the axilla and involving subsequently the neck and thoracic wall. Curiosities of their development are the absence of discoloration of the skin in the early stages, the late appearance of pus, and the subsequent development of an erysipelatous redness without vesicles, exudation, or involvement of the head, and with only slight fever. Are they due to staphylococcic infection or simply to microbic toxines? They exude a milky fluid which discloses nothing to the microscope. Serum therapy, Bier's treatment, hot applications, blistering, are all useless and incision is dangerous. The most successful treatment is to disinfect the skin and apply cotton soaked in ether, covering this with oiled silk and a firm bandage, and renewing the dressing daily. Keep up the general health with quinine, arsenic, and other tonics.

Proceedings of Societies.

ASSOCIATION OF AMERICAN PHYSICIANS.

Twenty-sixth Annual Meeting, Held at Atlantic City, N. J., May 9-10, 1911.

The President, Dr. F. FORCHEIMER, of Cincinnati, in the Chair.

President's Address.—Dr. FORCHEIMER delivered this address, saying that the general practitioner was still the backbone of the medical profession. His development implied so much attrition, so much knowledge, so much character, and so much humanity that when the general practitioner had attained his full growth he was easily among the first citizens of his community. Nowhere did weeding out go on more rapidly than in the medical profession. Those who were eliminated first were the ones who had failed on account of adverse external conditions, such as poverty and professional competition. Hartman accepted three kinds of nobility, namely, of birth, of mind, and of finance, and placed physicians in the second class. Premedical education was in a chaotic condition. According to the higher demands of certain States and certain schools so much time was required for premedical education that the student got through his medical course at too advanced an age. The remedy for this lay in making a change in the curriculum of the primary and the secondary school.

A Clinical Study of Ascites.—Dr. R. C. CABOT, of Boston, read this paper. Owing to a series of errors which he had made in the diagnosis of ascites, and to minimize the number of mistakes in the future, he had tabulated the autopsy and operation records of the Massachusetts General Hospital for the past forty years, and to show the relation these figures bore to the clinical diagnosis. The bulk of the cases were found to be due to one of five causes: Cardiac weakness, nephritis, abdominal neoplasms, cirrhotic liver, or tuberculous peritonitis. Among the possible causes of extensive ascites one must not lose sight of the small solid tumors of the ovary. Pleural effusion might be produced by an extensive ascitic accumulation. This association might lead to a false diagnosis of pleural and peritoneal tuberculosis. The cure of both pleural and peritoneal effusions might result from excising a benign ovarian tumor. Among all causes of ascites, tuberculous peritonitis might be recognized by the greater slowness of its accumulation of fluid.

The Present Status of the Tuberculin Test.—Dr. LAWRASON BROWN, of Saranac, N. Y., delivered this address. He stated that the von Pirquet and the Calmette test for tuberculosis had greatly extended the use and knowledge of tuberculin. Among laboratory animals only those which were tuberculous reacted to tuberculin. Normal animals had tuberculin tolerance, but no tuberculin anaphylaxis. Many autopsy reports threw grave doubt upon it, and personally he believed disproved all published statistics which went to show that other diseases reacted specifically to tuberculin. A slight tuberculous infection might be sufficient to cause a reaction for a time, and yet leave no permanent pathological change visible to the naked eye. The

conjunctival test had produced a number of unfortunate accidents, but by excluding all patients who had ever had trouble with their eyes and using only from one to five per cent. solutions of the old tuberculin, the test seemed comparatively safe. There was some danger in the cutaneous test, but it was so slight that it might be disregarded except in scrofulous children. The tuberculin test sometimes resulted positively in healthy men, a circumstance which warned us not to depend too much upon it. Also failure to react to ten milligrammes of old tuberculin, given subcutaneously, did not exclude clinical tuberculosis. However, in the presence of indefinite symptoms these patients did not require treatment. A negative subcutaneous test in a tuberculous person might indicate either the absence of receptors at the site of the lesion or the presence of free antibodies in the blood. If we excepted, for the time being, leprosy, tuberculin was a specific test for the detection of tuberculous infection. In practice, exposure to infection, characteristic symptoms, such as hæmoptysis, pleurisy with effusion or dry pleurisy on both sides, and localized persistent physical signs at one apex, were diagnostic data of far more importance in clinical tuberculosis than that derived from the tuberculin tests. The subcutaneous test was still the most reliable of the tuberculin tests.

Dr. C. SHATTUCK, of Boston, said he wished to corroborate Dr. Brown's statement that the subcutaneous test was the most reliable. He had used it for many years with the utmost freedom. He had never seen any untoward result beyond a disturbance of two or three days, except in one case of Addison's disease, in which the patient died two days after the injection.

Dr. THEODORE C. JANEWAY, of New York, said that he wished to corroborate Dr. Shattuck's experience of rapid fatal issue in Addison's disease following injection of tuberculin for diagnostic purposes.

Dr. HENRY KOPLIK, of New York, said that he made use of the cutaneous von Pirquet test in children almost routinely. It was the test of preference, but in some cases in older children, wishing to confirm the diagnosis of tuberculosis, where there were other conditions present, such as pleurisy with effusion, after the patient had improved and the temperature dropped, he had had some very unpleasant experiences in trying to confirm the test of von Pirquet in making injections of old tuberculin, the temperature rose, the effusion increased, and the little patients were quite ill. This was a very unpleasant thing to happen to a clinician after his patient had been apparently on the road to recovery.

Dr. I. ADLER, of New York, said he wanted simply to state that he had had under observation now for two years a case of undoubted Addison's disease, a mild case that had been exclusively and continuously treated with tuberculin injections, beginning with very small doses, and now that she was taking very large doses she had been perfectly well, and clinically had been bettered by it.

Dr. JOSEPH L. MILLER, of Chicago, said he believed the very conservative stand by Dr. Brown was to be highly commended. Since the introduction of the simpler tuberculin tests, like the von Pirquet, he believed there had been a great deal of harm and injustice done the patients by assuming that inasmuch as they gave a positive von Pirquet reaction it was necessary that they be sent away from home and be treated as patients suffering with the severe form of tuberculosis, where, as a matter of fact, there was no clinical evidence that these cases were tuberculous.

Dr. BROWN, in closing, said that he would call attention to the fact that the most important group to-day was the masked tuberculosis. Treatment was not necessary in the masked tuberculosis, but was necessary in the tuberculosis which was either active or quiescent.

The Favorable Influence of Quinine and Urea Hydrochloride Hypodermatically in Acute Pneumonia.—Dr. S. SOLIS-COHEN, of Philadelphia, stated that there was a tradition that quinine given early would abort an attack of lobar pneumonia. In an early experience of the writer's sixty grains of quinine sulphate given in error in a period of six hours, beginning two hours after the initial chill, apparently acted in this manner. The revival of the quinine treatment of pneumonia by Galbraith in 1904 led the writer to employ the double hydrochloride of quinine and urea, with which he had had such favorable experience in the treatment of malaria. From six to ten grammes, according to effect, were given in from forty-eight to seventy-two hours. Cinchonism did not develop. Temperature and pulse fell gradually and proportionately, and respiration more rapidly—with a tendency to restoration of the normal pulse and respiration ratio. Blood pressure remained stationary or increased; cough diminished; breathing became relatively easy; delirium abated or disappeared. Crisis did not occur. Termination was by lysis at about the ordinary time, from five to eleven days.

Percussion and auscultation signs were uninfluenced. Involvement of new areas might take place during treatment, with return of symptoms, which necessitated new injections. Pneumococcic empyema had occurred. The pathological processes in the lung appeared to evolve in the customary manner, unmodified by the treatment, which was apparently not germicidal and was without effect on tissue changes, but was chemical and antitoxic. Fresh air, water, saline infusions, and symptomatic medication when needed, were associated with the quinine treatment.

Dr. F. P. HENRY, of Philadelphia, said that two years prior to the time at which Dr. Cohen stated to have instituted the use of quinine in the treatment of pneumonia, he was led to its use through an article by Petzold. He used the hydrochlorosulphate of quinine. He could corroborate all that Dr. Cohen said in favor of the method.

Dr. A. JACOBI, of New York, said he had used the double hydrocloride of quinine and urea a great deal, but had found that it frequently produced gangrene of the skin.

Dr. COHEN, in closing, said that he was very glad to hear of Dr. Henry's favorable experience, and would take pleasure in the publication of his paper to give him credit for the priority which he deserved. In his early experience with the double

salt of quinine in malaria sloughs and abscesses and failure to absorb were frequently encountered; but under improved technique these unfavorable results had been avoided. The skin must be painted with tincture of iodine, injection made deeply, and in withdrawing the needle not a drop must be allowed to fall upon the surface.

A Pneumatographic Study of the Respiratory Irregularities in Meningitis.—Dr. Lewis A. Conner and Dr. Ralph G. Stillman were the authors of this paper. They remarked that in forty-one cases of meningitis which were studied graphically by means of the Marcy spinal spring type of pneumatograph, one tube was placed about the upper part of the chest to record the thoracic movements, and a second about the abdomen at a point midway between the ensiform cartilage and the umbilicus to register the movements of the diaphragm. In thirty cases of tuberculous meningitis respiratory disturbances occurred during some part of the illness and usually throughout the greater part of it. Among eleven nontuberculous cases alterations in the respiratory rhythm in meningitis could be divided into three fairly distinct groups: 1, Type of Cheyne-Stokes breathing; 2, Biot's "meningitic rhythm"; 3, an undulatory type. The Cheyne-Stokes type seen in infants and children with meningitis showed certain differences from that ordinarily seen in adults. Biot's type of breathing was characterized by constant irregularities in rate and force, by frequent occurrence of deep signs, and by apnœic pauses varying in length and occurring at irregular intervals. In the undulatory type there was a rhythmical variation in the force of the respirations or in the tone of the respiratory muscles or in both of these together without any periods of apnœa. This undulatory type was observed at some time in almost every case. In twelve out of forty-one cases it was the only type of disturbance noticed. In twenty-three cases (fifty-six per cent.) Cheyne-Stokes breathing was observed. In ten cases (twenty-five per cent.) Biot's type was sometimes noticed. In six cases both the Cheyne-Stokes and the Biot types were seen at different times. Because of its occurrence in almost every case of meningitis, and because it was often observed early in the disease, this symptom of disturbed respiratory rhythm was of very considerable diagnostic importance, especially in meningitis of the tuberculous type in which the onset was often slow and insidious.

In closing the discussion Dr. Conner said, in answer to Dr. Sewall, that while of course all these instruments were not sufficiently accurate to make them mathematically so, we could not say they were measured mathematically. Nevertheless, they were very accurate in a general way. They showed in case after case the same thing. By heightening or lessening the tension of the pneumatograph some difference can be made. By relaxing sufficiently one could understand that we could get no abdominal tracing at all, but when one was familiar with the tension to be used one could get in the same case at different times and under different conditions usually just about the same size tracing. They used a great many controls in their work with children.

Abdominal Tenderness with Pain Due to Thoracic Lesions.—Dr. Arthur R. Edwards, of Chicago, reported two cases of severe, diffuse abdominal symptoms in pneumonia and in pericarditis, which completely simulated abdominal perforation or peritonitis, and in which operation disclosed no peritoneal lesion. In neither case was there the slightest symptom or sign of thoracic disease at the time of invasion. The pain was severe, early, and diffuse; the tenderness was as marked on deep as on superficial palpation; and the abdominal rigidity was extreme. The usually available distinctive points were not helpful; the general symptoms, as severe toxæmia, high fever, etc., which generally indicated a systemic infection rather than a local condition, were absent. In this thoracic pseudoperitonitis or pseudoperforative symptom complex, the abdominal muscles might be spastic, the legs drawn up, the body rigid, and collapse might intervene. The invasion symptoms indicated operation, and no certain criterion existed at the onset. The majority of patients operated upon recovered.

Dr. J. P. C. Griffith, of Philadelphia, said that in 1896, in the first case he saw of this character he slipped up on the diagnosis and since then had continued to slip up. It had been his fortune to have seen a good many of these cases. He had reported five cases and had one unreported case. He agreed entirely with Dr. Edwards that the diagnostic signs were not to be depended upon. He had seen cases which he had no doubt were pelvic, but they turned out thoracic. The only thing to do was to make quite sure before operating.

Dr. F. P. Kinnicutt, of New York, said he thought that Dr. Edwards had drawn attention to an important fact that we should all consider. We were all familiar with the mistakes of our surgical colleagues in cases of this kind. If we could wait, if the surgeon was not too insistent for immediate operation, we might obtain some information from examination of the blood. But often the symptoms were so impressive, the surgeon said it was necessary, and operation was performed at once.

Dr. H. U. Williams, of Buffalo, N. Y., said in this connection he would like to suggest the importance of fluoroscopic examination of the chest because we could get signs of pneumonia which were perfectly evident with the fluoroscope before we could get any physical signs.

Dr. M. H. Fussell, of Philadelphia, said he supposed there was no one who believed more thoroughly than he in the grave importance, the absolute necessity, of an early operation in abdominal cases of the character simulated by all these cases of Dr. Edwards, and yet he never approached a case which appeared to be abdominal without the greatest trepidation because of the mistakes he had made himself and because of the mistakes he knew others had made. There was no one symptom or set of symptoms which would enable us to make a diagnosis; it was the ensemble by which we came to our conclusion.

Dr. James Tyson, of Philadelphia, said that he wished to come to the defense of the surgeon under the circumstances. In his early experiences it was the surgeon who suggested the delay and because of the well known occurrence of such symptoms when

there was no necessity for operation. Most of these cases occurred in children. Operation was deferred and the child apparently recovered, but some months later the child was operated upon for appendicular inflammation and such an appendix was found, so that the rule worked both ways.

Dr. A. JACOBI, of New York, said the surface abdominal pain was easily explained in such cases by the extensive connection of the pneumogastric nerve. He asked if there was an anatomical connection which explained the intense visceral pain dependent upon thoracic diseases.

Dr. J. A. CAPPS, of Chicago, said he would like to ask Dr. Edwards whether he found any sign of involvement of the diaphragm. He thought there was evidence that the diaphragmatic pleura in these cases was involved.

Dr. S. J. MELTZER, of New York, said he had seen a man dying of angina pectoris who had been treated by one of the best men in New York for gastric catarrh and gallstones. He had seen two patients, one patient who had been operated upon and who had pneumonia, and it did not take a very careful examination to discover this, and he was in the hands of an excellent surgeon.

Dr. HENRY SEWALL, of Denver, inquired if abdominal pain was ever noticed when the lesion was in the left lung.

Dr. S. SOLIS-COHEN, of Philadelphia, said he wished to call attention to a case of pneumonia of the left lower lobe which had been mistaken for gastric ulcer because of vomiting of blood streaked mucus, together with epigastric pain and tenderness. He first saw the patient after three days' illness, and at that time there was no doubt of the diagnosis of pneumonia. Recently he had had three cases of pneumonia referred from the surgical to the medical ward, the patients having been sent to the surgical ward with the diagnosis of abdominal disease. The correct diagnosis of pneumonia was there made by the surgeons and the patients transferred.

Dr. J. C. WILSON, of Philadelphia, said it must be borne in mind that the early signs of croupous pneumonia consisted in impaired vesicular murmur and slightly tympanitic percussion resonance.

Dr. Edwards, in closing, said that in answer to Dr. Sewall's question, there was no diaphragmatic sign. Abdominal pain may be caused by lower lobe pneumonia on either side.

(To be continued.)

New Inventions.

A NEW VEST POCKET HEAD LAMP.

By HAROLD HAYS, A. M., M. D.,
New York,
Assistant Surgeon in Otology, Eye and Ear Infirmary.

The vest pocket, or midget, head lamp which I am about to describe, was designed to overcome many of the objectionable features of the head lamps now in use, which it is necessary to carry with a more or less cumbersome dry celled battery. What was needed was a compact little lamp which could be carried handily in the pocket, a lamp which could give illumination great enough for examining the various orifices of the body and also would last as long as lights connected to the larger batteries. Tests with the lamp here presented show that one can depend upon it to do the requisite amount of work.



Fig. 1.—Hays's vest pocket head lamp, one half actual size.

The head lamp consists of a casing, mounted on an ordinary head band, into which fits a small, dry, two cell battery of a standard pattern which can be bought in almost any town. At the centre of the lower part of the casing is mounted a small Tungsten light, of about two and one half volts, on a ball and socket joint, and over this fits a very powerful condenser lens which focuses the rays of light. On the left side is a contact switch which makes or breaks the current at will.

In the first illustration (one half actual size), one sees the casing on the head band and the various separate parts. In order to make the contact, one of the metal filaments of the battery is bent down so that the casing itself forms part of the circuit. The battery must be slipped into the casing with the bent filament facing downward, *i. e.*, toward the ball and socket arrangement below.

The lamp is worn on the forehead like any other headlight. The light should be placed directly between the eyes when it can be adjusted by means of the ball and socket joint to any angle (Fig. 2).

For examination of the eyes, the lamp is ideal. The lamp is placed on the left side of the patient's head, with the light flat against the casing and facing forward toward the mirror of the ophthalmoscope (Fig. 3). It is far superior to the candle or the usual electric light.

The advantage of not having to carry electric cords and a large battery case is apparent. The little Tungsten light is very powerful and the new Tungsten batteries are guaranteed to give one and



FIG. 2.—Hays's head lamp adjusted to operator's forehead.

one half hour's steady burning. The price of the entire outfit is about one third that of the ordinary head lamp.

The midget head lamp is manufactured by the



FIG. 3.—Method of using Hays's head lamp in ophthalmoscopic examinations; adjusted on patient's head.

Rochester Surgical Appliance Company, Rochester, N. Y., to whom the inventor is indebted for many valuable suggestions.

11 WEST NINETY-FIRST STREET.

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Chemistry of Food and Nutrition. By HENRY C. SHERMAN, Ph. D., Professor in Columbia University. New York: The Macmillan Company, 1911. Pp. viii-355.

As stated in the preface, the object of this work is to give an account of the principles of the chemistry of food and nutrition with special reference to the food requirements of man. Embodying, as it does, all the important work done in recent years, well written, logically arranged, and accurate, the book gives a clear picture of the present status of its subject, and can therefore be heartily commended to physicians generally.

A Textbook of Medical Diagnosis. By JAMES M. ANDERS, M. D., Ph. D., LL. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College of Philadelphia, etc., and L. NAPOLEON BOSTON, A. M., M. D., Adjunct Professor of Medicine, Medico-Chirurgical College, Physician to the Philadelphia General Hospital, etc. With 418 Illustrations in the Text and 25 Plates, 17 of Them in Colors. Philadelphia and London: W. B. Saunders Company, 1911: Pp. 1195. (Price, $6.)

This book of nearly 1,200 pages is the newest as well as the bulkiest on the subject of medical diagnosis. Before investing in a work of this size and price, practitioners will naturally wish to know what it contains and, incidentally, what it does not contain, and also wherein it differs from other works of a similar kind. With the exception of a brief introductory chapter, the book may be described as a work on the practice of medicine with the sections on treatment omitted. True, it professes to deal only with diagnosis; but in many instances there are included paragraphs on synonyms, definition, varieties, ætiology, clinical course, pathology and bacteriology, complications and sequelæ, just as we find in our standard works on practice. Further, the whole arrangement of the book is on this general plan. For one who has made his diagnosis and wants to verify it, this book is well adapted. To the far larger number who have to pick up the symptoms one by one and then by a process of induction reach a diagnosis, this work is of but little service. Those who turn over the pages of this volume to ascertain what may cause, say, vertigo, chills, shock, coma, etc., or to find the significance of various postures, or of the color, moisture, heat, or eruptions of the skin; or of the various points which can be observed with regard to the tongue of a sick person, will be woefully disappointed. The owner of this book will still require one of the standard works on diagnosis. The reader is not told how to make the tests for sugar, or bile, in the urine; and this, in spite of the references on pages 84, 944, 599, and 612. On page 610 he is plainly told to go to "special works upon clinical diagnosis" for a method of estimating the amount of phosphates in the urine. There is a curious slip on page 373, where xerostoma (*sic*) is given as a synonym for salivation. In the discussion of acute nephritis, the reader is told: "The amount of perspiration may be estimated by Wetherill's hygromad," etc.; but there is no description of the instrument, and no indication of the manner in which the test is made. How many of our readers have ever seen or heard of this test—or this instrument? There are numerous illustrations, chiefly of that kind now so popular, which is said to aid in the sale of books which need such adventitious help. One is tempted to ask why the male figure on page 138 should be decorated with a loin cloth when he is lying with his back to the reader, while the gentleman on page 299, who is facing us and who has much more need of this decoration, is deprived of such a covering. As a sample of the style of the authors, we append the following from the preface:

"The special purposes of the authors have been primarily to furnish an improved method of determining the clinical features of disease, so that all of the more important symptomatic phenomena in a given case may be collected with ease and certainty, and to emphasize the importance of corollating (*sic*) symptoms with the structural changes on which they are dependent and their organismal ætiology. It is confidently believed that a knowledge of the laws of disease thus gained, combined with personal experience, will prove the best guide to accurate diagnosis, and obviate the danger of being side tracked by nonessential evidence."

The Harvey Lectures. Delivered under the Auspices of the Harvey Society of New York, 1909-1910, by Professor Richard M. Pearce, Professor Otto Cohnheim, Professor T. G. Brodie, Professor G. Carl Huber, Professor Ludwig Hektoen, Professor Eugene L. Opie, Professor Adolf Meyer, and Professor A. Magnus-Levy. Philadelphia and London: J. B. Lippincott Company, 1910. Pp. 276.

It is unnecessary to more than call attention to the publication of the fifth volume of the Harvey Lectures, and to say that all the lectures reach the same high level which has made the series so valuable a contribution to medical literature. Three of the lectures are devoted to the kidney and experimental nephritis; one to the formation and fate of antibodies, another to the influence of sensory impressions on scientific deductions, still others to inflammation, to aphasia and apraxia, and the final one to uric acid in gout.

Clinical Pathology in Practice. With a Short Account of Vaccine Therapy. By Thomas J. Horder, B. Sc., M. D., F. R. C. P., Medical Registrar and Demonstrator of Morbid Anatomy (Late Demonstrator of Pathology and Junior Demonstrator of Practical Medicine) at St. Bartholomew's Hospital, London, etc. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1910. Pp. viii-216. (Price, $3.)

This volume, a recent addition to the excellent series of Oxford medical publications, sustains the high character of its predecessors as a practical and up to date aid to the progressive practitioner of internal medicine. There are well written chapters in which are considered in sufficient detail the histological and bacteriological examination of the blood and sputum; pleural, lumbar and joint puncture; infections of the nose, mouth, throat, and genitourinary tract, the chemical and microscopic study of the fæces; the various tuberculin tests, and the Widal and Wassermann reactions. Appended is a special section of timely interest on treatment with bacterial vaccines, based on the writer's personal experience. He concludes that vaccine therapy is a valuable adjunct in the medical and surgical treatment of such infectious diseases as gonorrhœal arthritis, erysipelas, furunculosis, and some forms of cystitis and septichæmia.

Das Radium in der Biologie und Medizin. Von Professor E. S. London, Leiter der pathologischen Abteilung am K. Institut für experimentelle Mediin zu St. Petersburg. Mit 20 Abbildungen im Text. Leipzig: Akademische Verlagsgesellschaft m. b. H., 1911. Pp. 199.

Radium was introduced into medicine only fourteen years ago. Since that time many reports have been published on its medicinal value and biological importance. The author has systematically collected these reports found distributed in the literature of many tongues and has condensed them with care into a very valuable synopsis. The references he adds to his book take up about twenty-two pages, where we find represented English and German, French and Italian, Russian and Polish.

MEDICOLITERARY NOTES.

Dr. Joseph Price, of Philadelphia, who died on June 6th, was noted for his charity, which extended much further than the mere performance of operations without charge; the necessary food, medicine, and clothing were forthcoming for many patients obviously in need of such assistance, its source often being unknown to the recipients. On the day of his death, he insisted on getting out of a sick bed to perform an operation despite advice to the contrary. As a lecturer and presiding officer over many leading associations, Dr. Price had unique talent; his ready wit kept his auditors in constant good humor, without, however, his straying from his subject or giving utterance to anything alien to the matter in hand. He is sorely missed by profession and public alike.

* * *

In the July *Cosmopolitan* Dr. Woods Hutchinson attacks one of the most cherished institutions of civilization, the kindergarten; he is quite sure that children would be better off outdoors, and states that no one should dream of allowing a child to do any kind of close work before it is seven years of age. A physician is the hero of Why I Left My Wife, by Virginia Terhune Van de Water, a tale that will interest more than one general practitioner; a young doctor is also the hero of Sir Gilbert Parker's The Level Crossing. There is still another physician, Doctor Putnam, in The Spontaneous Combustion Case, by Arthur B. Reeve. In this last story the word temperature is misused, as it too often is by physicians who ought to know better, to signify fever.

* * *

In Baiting the Bridal Pair, Bailey Millard pays his respects in the June *Delineator* to our disgusting native practice of hazing the newly married, a performance likely to lay the foundation of a perpetually wrecked nervous system for the bride at least. It seems to be a manifestation of a national characteristic, that of the affectionate and minute minding of other people's business. Samuel Hopkins Adams, in The Health Master, tells of a new kind of family physician, who is to keep the family in health on the Chinese plan of having his emolument cease when a member of it becomes ill. A statement, in the housekeeping department, to the effect that a gallon and a half of a certain punch would serve fifty persons elicited our special attention, when we discovered that the punch was a non-alcoholic concoction. We also read hopefully an article on how to be beautiful, by Miss Billie Burke, but found that we should have to massage cold cream into our face every morning for twenty minutes, brush orris root through our hair, and have someone rub our head at the base of the brain for a half hour daily; we should also have to pencil our eyebrows every night, taking care to remove the marks before going out next morning.

Dr. Rupert Hughes, who has written at least two successful plays and any number of good stories, making immense sums of money and otherwise having experiences most unusual to a graduate in medicine, had a story called The Old Nest in the *Saturday Evening Post* for June 3d. It was a good story about a lawyer who was "widowered"; we hope when he became an associate Supreme Justice of the United States, as Dr. Hughes says he did, he never again used such a word, because a Supreme Justice should have philological as well as other responsibilities.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from plague, yellow fever, and smallpox were reported to the surgeon-general of the United States Public Health and Marine Hospital Service during the week ending June 9, 1911:

Places.	Date.	Cases.	Deaths.
Cholera—Foreign.			
[illegible]	[illegible]	[illegible]	[illegible]
Plague—Foreign.			
Arabia—[illegible]	[illegible]	[illegible]	[illegible]
Brazil—[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Indo-China—Saigon	Apr. 3-9	3	1
Mauritius	Mar. 3-30	4	2
[illegible]	[illegible]	[illegible]	[illegible]
Yellow Fever—Foreign.			
[illegible]	[illegible]	[illegible]	[illegible]
Brazil—[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
British Gold Coast—Accra	May 29	Present	
[illegible]	[illegible]	Present	
[illegible]	[illegible]	[illegible]	[illegible]
Smallpox—Domestic.			
[illegible]	[illegible]	[illegible]	[illegible]
California	May 1-31	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Maine	May 1-31	4	
Michigan	Apr. 1-30	52	
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
New York	Apr. 1-30	5	
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Smallpox—Foreign.			
Argentina—Rosario	Mar. 1-31	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Austria-Hungary—Krain	Apr. 30-May 6	2	
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Canada—Newcastle	May 21-27	1	
Canada—Ottawa	May 14-27	7	
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
China—Hongkong	Apr. 15-22	6	
[illegible]	[illegible]	[illegible]	[illegible]
Ceylon—Colombo	Apr. 16-22	1	
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
India—Bombay	Apr. 23-29	35	
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

Places.	Date.	Cases.	Deaths.
[illegible]	[illegible]	[illegible]	[illegible]
India—Rangoon	Apr. 16-29	[illegible]	[illegible]
Indo-China—Saigon	Apr. 3-9	[illegible]	[illegible]
Italy—Genoa	May 1-15	2	
Italy—Naples	May 9-15	20	4
Italy—Palermo	May 7-13	8	5
Mexico—Ensenada	May 14-20	3	
Mexico—Nogales	May 21-27	3	
Mexico—Salina Cruz	May 14-20	1	
Mexico—Tampico	May 14-20	6	
Portugal—Lisbon	May 7-13	16	
Russia—Moscow	May 1-6	30	11
Russia—Riga	Apr. 30-May 6	1	
Russia—St. Petersburg	Apr. 23-May 6	42	11
Russia—Warsaw	May 12-18	2	1
South Africa—Johannesburg	Apr. 15-22	3	
Spain—Valencia	Apr. 23	2	
Straits Settlements—Singapore	Apr. 9-15	3	2
Turkey—Constantinople	May 8-14		1

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending June 7, 1911:

BLUE, RUPERT, Surgeon. Detailed to represent the Service in the Section on Preventive Medicine and Public Health of the American Medical Association to be held in Los Angeles, Cal., June 26 to 30, 1911.

BROOKS, S. P., Acting Assistant Surgeon. Granted two days' leave of absence, May 27 and 28, 1911, under paragraph 210, Service Regulations.

BROWN, F. L., Pharmacist. Relieved from temporary charge of South Atlantic Quarantine Station, and ordered to proceed to Wilmington, N. C., and report to the medical officer in command for duty and assignment to quarters; granted fifteen days' leave of absence from June 1, 1911.

CARRINGTON, P. M., Surgeon. Granted fourteen days' leave of absence from June 23, 1911.

FRIEDMAN, H. M., Acting Assistant Surgeon. Granted two days' leave of absence, May 25 and 26, 1911, under paragraph 210, Service Regulations.

GOLDSBOROUGH, B. W., Acting Assistant Surgeon. Granted one day's leave of absence, June 7, 1911.

HUNT, REID, Professor of Pharmacology. Detailed to represent the Service at the sixty-second annual meeting of the American Medical Association to be held at Los Angeles, Cal., June 26 to 30, 1911.

KERR, J. W., Assistant Surgeon-General. Granted twenty-two days' leave of absence from July 10, 1911.

LONG, J. D., Assistant Surgeon General. Granted one month's leave of absence from July 1, 1911.

NYDEGGER, J. A., Surgeon. Granted one month's leave of absence from May 24th, on account of sickness.

OSBORNE, J. L., Pharmacist. Granted thirty days' leave of absence from May 30, 1911.

PETTUS, W. J., Assistant Surgeon General. Granted nine days' leave of absence from June 2, 1911.

RODMAN, J. C., Acting Assistant Surgeon. Granted twelve days' leave of absence from June 13, 1911.

RUCKER, W. C., Passed Assistant Surgeon. Directed to proceed to Victor, Montana, and report to Passed Assistant Surgeon T. B. McClintic for duty in the investigation of Rocky Mountain spotted fever.

SLAMBERG, N. L. A. K., Acting Assistant Surgeon. Granted twenty-five days' leave of absence from June 2, 1911.

SMITH, F. C., Passed Assistant Surgeon. Detailed to represent the Service at the annual meeting of the National Association for the Study and Prevention of Tuberculosis to be held in Denver, Colo., June 20 and 21, 1911.

SPANGLER, L. C., Pharmacist. Granted three days' leave of absence from June 3, 1911.

TROXLER, R. F., Pharmacist. Granted one day's leave of absence in May, 1911, under paragraph 210, Service Regulations.

VOGEL, C. W., Passed Assistant Surgeon. Granted five days' leave of absence from June 6, 1911.

WERTENBAKER, C. P., Surgeon. Detailed to attend the annual meeting of the Association of Surgeons of the Norfolk and Western Railway to be held in Richmond, Va., June 15 and 16, 1911.

WETMORE, W. O., Acting Assistant Surgeon. Granted three days' leave of absence, May 5th, 11th, and 12th, under paragraph 210, Service Regulations.

White, J. H., Surgeon. Granted twenty-one days' leave of absence from June 1, 1911, without pay.

William, L. L., Surgeon. Detailed to attend the thirty-eighth annual meeting of the National Conference of Charities and Corrections to be held in Boston, Mass., June 7 to 14, 1911.

Wilson, J. G., Acting Assistant Surgeon. Granted one day's leave of absence, May 13, 1911, under paragraph 210, Service Regulations.

Young, G. B., Surgeon. Granted nineteen days' leave of absence from June 1, 1911.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending June 10, 1911

Appel, Aaron H., Colonel, Medical Corps. Relieved from active service after more than thirty-one years' service.

Blodgett, Harry H., Lieutenant, Medical Reserve Corps. Recently appointed, ordered to active duty, and assigned to duty at Fort Riley, Kansas.

Brechemin, Louis, Colonel, Medical Corps. So much of paragraph 6, S. O. No. 178, August 1, 1910, War Department, as contains directions to proceed to Omaha, Neb., for duty as Chief Surgeon, Department of the Missouri, is revoked; Colonel Brechemin will proceed to St. Louis, Mo., and relieve Colonel Snyder as medical supply officer in that city.

Davis, William R., Captain, Medical Corps. Ordered to remain on duty at the U. S. Military Academy, West Point, N. Y., until June 14, 1911.

Fisher, Henry C., Major, Medical Corps. Left Columbus Barracks, Ohio, on ten days' leave of absence.

Jackson, Thomas W., Lieutenant, Medical Reserve Corps. Granted one month and ten days' leave of absence about June 10, 1911.

Love, Joseph W., Lieutenant, Medical Reserve Corps. Reported for temporary duty at Fort Andrews, Mass.

Morse, Charles F., Captain, Medical Corps. Granted leave of absence for two months and fifteen days about August 15, 1911.

Murray, Wilson, Lieutenant, Medical Reserve Corps. Ordered to accompany Field Artillery from Fort Snelling, Minn., to Sparta, Wis., and then return to station Fort William H. Harrison, Mont.

O'Connor, R. P., Major, Medical Corps. Relieved from duty at Fort Screven, Ga., to take effect upon return from Galveston, Texas, and ordered to Fort Huachuca, Arizona, for duty.

Reno, William W., Major, Medical Corps. Ordered to inspect Hospital Corps, N. H. Militia, at encampment near Wilton, N. H., June 12 to 17, 1911.

Reynolds, Charles R., Major, Medical Corps. Assigned to duty as inspector, sanitary troops organized militia, State of New York, encampment, Peekskill, N. Y.

Reynolds, Royal, Lieutenant, Medical Corps. Left Cienegas, N. M., en route to Denver, Colo., for duty.

Siler, Joseph F., Captain, Medical Corps. Ordered to remain on duty at the U. S. Military Academy, West Point, N. Y., until June 14, 1911.

Snyder, Henry D., Lieutenant Colonel, Medical Corps. Upon being relieved from duty in charge of the Medical Supply Depot, St. Louis, Mo., by Colonel Louis Brechemin, Medical Corps., will proceed to New York City and assume charge of the Medical Supply Depot in that city as heretofore ordered.

Woodbury, Frank T., Major, Medical Corps. Relieved from duty at Fort Assinniboine, Mont., and from temporary duty at Fort D. A. Russell, Wyoming, and ordered to Fort Screven, Ga.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending June 10, 1911

Backus, J. W., Passed Assistant Surgeon. Detached from the *Pennsylvania* and ordered to the *Iris*.

Bogan, F. M., Surgeon. Detached from the *Wisconsin* and ordered to duty at the Naval Hospital, Portsmouth, N. H.

Davidson, A. B., Assistant Surgeon. Detached from the *Iris* and ordered to the Pacific Torpedo Fleet.

Derr, E. Z., Medical Director. Upon being placed on the retired list on June 10th, detached from the navy recruiting station, Providence, R. I., and ordered home; transferred to the retired list from June 10, 1911.

Downey, J. O., Passed Assistant Surgeon. Detached from the *Prairie* and ordered to the *Chester*.

Holcomb, R. C., Surgeon. Detached from the *Delaware* and ordered to the *North Dakota*.

Jenness, B. F., Passed Assistant Surgeon. Detached from the Naval Hospital, Portsmouth, N. H., and granted sick leave for three months.

Ohnesorg, K., Surgeon. Detached from the navy yard, New York, N. Y., and ordered to duty at the Naval Hospital, Philadelphia, Pa.

Pleadwell, F. L., Surgeon. Detached from the *North Dakota* and ordered to the *Delaware*.

Births, Marriages, and Deaths.

Born.

Hayden.—At Washington, D. C., on Tuesday, May 30th, to Passed Assistant Surgeon Reynolds Hayden, U. S. Navy, and Mrs. Hayden, a son.

Married.

Deevy—Buckley.—In New York, on Wednesday, June 7th, Dr. Joseph Paul Deevy and Miss Margarete Buckley.

Heflebower—Boesch.—At Washington, D. C., on Tuesday, June 6th, Lieutenant Roy C. Heflebower, Medical Reserve Corps, United States Army, and Miss Florence Mae Boesch.

Lee—Gordon.—In Germantown, Pennsylvania, on Wednesday, June 14th, Dr. W. Estell Lee and Miss Margaret Gordon.

Died.

Beck.—At Pelham Heights, New York, on Thursday, June 8th, Dr. Carl Beck, aged fifty-five years.

Brent.—In Toronto, Ontario, on Saturday, June 3d, Dr. Thomas Henry Brent, aged sixty-two years.

Darling.—In Lauraville, Maryland, on Tuesday, June 6th, Dr. Edwin G. Darling, aged fifty-two years.

De Lashmutt.—In Shelburn, Indiana, on Thursday, May 25th, Dr. Van L. De Lashmutt, aged seventy-nine years.

Delker.—In Philadelphia, on Wednesday, May 31st, Dr. William Delker, aged fifty-nine years.

Dill.—In Newark, New Jersey, on Friday, June 9th, Dr. Daniel M. Dill, aged seventy-one years.

Dixon.—In St. Louis, Missouri, on Monday, June 5th, Dr. Charles Henry Dixon, aged fifty-four years.

Earle.—In Nashville, North Carolina, on Wednesday, May 31st, Dr. J. M. Earle, aged seventy-eight years.

Ellis.—In Baltimore, Maryland, on Saturday, June 3, Dr. Charles M. Ellis, aged seventy years.

Henkle.—In Winter Park, Florida, on Tuesday, May 30th, Dr. Miller Henkle, aged sixty-four years.

June.—In Waterport, New York, on Tuesday, June 6th, Dr. Frederic L. June, aged fifty-six years.

Law.—In Denver, Colorado, on Sunday, May 28th, Dr. John Law, aged sixty-eight years.

Lyons.—In Spencer, West Virginia, on Thursday, June 1st, Dr. Augustus J. Lyons, aged thirty-eight years.

Moore.—In Oakfield, Wisconsin, on Friday, June 2d, Dr Charles H. Moore, aged forty-six years.

Parsons.—In Meadville, Pennsylvania, on Thursday, June 1st, Dr. Edgar C. Parsons, aged sixty-four years.

Phillips.—In Minneapolis, Minnesota, on Wednesday, May 31st, Dr. Edwin Phillips, aged seventy-eight years.

Prendergast.—In Philadelphia, on Saturday, June 3d, Dr. Michael T. Prendergast, aged fifty-seven years.

Price.—In Philadelphia, on Tuesday, June 6th, Dr. Joseph T. Price, aged fifty-seven years.

Rice.—In Flint, Michigan, on Tuesday, May 30th, Dr. James B. Rice, aged forty-six years.

Rush.—In St. Louis, Missouri, on Friday, June 2d, Dr. William Rush, aged forty-four years.

Strong.—In Westfield, New York, on Tuesday, June 6th, Dr. Thomas D. Strong, aged eighty-nine years.

Voorhees.—In New Brunswick, New Jersey, on Tuesday, June 6th, Dr. Edward B. Voorhees, aged fifty-five years.

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Original Communications.

SIMPLE, RAPID, AND COMPLETE REDUCTION OF DEFORMITY IN FIXED LATERAL CURVATURE OF THE SPINE.

BY EDVILLE GERHARDT ABBOTT, A. M., M. D.,
Portland, Me.,

Surgeon in Charge to the Children's Hospital; Orthopædic Surgeon to the Maine General Hospital; Instructor in Orthopædic Surgery, Bowdoin College.

Lateral curvature of the spine is a deformity which yields to treatment as readily as club foot or bow legs, and is curable even after it has become fixed in its distorted position through structural changes.

One of the first principles in the correction of any deformity is not only to bring the distorted part back to its normal anatomical position, but to place it in an overcorrected position.

Wolff, in his law of "functional adaptation," shows that if any part of the anatomy is changed from the normal posture to the abnormal and habitually used, the structures involved undergo a change throughout their entire texture to adapt themselves to the new position. The converse is also true, i. e., if a deformity in which the parts involved have become changed in their shape is brought back to a corrected position and used, those parts again undergo a change and become normal in their contour.

If it is a fact that these are the two primal laws which govern the correction of deformities, it is evident that all that is necessary to overcome any deformity is, first, to overcorrect it, thereby removing all restrictions to normal motion, and then to maintain and use it in a corrected position until the distorted structures involved, the bones, muscles, and ligaments, become normal in their shape and structure.

It has been possible for a long time to apply these laws easily and successfully in the case of all deformities not due to loss through disease of some of the parts involved, with the exception of fixed lateral curvature of the spine. The last one to yield to the efforts of the orthopædic surgeon was congenital dislocation of the hip joint.

The final results, which are presented in this paper, were obtained from work done on fixed lateral curvatures, and in all the cases there were deformity of the ribs and marked rotation of the vertebræ. The functional curvatures, which are unimportant, are not considered.

In much of the detail I am indebted to my colleagues, Dr. H. A. Pingree, who devised an ingenious method for application of the fixed dressing; Dr. F. W. Lamb, who did all the photographic and x ray work; Dr. C. A. Caswell, who was most helpful in working out some of the mechanics of the spine; and, above all, to Mr. Oramel Stanley, a third year medical student, who was willing to undergo the process of first having established a fixed right dorsal lateral curvature of his spine, then of having this deformity changed to a fixed left dorsal curvature, and finally of being made straight again.

The mechanics of the normal spine, the changes from the normal to the scoliotic spine, the laws which govern the movements of any flexible column, and the application of these laws, not only in the reduction of the deformity in lateral curvature, but in determining the cause of the same, were worked out by processes of induction and deduction, and cover a period extending over twelve years. It is impossible in this article to present the numerous experiments which were conducted, not only in order to get the desired results, but also to explain why the method used does correct the deformity. It may be stated, however, that the bending of the spine follows the same laws which govern the bending of any flexible body, that some of the experiments were similar to those made by Lovett,[1] and that the results were in some instances the same, but that the ultimate conclusion was exactly opposite. All the experiments were made upon the living, and by frequent use of the x rays a most careful record was kept of the changes taking place in the spine.

There were several fundamental principles established, however, upon which rest not only the development, but also the removal of a lateral curvature. It has been possible to prove that the different varieties of curvatures can take place only with the spine held in certain positions, also that, to remove these curves, the spine must be placed in the same position, i. e., flexed or extended, in which it was when the curvatures developed.

Deductions drawn from observations made upon children sitting in a faulty position led to the use of the method which effected not only a complete, but a rapid reduction of the deformity.

Almost invariably when a child sits writing at a desk (Fig. 1), he assumes a position which causes a lateral curving of the spine. This is a physiological lateral curvature, and with the lateral bending there is a corresponding rotation of the vertebræ and a pushing backward of the ribs on the convex side of the curve. In analyzing this posture, which is perfectly normal, the question at once arises, what is the difference between this physiological curva-

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ture and that of the pathological? If the child can so readily assume a posture which does produce lateral curving of the spine with rotation of the vertebræ, which is exactly the same condition found in a pathological curve (Fig. 2), only of a lesser degree, why should not the physiological change to the pathological? If the physiological curve by long continued habit does become pathological, why could not the pathological be removed, if the spine is fixed in an opposite position (Fig. 3)—overcorrection—provided that it be possible to place and hold it in such a position? In other words, the usual posture of a child sitting at a desk writing is that in which a physiological curve is produced which in every way is the same as a pathological curve, except that the physiological disappears when the child assumes an upright position and the pathological does not. Now, if this position is habitual, and the twist in the spine becomes fixed and produces a fixed curvature, why should it not be possible to remove it by untwisting the spine and placing it in a support in the opposite position, i. e., if a spine has a right dorsal curve, acquired by habitually sitting in the position usually assumed when a child writes at a desk (Fig. 1), why cannot it be overcorrected by placing the spine in the deformity of left dorsal curvature, which is the opposite position (Fig. 3)?

In order, however, to prove that this condition was the first stage of a pathological curve, it was necessary to apply a fixed dressing and await developments. A model was secured (Mr. Stanley; Figs. 4 and 5), placed in this position, and a plaster corset applied (Fig. 6). The corset was worn one month and then removed. It was found that the lateral curve, a right dorsal, had increased after the corset was applied, and that the dorsal curve had become fixed, with marked prominence of the ribs. When the model assumed the upright position, there was, however, not only a fixed right dorsal curvature, but a marked compensatory left lumbar curve (Fig. 7). The model was then bent forward, and a photograph taken showing the bulging of the ribs (Fig. 8).

In order that no mistake in the character of the distortion might be made, an x ray picture was taken (Fig. 9), which shows that the curvature and rotation correspond to those found in all cases of right dorsal, left lumbar scoliosis.

The fixed right dorsal curvature having been established, our next problem was to see if it was possible to convert this into a left dorsal curvature.

The model was placed in flexion, lateral traction made, and another corset applied (Fig. 10), with the patient in the position opposite to that of the former curve. This corset was worn for a month and then removed with the following result: A left dorsal curve was established which was even more marked than the right had been, and it was found to be fixed. On placing the model on his feet a right lumbar compensatory curve appeared just as the left lumbar curve had appeared in the previous experiment (Fig. 11). The model was then bent forward to show the bulging of the ribs and photographed (Fig. 12). An x ray picture was made which shows the characteristic curve and rotation of this form of lateral curvature (Fig. 13). In both instances after the corset was removed it was impossible for the model to overcome the curvature by his own efforts.

It was, however, a comparatively easy matter to correct this curve by putting on a corset with the spine in the same position as when the first fixed dressing was applied, and the result was a normal condition (Figs. 14 and 15).

An analysis of the foregoing experiments develops several points worth noticing before we pass to a consideration of the application of this method in the correction of the deformity of lateral curvature.

Following Wolff's law of functional adaptation, in which he has shown very conclusively that not only the bones, but also the muscles and ligaments, change their shape and internal structures according to the work required of them, we find that the changes of the parts involved in lateral curvature, like those in all other deformities, are due to a continuous use of these parts in a faulty position, and that the amount of deformity and change of structure depend wholly upon the degree and time of continuance of the faulty posture.

Extensive observations seem to show that, with the exception of those few cases following disease of some part of the deformity, lateral curvature is due to the long continuance of a faulty position, in fact, all cases, apparently, are caused by this condition, the majority from habit, and the rest from disease.

This law, as already stated, not only holds true in the change from the normal to the pathological, but also in the converse, i. e., in a fixed lateral curvature, the structures which are involved change back to the normal, if the spine is held in a normal position and used in that position. In other words, if a lateral curvature is straightened and the spine held and used in this position, the deformed vertebræ, ribs, ligaments, and muscles regain their normal shape and structure.

In a lateral curvature, as in other deformities, it is necessary first that the deformity be overcorrected, if it is to be brought to a normal condition, for the following reason: It is not alone sufficient in overcoming the deformity of lateral curvature to restore the parts to a correct anatomical position, for normal motion of the spine extends in certain directions many degrees beyond this; therefore, it is just as necessary to remove all restriction to normal motion as to correct the deformity; and this can be done by first obtaining overcorrection.

A method for accomplishing overcorrection is easy of determination in almost all deformities, but in lateral curvature the problem is more complex. It has been apparently impossible to cause a lateral curvature to yield to any force applied to it, as the spine presents peculiar difficulties, not only in its anatomical structure, but also in its mechanics.

In all methods heretofore employed the force has been applied against the deformity regardless of the arc through which the spine passed in the development of the curvature.

In club foot the foot is rolled up; in order to correct it, it must be unrolled, and the various parts of its anatomy must travel through the same arc in untwisting that they traversed in the process of



FIGURE 1.



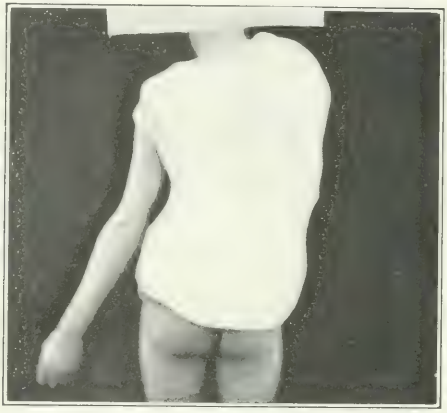
FIGURE 2.



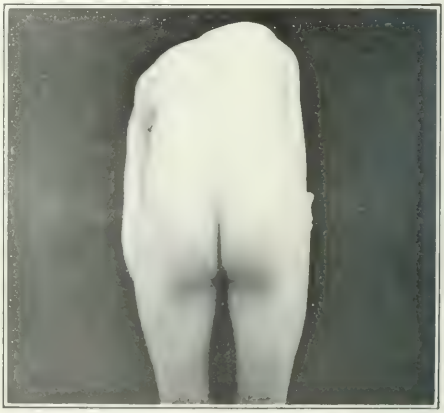
FIGURE 3.

















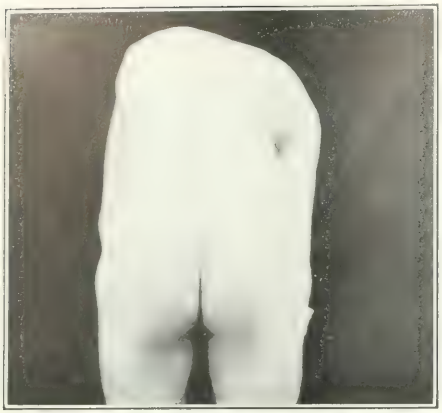


FIGURE 13.



FIGURE 14.



FIGURE 15.











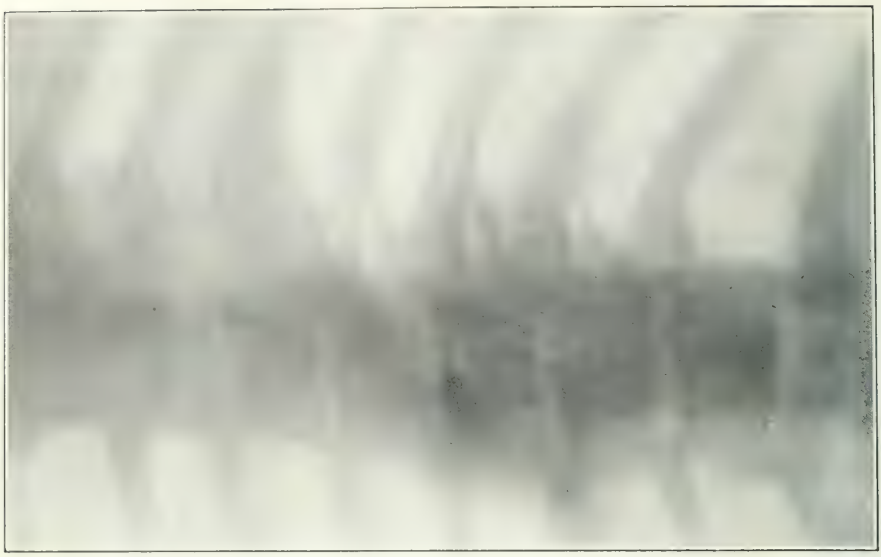


Figure 2a.



Figure 2a.











FIGURE 26.





FIGURE 28.





twisting, only in the opposite direction. The same principle holds true in lateral curvature; the parts involved must retrace the same route that they took in its development.

The cases selected for correction, by the method used in inducing and reducing the lateral curvature in the model, all had fixed curves with deformity of the bone. There was no attempt to choose those which seemed favorable; in fact, the severe cases were taken in preference from the Hospital Clinic, and the cuts illustrating the results are from an average case, as there were objections raised to the publication of the pictures in some of the worst deformities. Several of the patients had been under treatment by exercises for a long period, and in none of them was the deformity changeable by muscular efforts upon the part of the patient.

The ætiology might be classified as follows: Two were congenital, one rhachitic, five occupational or habitual, and two were paralytic.

There were several varieties which were tabulated as follows: Six were right dorsal left lumbar, two left dorsal right lumbar, one left total, and one left lumbar.

Before commencing the corrections a careful physical examination of all the patients was made by Dr. Webster and Dr. Burrage, of the medical staff of the Children's Hospital; no defects were found except in the two paralytics, who showed nothing abnormal except the paralysis, and in one congenital who had extreme displacement of the heart.

The records of the change in the deformities were made as follows: The patient was photographed first in the upright position with the spinous processes marked, and then in the flexed position to show the deformity of the ribs; an x ray photograph was also made of that portion of the spine showing the greatest deformity. After correction was discontinued the patients were again photographed and x ray pictures taken to compare with the originals.

In some of the severe deformities the corsets were removed as soon as the apparent deformity, i. e., the bulging of the ribs, was overcome, and before the curve of the spine had had time to change completely.

There can, however, be no doubt as to the final result had the correction been continued longer, for in some of the worst cases corsets were worn until all the anatomical parts were completely restored to their normal position. In most of the cases the overcorrection was carried to a point where it was believed that, when the corsets were removed and muscular exercises instituted, the patient would not show any deformity, unless an x ray picture was taken; and it was also believed that whatever curve or rotation was left would finally disappear under this treatment. In some cases, removable corrective corsets were worn for a time while the patient received the exercises. The later observations have proved these suppositions to be facts, and so far there has been but one error in judgment as to just the extent the overcorrection should be carried.

The rapidity and ease of the change in some of the patients from severe deformity to a normal condition seems almost incredible. In one of the cases shown (Figs. 16a and 17a) it was possible to remove the lateral curve and rotate the vertebræ back to the normal position in fourteen days (Figs. 18a and 19a). The x ray cuts show the position of the spine in this case before the corsets were applied (Fig. 20a); one week after the first corset was applied (Fig. 21a); and at the end of fourteen days after the second corset was removed (Fig. 22a).

Cuts of two other patients are shown, one representing a case of congenital, and the other a case of rhachitic scoliosis. In the former (Figs. 23b and 24b) two plaster corsets were applied; the first was worn two weeks and the second one week. The result at the end of this time shows a normal condition (Figs. 25b and 26b).

In the latter (Figs. 27c and 28c) the deformity was corrected by the application of one corset, which was worn three weeks with even a better result (Figs. 29c and 30c).

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THE ENDOBRONCHIAL TREATMENT OF ASTHMA.*

By Wolfe Freudenthal, M.D.,
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In a *Festschrift*, dedicated to the University of Breslau (Germany), Rudolph Voltolini stated that, according to his information, examination of the pharynx and nose by means of pharyngoscopy and rhinoscopy had been almost entirely ignored in France and England. The cause of this neglect, said Voltolini, lay mainly in the fact that this new method was more terrifying than laryngoscopy and that its application appeared more difficult.

That was written in June, 1861. To-day, after a lapse of exactly fifty years, we think quite differently of the difficulties of rhinopharyngoscopy; we have gradually overcome them all. But there is a new field that gives us just as much trouble as had the pioneers in laryngology. This field is bronchoscopy. Most likely our children will use the bronchoscope with the same ease as we do the laryngoscope; let us hope so!

Cases of removal of foreign bodies by means of bronchoscopy are numerous and, although every case of this kind is of interest, the writer does not intend to increase the list by a new one. For years, however, I have been under the impression that bronchoscopy should not be exclusively employed for the removal of foreign bodies—important as this may be—but that its sphere should be enlarged, if possible, to the same extent as that of the laryngoscope.

With this idea in view, I resorted to its use in different groups of cases and for more than six months made endobronchial examinations in patients with pulmonary tuberculosis. This may seem a danger to some, playwork to others, but in fact it is neither. More satisfactory, up to the present, however, have been cases of chronic bronchitis, although the writer is not yet prepared to give any data and reserves the privilege for some future time.

*Read before the [illegible] Rhinological, an[illegible]

[illegible] may I may be permitted to discuss bronchoscopy solely in connection with chronic asthma. Asthma is such a vague term that by many writers it is considered only a symptom, the underlying disease being in different parts of the body. Thus we speak of a dyspeptic asthma, a uterine asthma, a traumatic asthma, a dental asthma (very rare and caused by the irritation of the trigeminus by a perforating tooth), and so on.

Of greater interest to the fellows of this society is the form of asthma called essential, bronchial, or reflex asthma, κατ' ἐξοχήν. This will be the topic of to-day's paper. The *conditio sine qua non* of any attack of asthma is an irritation of the respiratory centre. This may be caused again by a pathological change of certain parts of the mucosa of the upper air tract. These parts are especially irritable and have been termed by Bruegelmann *asthmogenous points*. It was Voltolini who first drew attention to pathological conditions in the nose as productive of asthma. Afterward B. Fraenkel and Haenisch published similar observations, but it was left to Hack, of Freiburg, to open up a wide perspective for the treatment of asthma. You all know how much cauterizing has been done in the nose for its relief. The writer himself was cauterized by Hack thoroughly, nay, too thoroughly; afterward, nasal spurs were held responsible as the sole cause of the disorder. A natural reaction set in and it was averred that the nose comparatively seldom supplied the immediate exciting cause. Alexander Francis, of London, says: "Under certain morbid conditions of the respiratory centre any vagal or sympathetic irritation may be sufficient to act as the exciting cause of an asthmatic reflex. But I would particularly lay stress upon my belief that the nasal mucous membrane only takes its share, and that a comparatively small one, with other possible regions capable of supplying the sensory irritating stimulus; that is to say, it has no preferential claim to the supply of asthmogenous irritation."

Others hold the same opinion. I hope that the pendulum will not swing to the other extreme. We have learned to recognize the fact, however, that there are asthmogenous points elsewhere, i. e., outside of the nasal cavity. Thus the pharyngeal tonsil, when acutely inflamed, was considered, and justly so, to be an underlying cause of asthma.

Bruegelmann went lower down in the air tract, believing that whenever the respiratory centre is irritated a reaction follows that consists in a spasm of the trachea. Thus you see we are gradually nearing the seat of the asthmatic attack, viz., the bronchi and bronchioles.

Since morbid anatomy does not give any clew whatsoever to the nature of the disease, and since it has been the general belief that the phenomena attending a paroxysm of asthma were due to a constriction of the bronchial muscles, we have been desirous of seeing and treating the bronchi endoscopically after becoming familiar with the use of the bronchoscope.

Until recently Nowotny, of Krakau, Ephraim (1), of Breslau, and Horn (2), of San Francisco, were alone in this field of work. It is fair to remind you, however, that as early as 1838 Horace Green, of New York, introduced a catheter into the bronchi and injected medicaments. That was a crude method, but we cannot but admire the ingenuity of that excellent physician.

Pienasek, of Krakau, had also done very good work in this direction through lower tracheotomy long before Killian took up the subject. Pienasek's assistant, Nowotny, was really the first to study bronchial asthma by means of endoscopy. In seven out of eight cases he observed great improvement after the use of the bronchoscope. (*Internationales Centralblatt für Laryngologie*, 1909, p. 472.) Galebsky, of St. Petersburg, examined five cases during an attack and obtained about the same result as Nowotny (*Ibidem*, 1911, p. 110).

In reporting my own cases the one that interested me most will be cited.

Case I. H. M., aged twenty-seven years, a telegraph operator, had had asthma since his earliest childhood and believed he was born with it. All the members of his mother's family were asthmatic. Patient was unable to do any hard work and for that reason chose the profession of telegraphy. He was never able to sleep the entire night restfully. In the morning it was very difficult for him to rise and he was so short of breath that it took him over an hour to dress. Damp weather increased this difficulty. He had a severe hæmorrhage from the throat four weeks previously. Nasal breathing free.

When patient entered my office one could hear from a distance the characteristic rattling in his chest. On examination there was found a slight deviation of the septum narium, but plenty of room for respiration. Pharynx and larynx congested, marked emphysema, and loud râles over the lungs.

Patient had consulted almost every physician of any renown (and dozens of others) and was rather sceptical about any possible cure. This naturally was the first difficulty to overcome. I tried to make an endoscopic examination of the bronchi at once and with some difficulty managed to enter the right bronchus. There I found a condition very similar to that described by Horn, viz., a scarlike mass obstructing the entire lumen of the bronchus. The obstruction was overcome by local application of cocaine (20 per cent.), after which such a mass of secretion was ejected that we had to remove the tube. A few minutes later it was reintroduced, and about five to ten drops of orthoform emulsion injected.

Four days later a second application was made. Improvement set in only slowly. The treatment was repeated twice a week and gradually with such success that after five weeks the young man walked over seven and a half miles, while formerly he had great difficulty in covering three or four blocks. At this stage I presented the patient before a medical society. The same night, he exposed himself too much to the weather, the temperature of the air having dropped about 30° F., and as a result, all the symptoms returned with the same intensity as at first. In fact he could not stand bronchoscopy at all. So we resorted to injections of the emulsion through the larynx into the trachea. After several applications he felt improved and we could resume bronchoscopy. After ten more endobronchial applications the patient felt absolutely free and his asthma had apparently left him entirely. He has been well for the last six months.

Epicrisis. When this patient was discharged as "apparently" cured, I asked myself: Is this the same kind of a cure that Hack achieved by cauterizing the nasal mucosa, or the same kind obtained later on by our distinguished colleague, Francke H. Bosworth, by the removal of a nasal spur? In reply I would most emphatically say, no. For my case represents a different form of asthma, one in which the asthmogenous points are not in the nose, but in the lower and lowest portion of the air tract. (Parenthetically, I should like to mention here that it would naturally be absurd not to

remove a large nasal spur or nasal polypi or the like in a case of asthma. Free breathing through the upper air tract is the first consideration.) Nor was the cure due to autosuggestion, as the patient had gone through all that many a time without the least improvement.

The amount of discharge that came from the bronchi during the endoscopic examination and a few hours afterward was enormous. This, together with a rational hygiene, undoubtedly had effected the cure. (Nowotny was the first who attributed the great relief following bronchoscopy to the immense discharge that accompanies it, and I believe he was right.)

That my patient still has emphysema of the lungs goes without saying. But it is more than likely that he will lose a great deal or all of it, since he is young.

Case II. Mrs. J. F., aged thirty-three years, had had five children, all living and healthy. For the last six years she could not rest at night. She hardly fell asleep before she awoke with a paroxysm of coughing which lasted two to three hours. Occasionally she was free from attacks for a few nights—this was seldom the case last winter. Her nasal polypi had been removed and there was no trace of them left. On and off the iodides or salicylates gave relief. Patient was very timid, easily frightened, and nervous.

The examination of the upper air passages revealed nothing of any account and bronchoscopy was done immediately under cocaine. The amount of mucus discharged was again enormous, so that several attempts had to be made before the lower parts of the bronchi could be reached. These were found to be free from mucus and fifteen drops of adrenalin hydrochloride (one to 1,000) were injected. The immediate effect was very gratifying, the patient feeling perfectly well for five days. On the sixth day she returned with the same symptoms as before. Bronchoscopy was more difficult than the first time, but the bronchi were freed again of a great deal of mucus and the same amount of adrenalin was injected. She did not return until ten days later. She had been feeling well, but her mental equilibrium was suddenly upset by some family disturbance. The third bronchoscopy was done, but unsuccessfully, as the patient did not retain anything, but vomited every medicament injected. Very little relief was experienced after that. The treatment was not resumed until two weeks later, and from that time on she steadily grew better. I saw her every week for about two months, injecting always from fifteen to twenty drops of adrenalin. She has had no attack for more than four months and may also be considered cured.

Epicrisis. In this case, even more than in the first, the introduction of the tube alone seemed to contribute a great deal toward the cure, since it helped to free the air passages from masses of secretion that are so distressing to the patient. Of course, strong solutions of cocaine aid materially in widening the lumen of the bronchi, while the final application of adrenalin seemed to assist greatly in drying up the bronchial mucosa. In fact, the writer believes more and more in the efficacy of adrenalin, if applied directly to the mucosa of the bronchi after these have been freed from all mucus.

Case III. B. J., a tailor, aged forty-nine years, had asthma for the last seven or eight years, being often awakened by an attack at two o'clock in the morning and compelled to sit up at the open window to get breath. His condition had grown worse during the last three months, his sleep being disturbed every night. He was too weak to work and afraid to go out of doors for fear of catching cold. His appetite was poor and the bowels were constipated.

On examination we found a rhinitis sicca with formation of crusts, but no accessory sinus disease. There was a small spur on the left side of the septum narium, but irritation of this with the probe did not produce asthma. The existing pharyngitis sicca with large granulations also failed to give asthmogenous points. After cleansing the nasal passages bronchoscopy was tried, but in vain. In this case it was even impossible to get a good view of the larynx. After sufficient training bronchoscopy was satisfactorily performed. In one of the bronchi there was seen what appeared to me to be a distinct ulcer. As tuberculosis and syphilis could be excluded, that must have been one of the benign ulcerations occurring in the pharynx and described by the writer as of rheumatic origin. Whether the pain over the chest was due to this ulcer, or to dyspnœa and coughing, is difficult to decide. The writer's propæsin emulsion was injected and all the symptoms improved afterward. Four days later a second bronchoscopy was done, and the ulcer was found to be much smaller; same treatment. Six days later, at the third bronchoscopy, no ulcer could be seen. That does not mean that it had disappeared absolutely. Perhaps, on account of its small size, it could not be detected. After four more endobronchial applications the patient felt perfectly relieved and has not had any attack since the last eight months.

Epicrisis. While in the former case adrenalin was so effective we thought it best to apply here an analgetic of prolonged action and had every reason to be satisfied with the result produced by propæsin. No doubt, in treating a larger number of such cases, indications will be found for other drugs to be applied endobronchially.

Case IV. Mrs. L. W., aged thirty-eight years, three healthy children; no miscarriage. She had been well up to five years ago, when she was suddenly seized, after exposure to cold, with a severe attack of asthma. Such attacks occurred on and off during all that time, and, for the last six weeks, every night. Bronchoscopy was impossible under local anæsthesia, as patient resisted all our efforts to introduce a tube. Her condition becoming, if anything, worse, her nervous system wrecked, and the lives of her entire household made miserable, as an *ultimum refugium*, general anæsthesia was proposed and accepted with great delight (!). The writer did not share that delight, and felt somewhat doubtful as to the final outcome. Her breathing was never good, the bronchial secretion always great, the pulse weak, and besides this, a systolic heart murmur was present. It was but natural that our anticipations in regard to the difficulty of general narcosis were verified. The patient became cyanotic repeatedly and the anæsthesia had to be discontinued in the beginning. Afterward, whenever the tube was introduced, she would stop breathing. Finally, after many attempts, we succeeded in inserting the tube and clearing the bronchus of mucus. Twenty drops of adrenalin (one to 1,000) were injected and retained. Patient recovered within a few days from the shock and has not had any asthmatic attack for the last eight weeks.

Besides these four cases mentioned, seven more have been treated, in two of which only a completely negative result was obtained from the treatment. In other words, out of a total of eleven patients treated endobronchially, eight can be considered as cured, three were greatly improved, and two showed no benefit whatsoever. It would appear that these data compare very favorably with the results obtained by other methods.

It was always a matter of great interest to secure a view of the interior of the trachea as well as of the bronchi in such affections. In one case there was apparently a constriction of the trachea, which could not be overcome at the first bronchoscopy. The whole lumen was swollen and closed and could not be dilated by cocaine. This no doubt was one of those cases of spasm of the trachea described by Bruegelmann, which he considers to be due to an irritation of the respiratory centre.

In the bronchi such a spasm could be seen more often, but it generally disappeared after cocaine. This could be observed endoscopically, not alone by the opening up of the bronchus, but by the action of the muscular apparatus afterward.

The ulceration found in one case has been described previously, and, so far, is the only one on record.

In all cases we used bronchoscopy under local anæsthesia, we invariably kept the patient in an upright position. These sittings were made in the morning, on an empty stomach whenever possible. Some pain always followed bronchoscopy. In some cases it lasted three or four days, in others only a few hours.

The duration of the treatment in my cases was much longer than in those treated by Ephraim. This author treated fifty-three patients with bronchial asthma. Of these twenty-one were cured by a single endobronchial application, and fourteen after repeated endoscopic treatment. The other patients were more or less improved, while in seven there was no improvement. What is surprising in this report is the rapidity of the cure achieved in the twenty-one patients. The writer was not fortunate enough to obtain quick results, but had to do bronchoscopy repeatedly and occasionally many times before he could pronounce a cure. Horn, of San Francisco, who is a very careful observer, also had to make endobronchial examinations repeatedly, but he had one case only to treat.

In conclusion, permit me to state that it has been extremely interesting to me to examine these cases endobronchially. I am convinced that there are asthmogenous points in the bronchi as well as in the upper respiratory tract. By attacking these points directly by topical endobronchial applications we have laid the foundation for a new means of combating and conquering that dreaded disease, bronchial asthma.

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2. *Journal of the American Medical Association*, lv, p. 930, September 10, 1910.

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AN OPERATION FOR THE RELIEF OF TUBERCULOUS PERITONITIS.*

By Aspinwall Judd, M. D.,
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[illegible]

In computing the value of operative interference in tuberculous peritonitis, we must bear in mind the fact that spontaneous recovery under proper dietetic and hygienic environment is not rare in this condition. The results, however, following the operation about to be described, have been so almost uniformly encouraging, that, in spite of the small number so far performed, I have thought it worth while to publish the results obtained.

The earlier operations for tuberculous peritonitis were the results chiefly of a mistake in diagnosis. When tuberculous peritonitis was found, as a rule, after careful examination the abdomen was closed. In a certain proportion of these patients recovery resulted. As nothing was done in these cases beyond merely opening the abdomen and exposing the foci to the air, it was thought that in all probability the result obtained was simply due to the admitting of oxygen and light into the peritoneal cavity.

Several years ago it was my privilege to observe the results obtained in a number of cases by Dr. Samuel Lloyd, with a technique which, in a modified form, I have since adopted, and my results are due in large measure to his ideas.

Some twenty-two cases have been operated in by me within the past four or five years, nineteen in adults and three in children. In nearly all cases the primary improvement was very marked. In some, the improvement was only temporary; in others a second operation was required to obtain the ultimate result. In only a few, four in number, and these in an advanced stage of the disease where the lungs or other organs were also considerably involved, was no improvement noticed.

Briefly, the operation consists in an incision three to four inches in length through the sheath of the right rectus muscle. Upon examination of the viscera and parietal peritonæum, disclosing the diagnosis of tuberculous peritonitis, the patient is eviscerated so far as possible. The intestines being caught in a nest of hot, moist towels, are thoroughly washed with a solution of fifty per cent. commercial hydrogen peroxide. The abdominal cavity is then thoroughly flushed with the same solution, after which it is washed out with a normal saline solution equally thoroughly, as are also the intestines. These are then replaced in their proper position within the peritoneal cavity, and the same is closed with three layers of satures. Primary union has followed in every case in which I have operated.

One of the chief objections raised to the old operation for tuberculous peritonitis was the fact that secondary infection very frequently occurred with a resulting slow and tedious convalescence. As in these cases it is extremely important that the patient should be gotten out of bed and about at as early a day as possible, it can readily be seen that primary union is an essential part of our operative proceeding. Hydrogen peroxide seems to help us to this end. It has been my habit in these cases to get my patients out of bed in from eight to twelve days, thoroughly protected by a snug abdominal binder made from adhesive plaster. General treatment for the relief of the tuberculous condition by means of supernutrition, proper dietetic and hygienic environment, and appropriate drugs is instituted. Hydrogen peroxide is valuable, not only as a treatment for tuberculous peritonitis, but also as a means of diagnosticating this condition in its earliest stages before it is readily perceptible by other means. Where hydrogen peroxide is poured upon the peritonæum, it produces a frosted appearance somewhat similar to a window pane on a cold winter's day. After the flushing with normal salt solution, the peritonæum not the seat of tuberculous peritonitis will resume its normal pink color. Where, however, this condition exists, the smallest miliary tubercles will stand forth pearly white upon a pink background.

*Read before the Society of the Greater City of New York, [illegible]

Of the twenty-two cases I have mentioned, five have been primary tuberculous appendicitis. Three of these were reported by me some two or three years ago at the Academy of Medicine. I have no doubt that many cases heretofore unrecognized can be determined by this method to be primary in the appendix. The recovery of these cases is truly remarkable. In most of them the patients have gained from twenty to sixty pounds within six months succeeding the operation. I had the pleasure, not long since, of presenting before a clinical society six patients, all of whom were in fairly advanced stages of the disease at the time of operation, none of whom had gained less than thirty and one sixty pounds following the operation. As I have already stated, relapses have occurred. In four of my cases I have found it necessary to resort to a secondary operation. I attribute my failure in the first instance to the fact that the hydrogen peroxide failed to come in contact with all of the tuberculous foci. These four patients have all done very satisfactorily as the result of their second operation. While it is as yet too early to claim a cure for this operation, and while I shall not be surprised to see a relapse, still, the results, coupled with these in the cases of Dr. Lloyd, lead me to believe that in this method we have achieved a considerable advance in our treatment of this condition.

A summary of some case histories follows. My five cases of tuberculous appendicitis were all somewhat similar and were operated in as chronic appendicitis. In three a mass was palpable; in two the diagnosis of fibroid appendix was made. The symptoms were those of chronic intestinal indigestion with some loss of flesh, and in two with a mass a slight apical involvement led me to a suspicion of the proper diagnosis. Pathological examination in all these cases disclosed tuberculous peritonitis. The operation was simple. No general flushing or evisceration was attempted. The patients gained considerably in flesh and were entirely relieved of their symptoms by the operation.

In the four cases resulting unfavorably, the patients were in an advanced stage of emaciation, suffering with diarrhœa. Involvement of the lungs was also present, and in one case also laryngeal tuberculosis. History of night sweats, more or less cough, and rapid pulse were also present. Even in these cases temporary improvement was seen except in one case, which rapidly went on to a fatal termination.

The administration of the anæsthetic in these cases is a grave problem. Chloroform was given in all of my twenty-two cases. In view of what we have been able to accomplish with novocaine local anæsthesia in abdominal work in the last few years, it seems to me that it would not be impossible to perform many of these operations without the aid of general anæsthesia, or, at least, by calling it into the operation only to tide us over a few moments. It may seem to many inadvisable in these advanced cases to proceed to operation, but one of my patients lived in an improved condition for more than a year and a half, and another, had he had proper hygienic surroundings subsequent to the operation, I have felt might have gone on to a recovery. Where it is impossible to obtain this environment, the operation *per se* is of little avail.

Of the remaining twelve patients, seven gave no hint of other tuberculous involvement—five had more or less pronounced pulmonary lesions with tubercle bacilli in the sputum. Tuberculous involvement was found upon the visceral peritonæum in all of these and upon the parietal peritonæum as well in several. The dissemination of the lesion in five were pretty complete. The head of the colon, the ascending colon, and the small intestine were most frequently involved. In three a coincident involvement of the Fallopian tubes was found. In two of these the annexa were removed. In one, after having opened the fimbriæ and applied hydrogen peroxide to the interior of the tube, the same were replaced. In all of these cares with involvement of the genital organs recovery was complete. One woman has since become pregnant, but she miscarried.

CONCLUSIONS.

In conclusion I should like to emphasize the following points:

1. The use of hydrogen peroxide, fifty per cent., for diagnosis and to destroy the tubercles.

2. The thorough flushing of the abdominal cavity so that the peroxide may come in contact with all infected areas.

3. The necessity of primary union in which we are assisted by the peroxides.

4. The necessity of getting these patients out of bed at as early a date as possible. They do very badly if housed or kept on their backs.

5. The necessity of after treatment in the form of hygiene, supernutrition, and appropriate drugs.

The results obtained so far have been so spectacular as to seem almost miraculous.

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THE INJECTION OF MAGNESIUM SULPHATE FOR ACUTE ARTICULAR RHEUMATISM.

By Alfred Stengel, M.D.
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In approaching the subject of rheumatism and its treatment, I fully realize that the field is one of much doubt and uncertainty, both as to cause and therapeutic attack. A number of causes have been assigned, but proof positive is still lacking. The term itself comes in for much abuse, from both the profession and the laity. Certainly the laity should be pardoned for their misuse of medical terms, but there is no excuse for the physician. Throughout this paper when the word "rheumatism" is used "acute rheumatic fever" should be kept in mind.

The sudden onset of rheumatism, the marked toxæmia, and course of the disease have led most investigators to believe that it is of germ origin. It is still very uncertain, however, whether this disease is due to a specific germ. From trustworthy sources comes the information that a diplococcus, known as *Diplococcus rheumaticus*, has been identified in connection with rheumatism. This specific germ has been found in the various tissues involved, including the tonsils and cerebrospinal fluid. In turn,

this germ has been grown on cultures and injected into rabbits, with the result that all the clinical symptoms of rheumatism have been reproduced. As further proof for those who adhere to the specific germ theory, a vaccine has been made from *Diplococcus rheumaticus* which has produced a number of cures.

On the other hand is a theory not so recent as the specific germ theory, which contends that the infection is due to the invasion of *Staphylococcus pyogenes*. The adherents to this theory regard rheumatism as a special clinical feature of a staphylococcus infection; as an argument for its truth we are reminded that in various conditions of constitutional sepsis the joints are involved. Furthermore, it is pointed out that the staphylococcus is most frequently the offending factor in mild cases of endocarditis following rheumatism. The close relation between amygdalitis and rheumatism is interesting in that both the staphylococcus and the diplococcus rheumaticus have been found in the pus discharged from infected tonsils. Thus the tonsils are regarded as one of the ports of entry for the germs or germ that produces rheumatic infection. It has been interesting to note that persons possessing hypertrophied tonsils have a more marked predisposition to rheumatism than those whose tonsils are normal. Upon removal of the tonsils the attack of rheumatism has been cut short, and to a great extent future attacks have been repulsed.

Some still maintain that rheumatism is due to some chemical irritant in the blood, produced by faulty body metabolism. Others adhere to the theory that this disease is caused by some disturbance of the nerves, and base their conclusions upon certain trophic changes which take place.

It is not my intention, however, to discuss the causes of this very annoying condition; I have merely reviewed the most reasonable theories in order to have them fresh in our minds while the method of treatment I am about to describe is being followed.

Since 1876, when Kolbe suggested its use, salicylic acid and its derivatives have been employed with marked success in the treatment of acute articular rheumatism. The sodium salt is the one usually employed, and in many instances the results are little short of marvelous. I have nothing better to offer, but I feel it a duty to my colleagues to describe a method of treatment which, I believe, has never been described before. I have five cases to report in which I have had excellent results from the intramuscular injections of magnesium sulphate. The discovery of this active therapeutic agent in rheumatism was the result of a last resort.

Case I. [illegible] man, twenty-three years of age, sent for me one evening. I found him in bed, rigid, painful to touch, with both knee joints and the right wrist swollen. Temperature, 103° F.; pulse, 120; respiration, 30, and shallow in order to avoid the accompanying pain. His face was pinched, pupils were dilated, and he showed a mild delirium during which he frequently called for water. I got the usual history of exposure to rain, and clothes getting "wet through." Diagnosis, acute articular rheumatism. Treatment, hypodermic injection of morphine at once. I then prescribed calomel, to be followed by a saline, and sodium salicylate, grains fifteen every two hours. Next day the bowels had moved, but there was little or no relief from the rheumatic condition. I found it again necessary to give morphine for relief. At that time I ordered oil of gaultheria to be gently massaged into the inflamed painful and swollen joints, and continued to push the sodium salicylate. By evening of the same day there was no relief as to pain, fever, and general prostration; all food was refused, and vomiting was making his pains more severe on account of the necessity of moving his body. Tinnitus aurium was annoying him considerably and he refused to take the medicine because as he said "it made him sick at the stomach, and feel out of his head and flighty." From previous experience I had learned that if sodium salicylate is going to bring results, it does so soon and in large measure, and to push it further is useless when no early result is obtained. I then prescribed tablets containing guaiac, but after one dose he refused further medication. Again morphine was called in. Then, mindful of the uses of magnesium sulphate in tetanus, I thought to use it intramuscularly. Accordingly, I had made a solution consisting of ten grains of magnesium sulphate to the drachm of distilled water. This solution I sterilized and injected into the gluteus muscle one drachm thereof. This was done on the morning of the fourth day. In the evening his temperature had dropped to 100° F. and his pulse to 96, and surprised was I to hear him say that his pains were much less. Fifth morning, intramuscular injection of ten grains of magnesium sulphate. At that time the temperature was 99° F. and pulse 80, the joints were less swollen, and patient was able to move them with slight pain. After the second injection four large liquid stools followed which I at once concluded were caused by the injections, for, at this time, patient was having no other medication. For three consecutive days, injections of ten grains of magnesium sulphate were administered. After the third injection the temperature became normal, and after the fourth the pain had almost entirely disappeared, as well as the swelling and stiffness of the joints. Three other injections followed at intervals of every other day. The recovery was perfect and there followed no untoward symptoms.

Case II. Immediately after what I believed to be an excellent result from the injection of magnesium sulphate, I began to look for other cases of acute rheumatic fever. I was rewarded for my zeal by being called to see a young lady, aged twenty-two years, dressmaker by occupation. She gave the history of having attended a dance the night before, got very warm, and cooled off by a window. She then complained of a "sore throat," chills, and a pain in the back. Both tonsils were swollen and congested. Diagnosis, amygdalitis, with suspicions of rheumatic involvement. Treatment local to throat, calomel followed by saline, sodium salicylate, ten grains every two hours, and rest in bed. The temperature in this case on the first visit was very low, being 100.3° F.; the pulse was 90, and respiration was normal. Second day showed much improvement. Upon the third day I made no visit, but, on the fourth day I was called early to the case, to hear that the patient had spent a miserable night because of severe pain in her throat and right ankle. Examination showed a large tonsilar abscess on the right side, which was opened at once, giving relief. The right ankle was swollen, red, painful, and tender to touch, the temperature having risen to 102.7° F. By this time patient was complaining of sick stomach and a "ringing in the ears." At once recognizing the effects of the salicylate I ordered it to be discontinued, and immediately ten grains of magnesium sulphate were injected deeply into the muscles of the infrascapular region. Next morning the temperature was as low as 90° F., and the patient had had two large liquid stools, evidently caused by the injection, the tonsilar condition was practically well and the right ankle improved. The second injection was given, and the next day temperature and pulse were normal and the ankle was decreased in size and almost free from pain. Two days later a third injection was given, and there has since been no further need for treatment other than a tonic.

Case III. Presented some of the same features as Case II. A man, forty-seven years old, track walker by occupation, after much exercise sat down by the road to cool off. When he went home that evening he complained of "shooting pains in the back and hip." After rubbing with some home made liniment he went to work the next day, but remained for only a short time. Going home, he

went to bed, sent for me, and when I entered his room, made the diagnosis for me, saying he had rheumatism and he knew it for he had had it before. After an examination I agreed with him. Temperature, 102° F.; pulse, 110; headache, painful and swollen joints at right knee, hip, left shoulder, and wrist. Here I saw my chance to give magnesium sulphate a good test. Calomel, followed by a saline, was ordered, and next day I returned to find the conditions about the same as the previous afternoon. At once fifteen grains of magnesium sulphate were injected into the glutæus muscle. Next morning the temperature was 100° F. Then followed a second injection of a ten grain dose. Third day, temperature normal, pains practically disappeared and swelling much reduced. Three more injections of ten grains each were given at two day intervals, partly for good measure and partly the hope of quieting a mild sore throat which threatened him. No other medication was employed, for the injections kept his bowels free. He suffered from no sickness of the stomach or other disagreeable effects of salicylic acid.

Through the courtesy of Dr. Minton, who had charge of the medical wards of Mercy Hospital, I was permitted to carry out the magnesium sulphate treatment of rheumatism under his most careful observation. I wish here to express my indebtedness to him for his kindness and valuable advice.

Case IV. Woman, forty-five years old, was admitted to Mercy Hospital with a typical rheumatic history. Upon admission her temperature was 102.2° F. and by eight o'clock the same evening had increased to 103.6° F. She suffered with severe pains in both ankles, both wrists, with increased pain in left wrist, extending to shoulder and around the neck. This condition had existed for two weeks previously, during which time she had been under treatment with no apparent improvement. All the joints mentioned were swollen, stiff, and painful to touch. The knees had been painful, but were at that time quiescent. The patient was placed upon sodium salicylate and the inflamed joints were bandaged with twenty-five per cent. ichthyol ointment. Improvement very slight, if any. Patient was restless and in pain and it became necessary to resort to bromides. The salicylate medication was discontinued after three days, because of the annoying effects. At once an intramuscular injection of magnesium sulphate was given, followed shortly by relief from pain, but very slight reduction of temperature. For three days ten grain injections were given; active purgation followed with reduction of temperature and freedom from pain. Still, however, there lingered a stiffness in the left shoulder joint. Two more injections, two days apart, were given, and, in the interval, the temperature had reached normal and pains in all joints disappeared. After sitting up for about a week, some pain returned to the left wrist, and the temperature went to 99.8° F. Two more injections were given, pains at once disappeared, and the temperature immediately returned to normal after the first injection. Ten days later the patient was discharged from the hospital in excellent condition.

The next and last case which I wish to report is even more interesting than any of the previously mentioned ones, in that the magnesium sulphate therapy was carried further. Not only were injections given, but a local application of a saturated solution of magnesium sulphate was applied to the inflamed joints, and was given internally to overcome a very obstinate constipation. The solution was applied like the ordinary wet dressing of bichloride, cold and protected with oiled paper, the gauze being kept wet by pouring the solution down alongside the limb.

Case V. A young woman, thirty years of age, was admitted to Mercy Hospital under the care of Dr. Minton. Ten days previous to admission she felt a severe pain in the left knee, but kept on working during that day, but, in the evening, she was forced to go to bed, as the joint had grown intensely painful and swollen. She was treated and [illegible] moderate pain appeared in the left shoulder, right wrist, and fingers. Upon treatment these joints improved, but pain returned to left knee. Upon admission to Mercy Hospital the knee was swollen and very painful, temperature running from 99.2° F. to 100.2° F. She was at once placed upon sodium salicylate and ointment of ichthyol locally, after which some slight improvement was noted. After three days' treatment, because of the bad effects of the salicylate, patient refused the medicine. Aspirin was given for three days more, with slight relief, and bromides had to be given for pains and restlessness. On the sixth day, injection of magnesium sulphate was given intramuscularly, and a saturated solution of the same applied as a wet dressing to the knee. The relief seemed almost instantaneous, and patient slept that night for the first time without the use of bromides. An injection followed next day, the local application was continued, and a half ounce of magnesium sulphate was given internally to relieve a very stubborn constipation. Temperature after the second injection went to normal, although the pulse remained as high as 110, and the knee was found to be free from pain, easily movable, and reduced almost to normal in size. The patient was cheerful and slept well. The local applications were continued. After a rest of four days from the injections, the temperature arose to 99° F., but immediately returned to normal after injection which was continued at two day intervals for a week, when the patient made a complete recovery.

Up to the present time, I have treated a number of cases of rheumatism with magnesium sulphate by injections, local applications, and internally. So far, the results in all have been excellent. I have selected from those treated, the five cases cited because of the variety they represent. I am inclined to give the salicylates a chance first, but, when they fail to give results, I employ the magnesium sulphate treatment. The only reason I have for doing this is that many patients, especially nervous women, will object to the injections until after other measures fail. No pain, however, follows the injection, because the drug acts as a local anæsthetic. I have not yet noted any unfavorable signs from its use, despite the fact we are told that magnesium sulphate injected into the circulation is a cardiac and a respiratory depressant.

The technique is simple. I employ an all glass Luer syringe of five cubic centimetres capacity, observing all aseptic precautions, and selecting any muscle that is handy as the point of injection. At present I am using a twenty-five per cent. sterilized solution and injecting four cubic centimetres into adults. Up to this time I have treated no children, but I should use it without hesitancy in the proportion of one cubic centimetre of the twenty-five per cent. solution to each twenty-five pounds of body weight.

In some cases I find that the injections produce active purgation, and in others they have apparently no effect. In only one book on therapeutics (White and Wilcox) do I find anything on this subject. It merely states that hypodermic injections of three grains of magnesium sulphate have been employed to produce evacuation of the bowels. The literature is indeed scant on the subject. I feel that there is much in the field of magnesium sulphate for therapeutical investigation. This is a preliminary report, and, in the near future, I hope to be able to present a more careful study of the drug and its uses in rheumatism, amygdalitis, and local inflammations. I am sure that it is worth a trial and I shall be glad to hear of its general use and the results obtained therefrom.

[illegible]

DIAGNOSIS OF TUBERCULOSIS IN ITS EARLIER AND MORE CHRONIC FORM.*

By O. Franklin Kunkel, M. D.,
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The early signs and symptoms of pulmonary tuberculosis are notoriously varied and uncertain. There is no one subjective symptom which may not be produced by some other disease, or which is uniformly present. In no other department of medicine is the clinician privileged to observe a greater diversity of clinical phenomena, nor, on the other hand, is he required to exercise greater care and judgment in estimating the importance of these signs. A certain list of symptoms may be present in one patient, and another may not complain of one of these and yet have a list of his own just as clearly and well defined. The diagnosis depends upon the correct correlation of the evidence as obtained from the history as well as from the examination. Possibly, with the exception of finding bacilli in the sputum, we are never justified in making a diagnosis without taking the case in consideration as a whole.

Family history: The family history is important in that it will give you some family characteristics and tendencies. Tuberculosis is so rare in the newly born that it may be left out of consideration. If, however, there is a tuberculosis family history it may mean that it is characteristic of the family to have a low resistance against the disease, and it usually does indicate that the patient has been in such environments that he has had ample opportunity for infection. A history of exposure should always be diligently sought; it is of as much value out of, as in, the family. The family history is of some prognostic value. If the patient had been exposed during childhood he probably had a mild infection then, which, according to recent experiments, will cause a partial immunity so that a subsequent infection will probably run a milder and more chronic course.

Previous diseases may be of value in determining predisposing causes. Very commonly, too, the patient will describe preexisting diseases which, in reality, were tuberculosis. What is described as a protracted pneumonia or grippe, an atypical typhoid, a malaria in a section of the country where it rarely exists, a pleurisy, chlorosis, an abscess, indigestion, etc., may all, in reality, have been manifestations of tuberculosis.

Habits must be taken into consideration as a predisposing factor.

In taking the history of the present trouble, the various and more common symptoms should carefully be inquired for; the more important of these we will consider separately.

Subjective symptoms: Fever is the most important constitutional symptom of tuberculosis, both from a diagnostic and prognostic point of view. In this disease more than any other are accurate temperature records necessary to be of diagnostic value. In the first place it is necessary that the thermometer be accurate; one with a long reading scale should be used, and the patient should be taught to read it unless a trustworthy nurse is available. It is far safer to risk alarming a nervous patient than to risk a mistake in diagnosis. The thermometer must be kept in the mouth at least five minutes, no matter how quickly it may register. In cold weather the patient must also be instructed to keep his mouth closed for fifteen minutes before taking temperature, as cold air drawn through the mouth will affect the temperature readings for at least that length of time. Starting as soon as the patient is awake in the morning a two hourly record should be kept. While very few textbooks lay any stress on this point, it, nevertheless, is a noteworthy fact that the early morning temperature in tuberculous people, as a rule, is considerably lower than in people of robust health. This subnormal temperature probably is a sign of lowered vitality and appears early. It usually lasts throughout the course of the disease and is one of the last signs to disappear as the patient is cured. It is very common to note a temperature of 97° F. or less when a patient awakes in the morning, and as the patient gets active, physically or mentally, his temperature will rise rather rapidly and reach its maximum, as a rule, between 3 and 6 p. m. The physiological rise after meals must not be forgotten. Minor would consider a temperature subnormal which is under 97.8° F. The maximum normal temperature limit by most men is placed at 99° F. With other signs suggesting tuberculosis anything exceeding this point should be considered with suspicion. In doubtful cases it may be necessary to make these observations for two or four weeks before any abnormal elevation is noted. It is well to remember that the temperature of tuberculous subjects is very sensitive to both mental and physical strains. Any undue excitement, as a game of cards or exciting novel, is likely to cause it to rise one half degree or more. If a patient is asked to take a moderate walk it may result in a rise of temperature. Women are especially liable to have fever with the onset of the menstrual flow. Usually patients are not conscious of these smaller fluctuations of temperature.

Langnor: Probably the most frequent early symptom of which a patient will complain is tiredness. The whole body seems weary and worn out. In the evening this feeling is likely to pass off and the patient often feels well. On wakening in the morning he will not feel rested and has no ambition to go to work. This condition is a distinct toxæmia. After a while it will pass away because the system becomes accustomed to the toxine. It will again appear in the later stage, but then it is due to tissue waste and inadequate nutrition.

Loss of weight: This sign frequently appears quite early, but is not generally present in the incipient stage. People who are naturally thin and ill nourished are more liable to develop the disease.

Cough: This is one of the earliest and most persistent symptoms of tuberculosis. As it is one of the earliest symptoms to appear so is it also one of the last to disappear. A small proportion of patients with pulmonary tuberculosis have no cough, or, at least, will tell you so. However, if carefully questioned they will usually admit having a slight cough or, at least, clearing of the throat early in the morn-

*Read before the Bradford Branch of the McKeen County Medical [illegible]

ing. Very often this is due to a slight coexisting laryngeal catarrh. The character of the cough is of little practical importance. It does not tell you much as to the severity of the case. A slight hacking cough is rather more common to pleural cases. If there is a marked catarrhal condition of the upper air passages it is likely to be paroxysmal and may result in vomiting, especially after the early morning meal. In the case of enlarged intrathoracic glands the cough will be of a croupy nature. At first the cough is likely to disappear as warm weather comes along, but as the disease advances it becomes constant. There is no typical cough of tuberculosis. It may be loose, dry, hard, or easy. In any of the stages, however, it is usually light and dry at first and gradually becomes harder and looser. Any cold lasting over a month should be looked upon with suspicion.

Expectoration: The sputum, like the cough, has no special characteristics to the naked eye. It is present in most cases, slight in early stages, and profuse in advanced, as a rule. Many patients, females especially, will insist that they raise nothing when in reality they do raise something and swallow it. A bloody expectoration, however, always demands explanation. In early cases the hæmorrhage is likely to be small and to be due to congestion and of capillary origin. Later in the disease it usually results from the rupture of small aneurysms or is the result of ulceration into a big vessel. The earlier bleedings are often very fortunate occurrences, as they are apt to lead to an early diagnosis. In the majority of cases bleeding from the lower air passages (or lungs) is symptomatic of tuberculosis; it must never be assigned to other causes without a thorough study of the case.

Chills: In the early stages chills are rare, save possibly a slight chilly or creepy sensation. As a rule it is only in the acute varieties or with complications that real chills are noted. They are common in the third stage, especially if a mixed infection exists, and usually occur in the afternoon.

Sweats: These, too, belong to the later stages. However, undue moisture of the skin and local sweating, as of the forehead, hands, axilla, neck, or chest, are often noted in the earlier stages, but cannot be said to be characteristic of the disease. The sweats are closely associated with fever, and in the hectic cases are often very profuse and exhausting. In the earlier stage they disappear very quickly after taking the open air treatment. The skin of many patients emits a peculiar odor which is not unlike that of decomposed tuberculin.

Hoarseness: In some early cases there is a marked hoarseness which may be due to secondary catarrhal condition or to a slight paralysis from pressure on the recurrent laryngeal nerve. However, this may be caused by so many conditions that it is of little value unless it persists for a considerable time.

Besides the occasional cases which begin as one of the acute varieties and become chronic, chronic phthisis may make its appearance in one of two ways. 1. In the beginning there are gradual lowering of vitality and loss of weight without the suggesting of any particular disease, but often simulating nervous disorders, such as dyspepsia or simple anæmias. After a variable length of time more definite symptoms appear, such as cough, expectoration, fever, etc. 2. In the midst of good health symptoms suddenly develop which should be very suggestive, but often are mistaken for grippe, whooping cough, bronchitis, etc., until more self evident symptoms, like night sweats, loss of weight, etc., develop. The former class, on account of the indefinite symptoms, cause the more frequent mistakes in diagnosis, and it cannot be too strongly insisted that these cases with lowered vitality, dyspepsia and anæmia be considered as probably tuberculous unless other satisfactory causes can be discovered, and the patients should be frequently examined for tuberculosis. Often the patients complain of a tired and indifferent feeling, which, in many cases, is a very early symptom. They will not have their usual snap and vigor. Sooner or later cough will develop, which at first is likely to be dry, a little fever, often unnoticed by the patient, or possibly a slight hæmorrhage.

Of cases which begin with definite symptoms the most common is cough, which is often looked upon as a cold or grippe condition. After a variable length of time the patient will become alarmed because this cough will hang on longer than is customary with ordinary colds; as warm weather comes along it may disappear, only to light up again in the fall. He may have these summer ameliorations for a couple of years before a diagnosis is made. Finally expectoration becomes more profuse and the cough will not disappear; fever will manifest itself at intervals; there will be a loss of weight, night sweats, etc. At any of these early stages the disease may become arrested of its own accord and all symptoms gradually subside. When once well established, however, the tendency is to be gradually progressive.

Physical examination: The physical examination is the most important procedure in making a diagnosis of pulmonary tuberculosis. It is essential that these examinations be made in a systematic way. It also is important that records be kept of all examination findings, as they will be invaluable for future reference and will also be an incentive to make more thorough examinations. It is well to have diagrams of the chest on which graphic records may be made of the location of adventitious sounds, etc.

Inspection: If you wish to diagnosticate tuberculosis in its earliest stages you must make up your mind that the size and shape of the chest have very little to do with the verdict. You may find trouble in an ideally formed chest. It is only after the trouble has existed for a considerable length of time that deformities result. Therefore, if one side of the chest is retracted, or a clavicle unduly prominent, it would lead you to think there had been some pre-existing trouble, or that the present trouble has been existing for some time. Stand some distance away from the patient and watch the movements of the chest during respiration. The rise and fall of the shoulders are a valuable index in locating an unilateral lesion. If the left shoulder moves up and down more freely than the right there probably is some inflammatory condition of the right lung and vice versa. Another useful method is to stand back of the patient and look down over the anterior surface of the chest on either side of the neck. In this way

deficient expansion on either side can be noted. Chest measurements will also show unequal expansion. Litten's sign may show unequal descent of the diaphragm. The cutaneous veins of the chest may be prominent. Signs of syphilitic lesions may also be noted which will have to be taken into consideration in summing up evidence. Inspection must also include an examination of the larynx and upper air passages. The larynx may show undue pallor or a slight thickening of the mucous membrance at the posterior commissure or elswhere, or unequal motion of cords in phonation. A slight reddening of one cord may be noted. Warty growths are often tuberculous. Inequality of pupils and unilateral flushing of the face are sometimes noted. Enlarged turbinates and adenoids are considered to be predisposing factors. Mucous membranes are likely to be anæmic.

Palpation: Palpation may elicit enlarged glands. It will confirm some of the results of inspection. It may show increased fremitus as well as occassionally some of the coarser adventitious sounds. One of the most important findings will be the discovery of small areas, usually in the upper portion of the thorax, of unilateral soreness. These are probably caused by slight pleural involvements and may be felt by the patient long before auscultation will reveal anything abnormal. In my own case, I remember I felt them on my left side fully five months before physical signs could be heard in this lung.

Percussion: Incipient cases usually present very slight changes on percussion. Kroenig's sign may show slight narrowing of the band of resonance at either apex. This sign is best elicited by percussing lightly along the anterior border of the trapezius. In percussing it is essential to use a light, quick, and vertical stroke. The finger used as a plexímeter should rest in the interspaces rather than on the ribs. In percussing the apices especially, the two side of the chest should be compared. Direct percussion on the clavicles should be tried. As a rule cases which show well defined impaired resonance and dullness are past the incipient stage.

Auscultation: This is by far the most important procedure in a lung examination. An ordinary binaural stethoscope probably is the most satisfactory to use. The various forms of phonendoscopes magnify the sound too much. In regard to stethoscopes, however, probably the most important point is to get your ears used to one particular instrument and then use that exclusively. Considerable practice and training of the ear are necessary to become proficient in this method of diagnosis. A physician with a musical inclination will have a big asset in his favor. While in early tuberculosis abnormal sounds are most frequently heard at the apices in adults and in the regions of the nipple in children, it is very essential that every portion of the lung be listened to in each of the various steps of auscultation. The first step necessary is to teach the patient how to breathe. Various confusing sounds may be produced in the nose and larynx, which are transmitted to the lungs, and often are very confusing and may cause error in diagnosis. By breathing through the mouth this source of error may be eliminated. The patient should breathe through the mouth easily and quietly and should attempt to retain as nearly as possible the normal ratio between inspiration and expiration. Some patients you cannot teach how to breathe properly and these will be very hard to examine.

On auscultation we note: 1. Changes in breath sounds; 2, changes in the transmission of voice and whisper sounds; 3, the presence of adventitious sounds, râles, and friction sounds.

Before discussing the changes found in early tuberculosis, it is necessary briefly to consider variations in different regions of healthy lungs. In the left subclavian, both axillary and subscapular regions, we hear the normal vesicular, respiratory murmur. In the right subclavian region a slight bronchial element is added to the vesicular murmur which is caused by the proximity of the right primitive bronchus. As we pass along toward the trachea the bronchial element in the sound becomes more and more pronounced, and finally the vesicular element is lost entirely. Over the liver and superficial area of the cardiac dullness, the respiration murmurs may be entirely absent unless transmitted by the chest wall.

Vocal resonance is normally exaggerated in the right subclavian region. Compared to the left side the ratio between inspiration and expiration is also slightly altered, i. e., expiration is normally slightly prolonged. The posterior surface of the right apex differs in the same way from the left side. Tactile fremitus reveals the same difference between the two sides.

From the foregoing observations we deduct the following distinctive summary between the right and left apices of a healthy chest: 1. Inspection is chiefly negative. 2. Palpation gives exaggerated fremitus on right side. 3. There normally is a slight dullness on right side. 4. On auscultation we find a vesiculobronchial murmur and exaggerated vocal resonance.

In other words we have normally at the right apex all the signs of an incipient tuberculosis, excepting adventitious sounds. Unless this point is constantly borne in mind errors in diagnosis are bound to occur. It should always be remembered that over the lower left lobe posteriorly there often is increased local resonance in healthy chests. Possibly, with the exception of the lower border of the lung, adventitious sounds are always abnormal. In the first and second stages of auscultation it is best to begin at the top of the lung and compare the sounds obtained between each interspace and compare it with the same region on the other side before passing on to the next interspace. In early tuberculosis the breath sounds may be increased or diminished; increased by infiltration, diminished by imperfect expansion of the lung, which may be caused by the plugging of the bronchus with mucus or by the pressure of an enlarged gland. Diseased conditions of the pleura can also obstruct breath sounds. Expiration will probably be slightly prolonged and raised in pitch. It may exceed inspiration. There may be rough breathing. As this condition becomes aggravated we hear definite râles. Cogwheel respiration may be heard, and if localized is significant; if heard over the entire chest it is probably of nervous origin. Dr. Goodall describes the following method for detecting minute changes

in vocal fremitus: "In the second intercostal space near the sternum, i. e., over the large bronchi, spoken or whispered words and the breath sounds are normally louder than elsewhere, and the relative length and loudness of the expiration sounds, as compared with the inspiratory sounds, are greater. As we move from this spot outward or downward, spoken or whispered words and the breath sounds become less loud than at the starting point and the expiratory sounds become much fainter and shorter than the inspiratory sounds. As we move upward from the second space on the left side they should become less as far as the clavicle, and above the clavicle should be less, or at least no louder, than at the starting point. On the right side these sounds should be less or equal below the clavicle, and equal or perhaps slightly louder above the clavicle than in the second interspace. These sounds are all more marked on the right than on the left, comparing identical areas on the two sides. The same relative intensity and length of sounds are found in the back, louder over the bronchi near the spine, and changing in the same general way as we pass to the apices. Any deviation from these conditions means something abnormal in the region involved." He also says the following about diagnosticating enlarged intrathoracic glands: "The respiratory sounds, the voice and the whisper, that are heard over the cervical vertebræ lose their cervical qualities as we pass downward and acquire the pulmonary characteristics rather suddenly at about the second dorsal spine. If they retain the cervical characteristics much below this limit we are fairly safe in diagnosticating enlargement of the glands within the chest."

The same applies to the vertebral dullness. In children enlarged glands are more easily diagnosticated than in adults.

The changes in the breath sounds are practically identical in an infiltration of a beginning tuberculosis and the fibrosis of a small headed lesion.

Adventitious sounds: These are by far the most important signs in the physical examination, and may be found in cases occasionally in whom all the other objective and subjective signs were negative. Occasionally these sounds are absent while, nevertheless, a diagnosis may be made from the previous changes mentioned. Most modern writers give an order something like this for the appearance of early signs, viz.: 1. Rough breathing. 2. Feeble breathing. 3. Interrupted breathing or cogwheel respiration. 4. Harsh breathing. 5. Prolonged expiration. 6. Increased fremitus. 7. Râles. Some even say that râles do not belong to incipient tuberculosis.

While this order may be correct from a scientific point of view, nevertheless, from a practical point of view I think Bonny is right when he says: "The pronounced auscultatory signs, as a rule, do not relate to pitch, quality, rhythm, or intensity of the respiratory sound, but consist of fine, crackling râles heard chiefly, at the end of the inspiration following a cough. The early fine râles occur at the end of inspiration and are usually absent on ordinary quiet breathing. They may not be heard on forced breathing, but cough followed by inspiration will usually reveal them." However, you must not be satisfied that they are not present until your patient has tried a forced expiration followed by a cough and a full inspiration as suggested by Dr. Brown.

If these directions are followed systematically you will find that râles can be detected long before they could be detected otherwise. Certain precautions are necessary to prevent the production of sound which will lead you into error. Some of these are as follows: The patient must always have his mouth open and breathe through it. If the chest is hairy it should be greased with petrolatum. Be sure that the patient does not swallow after cough. The room must be so warm that the patient will not shiver and thus produce confusing muscular sounds. Following the first couple of full inspirations there may be a few snaps at the apex which are caused by the expansion of a previous atelectatic area.

Sharply localized, persisting, unilateral râles may usually be regarded as pathognomic of tuberculosis. It must be remembered that while usually found at the apex of the lung, it is, nevertheless, a fact that they may be found under the clavicle, in the axilla, and especially at the apex of the lower lobes when uncovered by the arm being placed on the opposite shoulder. In children they are often heard in the region of the nipple.

As the case advances râles become more easily recognized. By the time the coarser subcrepitent râles are heard, and especially if on quiet breathing, the case is well past the incipient stage. It must be remembered that in the earlier stages râles may be heard in the early morning which disappear later in the day. On damp days râles are apt to be more prominent. Creosote has a tendency to lessen râles and should be discontinued until a diagnosis is made.

In all doubtful cases a sputum examination should be made. As bacilli are not found in the majority of cases, a negative report should have no bearing on the diagnosis. If the report is positive the diagnosis is absolute. Occasionally bacilli will be found in cases negative in every other respect. If after duly considering all the symptoms, signs, and history of a case a definite diagnosis cannot be made, the von Pirquet test should be given. This is harmless and has practically no contraindications. It is most valuable in children, especially under two years of age. However, a positive reaction within twenty-four hours to the weaker dilutions is very suggestive even in adults. In advanced cases it will likely be negative. In healed cases the reaction will probably be slow and confined to the stronger solutions or absent altogether. In obscure cases a definite opinion should not be expressed until the subcutaneous test has been administered. This test is safe in experienced hands. The inexperienced should thoroughly acquaint themselves with its indications and contraindications before attempting it. These can be found in any recent textbook on tuberculosis. Failure to react to ten milligrammes of old tuberculin and no physical signs are sufficient reason to diagnosticate the absence of tuberculosis.

So many bad results have been reported from the Calmette test that it had better be discarded. Rabbits may be sensitized with blood serum from tuberculous subjects so that they will be killed by

a dose of tuberculin which would be harmless to another rabbit.

The x ray is of value only in the hands of experts. Even then an expert clinician can usually, though not always, make a more accurate diagnosis.

In closing, let me caution you against the habit of withholding the fact from the patient after you make a positive diagnosis. It will produce a temporary shock to almost any person to be told that he has tuberculosis. However, the tuberculous will all become reconciled to their misfortune and make a braver fight to overcome their disease. If you do not tell them, somebody will later, and you will be cursed for it.

THE CONTAGIOUSNESS OF CONSUMPTION OF THE LUNGS.*

By Arthur V. Meigs, M. D.,
Philadelphia.

The study of the disease, consumption of the lungs or tuberculosis, as it is now more frequently called, that has been so actively pursued in the past thirty years, has brought to light many things that must be valuable to the human race. If there were no other reason this would be the case, because every sort of acquisition of knowledge and its dissemination is useful. One of the best and most valuable results of the agitation of the subject has been the establishment of institutions by private benefaction and by various branches of government for the treatment and care of persons with the disease. No one can appreciate so well the value of the modern institutions as those who remember that formerly there was no place but the almshouse for the poor consumptive, and that it was often difficult to get him admitted even there. Few arguments can be brought to bear in disproof of the claim that fewer people are attacked by consumption and that more recover than in former years. The reasons for this amelioration are very simple. With the progress of civilization all classes of people live more hygienically. There is less bad water drunk, and drainage conditions have been improved in a manner that is wonderful. When it is remembered also that there is less crowding, less exposure to cold, and that men in general eat better food than formerly, there is little occasion for surprise that consumption of the lungs should decrease. A free rein has been given humanity to pursue its natural tendency toward better things, and the world has every reason to be satisfied with the result. It is my opinion that the tendency toward hygienic living moves more rapidly when the silent force of public opinion is left to act than when many laws are made to control it, especially if they are of a drastic character, in which case they are very difficult to enforce. Drastic health laws which prove impossible to enforce are very mischievous. They make the people impatient of authority and cause the poorer classes in particular to look with suspicion upon those who should inspire confidence and be regarded as authorities to trust in questions of health. The good that has come from the agitation of the subject of the prevention and cure of consumption is offset by some tendencies that are unfortunate and much to be deplored. The effects of these tendencies are such as to cause one to wonder whether upon the whole the burthens of consumptives and their families have not been increased rather than lightened by the present day agitation. Probably, however, the world cannot advance in any direction without causing suffering to some one, but it may be hoped that in the end the results will be wholly beneficial.

It is my desire to direct attention to things that at the present epoch are incorrectly represented, and to things that, in the attempt to manage the disease and to prevent and to cure it, are done that should be done differently, or left undone. It is commonly taught that consumption is contagious. Without making any attempt to give a final answer to the bald statement that consumption of the lungs is contagious, the question may fairly be asked whether the prevailing beliefs upon the subject are correct. There certainly is good reason to think that the danger of contagion is exaggerated and that much unnecessary fear of it exists, and that hardship and even cruelty to the sick and to their families are caused by unreasoning fear. In the New York *Evening Post*, of August, 28, 1909, there was quoted an article by Dr. Beverly Robinson, of New York, which appeared in the *New York State Journal of Medicine*. "It is a source of real sorrow to a man as he grows older and considers carefully and calmly his professional experience, to note what harmful opinions and practice prevail," says Dr. Robinson. "Sane, conservative, well balanced, broad minded judgment is very frequently at a discount. It is not rarely the young man with comparatively limited knowledge and experience, but filled to an excessive degree with advanced information and with an undue appreciation of his own value, expressed or tacitly accepted, who simply claims first place as a sort of right.

"To his predecessor, who has reached that sense which comes only as the result of many years of work and service, he yields a very small quantum, if any, of allegiance. And thus every new fad or fancy of the hour, or the day, is almost sure to meet with a certain amount of popular acquiescence. . .

"Look a moment at what is being done about the 'white plague,' so called. How foolish, unwise, wrong, a great deal of it all really is. Is tuberculosis contagious, or rather, transmissible? Yes, slightly so, under certain conditions, but these can be very easily, and with very little expense relatively, absolutely guarded against in many instances. . . . The worst final result of all the foregoing, and very much more might be added, is to increase in my humble judgment, 'man's inhumanity to man.'"

I have a little book entitled Consumption not Contagious, by Duncan Turner.[1] The preface to the first edition, which was published in 1894, is as follows:

> The object of this little work is to dispel, or at least to combat, what are regarded by the writer as heterodox opinions concerning the contagiousness of consumption. . . .

*Read before the College of Physicians, April 5, 1911.

[1] George Robertson & Co., Melbourne and London, 1900.

The preface to the second edition of the book, published in 1900, contains this:

Six years have elapsed since the first edition of this little book was published. Its reception could hardly be said to have been cordial. Indeed, a well known Sydney firm of booksellers refused to sell it or have anything to do with it, urging as a reason that it was a work calculated to do harm. How they came to this conclusion is best known to themselves, but I have every reason to believe that it has not done harm, but good, and that the book itself has been a source of comfort to many outside of my own circle of patients. Moreover, the views put forward, although in direct opposition to those accepted by the leading medical journals at the time, have been confirmed by probably the highest tribunal that was called together to consider this question. The congress that sat at Berlin in the autumn of last year was attended officially by representatives of all the civilized powers of the world. These delegates were distinguished physicians and men of science, chosen by their respective governments. This convention considered tuberculosis as a whole, but in reference to contagion they have the following resolution. . . .

"Tuberculosis in general, and phthisis or pulmonary tuberculosis in particular, is not catching in the popular sense of the word. The disease is not conveyed by the breath, nor even by coughing, except as a rare exception, nor is it caught by contact with a consumptive patient." (Trans. of the Berlin Conference on Tuberculosis, 1899. [illegible])

That such views should find favor in the city of Koch, whose discoveries gave rise to the whole discussion, is in itself significant, and shows that the extreme opinions so much advertised a few years ago are giving way to more moderate ideas. . . .

The additional evidence I have been able to adduce in this edition will, I trust, convince any reasonable person of the truth of my contention, especially the testimony of the medical superintendents of large sanatoriums like Falkenstein and Goerbersdorf.

In 1898 I visited the principal sanatoriums of Germany and Switzerland, and although care was taken in all of them as regards the destruction of sputum and other precautions, not one of the superintendents believed in contagion, indeed some went so far as to say that even the precautions that were taken were more in deference to "advanced medical opinion" than to their own conviction on this question.

The book contains arguments which it seems to me could not fail to impress any unbiased mind that the beliefs prevalent regarding the contagiousness of consumption are erroneous. For my own part, I am quite convinced that the word contagious is misapplied when it is in any way used in connection with consumption. To this conviction I have been driven by an extended clinical experience, and by my reasoning upon such facts as I have been able to obtain from reading and from other sources. It is inconceivable to me that any one who has ever practised medicine and has seen how measles and whooping cough, diseases which are typically contagious, arise and are propagated, can apply the word contagious to consumption.

In Pennsylvania and in a good many of the other States of this country the registration of tuberculosis is by law obligatory. It is desirable to look back a few years and see what has taken place in regard to the enactment of such legislation and what the effect has been of the attempts to enforce it. I shall confine my remarks to what has happened in Pennsylvania. Probably what has occurred here is much like what has taken place elsewhere that similar laws have been passed and similar offices created with officials clothed with great and, I believe, dangerous powers. The College of Physicians of Philadelphia is an old medical society, and an examination of the volumes of its transactions during the years that the subject of the desirability of compulsory registration was being agitated gives an interesting and instructive history of the views of a part of the medical profession at that time. This society has never taken action endorsing that of others to induce the State and city authorities to make the registration of tuberculosis compulsory. Nothing, it seems to me, could better show the folly of the enactment of legislation for compulsory registration and the futility of efforts to enforce it than two quotations that I shall give. In the annual address to the College of Physicians, delivered December 6, 1893, by the president, Dr. S. Weir Mitchell, is the following:

I feel it to be my duty as your president to call attention to the wisdom of some protest against including all tuberculous disease in the list of maladies officially recognized as contagious. Even if we admit it as of this nature, it would be clear that no sufficient good could result from the extreme measure in question. Is it proposed that the board of health shall interfere actively in any case of consumption, and how? Is it to take cognizance of all tubercle or of all tuberculous discharge from the ear or from a gland? Where is the line to be drawn, and what protective measures are to be taken by the board of health? The futility of the contemplated measure is plain; it invites a form of deceit hardly to be blamed. It is so temptingly easy to consider the bronchitis of consumption as the true enemy and elect thus to label the disease rather than to return it as tubercle to a too inquisitive board. This is not the place fully to argue this case. It may suffice to add that our real duty at present is, personally and through boards of health, to educate opinion, and to direct and teach precautions as to antiseptic means and habits. It is but too easy to create around the consumptive a moral atmosphere of terror. For the nurse or relative this would often be destructive of duty, and for the sick a horrible addition to the miseries of a disease which may last for years. . . . I trust that you will protest with energy against any present effort to class tubercle with smallpox.

My other quotation is from the Second Annual Report of the Commissioner of Health of the Commonwealth of Pennsylvania. At page 26, the commissioner, Dr. Samuel G. Dixon, in speaking of tuberculosis, says that in 1907:

While the number of deaths from tuberculosis was 10,825, it will be noticed that only 6,109 cases were reported. This astonishing discrepancy can only be accounted for by supposing that the medical profession is by no means yet fully aroused to the necessity of promptly reporting this disease. The fight against it is now fairly on and the first essential to a successful contest is the knowledge on the part of the department of every place where the foe is lurking. Without this, all our demonstrations in the way of sanatoria, dispensaries, congresses, lectures, and exhibits will represent to a great extent time and money thrown away. The campaign will be like that of Braddock's dress parade against the Indians and will result as disastrously.

For every death from consumption (page 6) there are seven living consumptives.

There were, therefore between 60,000 and 70,000 persons suffering with the disease in Pennsylvania in 1907. According to this estimate of the commissioner, only one case in ten was reported by the physicians of the State. The two quotations tell their own instructive story, and no very extensive comment is required to make the lesson easy to understand. The College of Physicians is described in its charter as a literary institution; its president,

a dignified address displaying knowledge of human nature and of the ordinary workings of cause and effect, protests against the compulsory registration of tuberculosis. He points out in a philosophical and convincing way that registration cannot be enforced, that the attempt to enforce it will lead to deception by physicians, and that the great evil that will ensue will be cruelty to the unfortunates who are sick with consumption. If time permitted, I could tell many tales proving the correctness of this prediction of the bad effects of the attempts being made to enforce registration, and of many hardships borne by consumptives and their friends on account of the exaggerated fear of contagion that has been fostered in the community. In contrast with this, consider the statement of the government official written fourteen years later, and when the law for compulsory registration had been some years in effect. In language such as is ordinarily used for the description of battles he announces the failure of the law. For it is certain that it has failed if only one case in ten of tuberculosis is reported. This language of battle is inexpressibly sad. To compare military dress parades with the efforts of physicians, who can work successfully only through the channels of humanity, and who hope, by teaching prevention and hygiene and simple and easily comprehensible methods of treatment, to reduce the ravages of consumption, is so unfitting that language fails to characterize it.

Statistics are often cited, and many who have studied the records have declared, that the figures prove a wonderful reduction in mortality from the disease since it has been pronounced contagious and its registration made compulsory. It has been authoritatively claimed that the "crusade against the great white plague" will in time drive consumption of the lungs from the world as a cause of death if only the enthusiasm of communities can be sufficiently aroused and great sums of money obtained to carry on the so called crusade. No consideration is given to the fact that conclusions drawn from statistics are very difficult to make absolutely correct. Arithmetical calculations, when carefully made by competent persons, are absolute in their accuracy. This fact is always brought to the front by persons trying to use statistics, but the corresponding one that conclusions drawn from calculations based upon false data produce a multiplied error is generally kept in the background. The claims that have been made that the death rate has been diminished since tuberculosis has been declared to be contagious and its registration made compulsory are so extravagant that they tend to cast doubt upon all of the assertions of those who make them.

The treatment of the consumptive is better than it used to be. More effort is made, more is known of the disease, and mankind is becoming more hopeful. On the other hand, it cannot justly be said that everything is known of the effects of the outdoor life. Outdoor treatment is often overdone for the class of people by nature delicate and susceptible to the evil effects of cold. In the later stages of the disease, persons are sometimes exposed in cold climates in a way that can be productive of nothing but harm. The treatment of consumption, like the treatment of any other disease, should be modified and adapted to the peculiarities of each individual, and the exercise of common sense only can lead to the best results.

If I should close my essay upon consumption of the lungs without expressing any opinion upon the causation of the disease by the bacillus of Koch, I should fail to be true to my principles. It is my belief that the proof is still wanting that this microorganism is the one and only cause of the disease. At the same time, it goes without saying that the bacillus is in the very great majority of cases present in the tissues of those affected. There is much risk of false conclusions being reached when deductions in regard to disease in man are drawn from experimentation upon the lower animals. As there have been very few injection experiments made upon human beings, my conclusion is one which I think cannot be logically demonstrated to be false. My reasons for this conclusion are somewhat fully set forth in my book upon the *Origin of Disease*,[2] and from that conclusion I have not seen any good cause to depart since the time it was originally reached.

It is becoming, in conclusion, that I should express my firm conviction that a great deal has been accomplished to decrease the ravages of consumption of the lungs. This, however, has been the result of the improvement of hygienic conditions and the attainment of a better style of living by all classes of people in every part of the world where civilization has advanced. It is my belief that this tendency to amelioration is like all the great forces of Nature in that nothing can stop its progress.

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GUIDANCE AND PROTECTION OF CHILDREN BY THE STATE.

By Joseph Rosenberg, M. D.,
New York.

One of the greatest, I might say the most criminal, of abuses, is the utter lack of moral responsibility, the ignorance and incapability in the bringing up of children notable amongst the poorer classes.

Much has been said and written regarding the social standing of our poverty stricken people as well as means and suggestions made for their betterment. Our charity organizations are doing a noble work, for which they deserve much credit. While it is true that they give assistance and succor to the poor in their hour of need, very little is accomplished in the way of getting at the root of the evil. The condition, in its present status, will always remain relatively the same unless the people are given the proper kind of assistance at the time when the evil is in the formative state.

There are many people who will always ask assistance, because they will not help themselves, but the great majority, perhaps ninety-five per cent.

[2] J. B. Lippincott Company, Philadelphia and London, 1897 and 1899. [illegible] 2d Ed., 3d

of them, are willing to work and provide for themselves to their best ability. The handicap to some people seems to be the means of support of their children, and this point is herein kept continually in mind as well as the inherent rights of the child.

According to a recent investigation in New York city, by a committee appointed for the purpose, it was found that it was impossible for man and wife to live, or exist as it had better be put, on less than $600 a year, which is approximately twelve dollars a week. Such being the case, it is very difficult to conceive how people can live who earn on an average but $6.00 or $7.00 a week. An eminent clergyman recently said that he believed that "there are at least a thousand people in New York city who are living on about eighty cents a day," practically cigar money for some of our friends; this includes meals, board, clothing, and incidentals.

It being a positive fact that these conditions exist, and without provision for the support of the children, how can it be expected that the parents provide the necessary food for their children when they earn but half enough to support themselves? With this state of affairs, is it not reasonable that the State should step in and provide at least the means necessary to enable these children to grow up into healthy and useful citizens?

While we must admit that the majority of these children are the offspring of our foreign born element, the admittance of their parents into this country carries with it the obligation to provide for them should they become public charges. Then, why not provide in a creditable and laudable manner and so minimize the possibility of their becoming undesirable citizens in the prime of life and dependents later on.

Since the State provides housing and support for our criminals, insane, insane criminals, and paupers, and maintains as well asylums, reformatories, and also hospitals for the sick, why not start at the bottom and bring up, in a proper and decent manner, these children, from among whom in later life this class is largely drawn, under the provision and guidance of the State?

It might be said to support these children would saddle a great expense upon the State. While this is true, such a condition would exist only for the first generation from its inception, because at the end of that time its good effects would be felt and the percentage of admittances to the charitable and penal institutions would be lessened, and incidentally the cost of maintaining the above institutions would be decreased. The savings could be appropriated to support this new project. Besides, these children's descendants would undoubtedly be elevated to such social and helpful condition that they would never become public charges.

Unquestionably with the proper bringing up and the housing of these children under healthful, sanitary, and hygienic conditions, our death rate would be considerably reduced. Let us consider some of the statistics compiled by our boards of health. They show us that forty-two per cent of the 1,500,000 deaths per annum in this country are due to preventable diseases. This percentage could be reduced one half under proper guidance and supervision; 150,000 people die yearly of tuberculosis, to say nothing of the 500,000 living human beings that are suffering from it, the great majority of whom will never recover. Ten thousand die per annum in New York city alone.

By building a model community such as I shall later outline, we could materially reduce the death rate of typhoid fever, which is 46.5 per hundred thousand, while that of Germany is only 6.3 and of Switzerland only 4.8. The preventable deaths in this country which number 35,000 per annum are derived from an estimated total of 300,000 cases. While it can be truthfully said this deplorable condition is probably exaggerated as far as New York city is concerned, owing to the ever watchful care of our board of health, the figures show what good might be accomplished throughout the country by the means here suggested. Let us go further and cite an eminent authority who says that one sixth of American born children die before they are one year old (16,000 annually in New York city), and from one fourth to one third before they are five years of age; also that 6,000 per annum die of scarlet fever, 10,000 from whooping cough, 12,000 from malaria, and about 22,000 from diphtheria. 3,000 die of diphtheria each year in New York. Of about thirty per cent. of the blind, we can trace their affliction to improper medical treatment, including the work of the midwife.

It is a significant fact that the health of seventy per cent. of all school children is defective, a great majority suffering from enlarged adenoids and tonsils, and many more from malnutrition, impairing their mental faculties, and from subjection to immoral and unwholesome surroundings.

How is it possible for a man and wife decently to bring up four or five children in three rooms, the children, of both sexes, frequently sleeping in one bed, as I have personally witnessed. Under proper regulations, a majority, if not all, of the above evils could be corrected.

It may be objected that were the State to accept responsibility in the matter of bringing up children, some people might look upon it as relieving them of all responsibility and would not attempt to make provision for their children's support. It might also encourage the poor families of foreign countries to seek and gain admittance here and then shortly become public charges. For this I will suggest a remedy later in this discussion. Also it might tend to make a great many mothers think lightly of their maternal obligations and encourage the giving birth to unlimited children, knowing that the State would take care of them until they were able to support themselves. Then they might expect to take them back and calculate on their earning power as a source of revenue. Perhaps when we absorb these facts we shall realize that we are not in danger of race suicide, at least among the poor, but that we are suffering from shameful shortsightedness.

We say that all men are born equal and our laws are enacted for the protection and betterment of society; then what greater miscarriage of justice can there be than to ignore the protection and guidance of the needy until at least the age of puberty

or until such time as they may be capable of caring for themselves?

It is a known fact that people are victims of their environment. If we accept that as true, how can we expect to bring up a highly intellectual and moral people unless we raise their standard of environment? It must be admitted that a great many of these people are not capable of bringing up children, either from ignorance or inability due to unavoidable circumstances. Can we therefore blame their offspring if they grow up with a temperament which has become natural to them, yet is forced and unnatural to the parent by reason of misfortune?

In a recent newspaper article, a practising physician of New York said "that the childbirth among the poor people—meaning among those who could not support children except at a sacrifice of their own physical health—was one of the greatest curses that afflict humanity and one of the causes of low wages, poverty, ignorance, idleness, sickness, crime, and death." Death in many cases is more welcome than life. From a medical point of view, a child born of a mother of low vitality is weak physically, is susceptible to disease, and quickly succumbs.

It is said that the health of seventy-eight per cent. of the people of the congested districts is physically defective, and nearly seventy per cent. unemployed.

The question has often been raised, whether it would not be better to instruct the parents how to take care of their children, but what good is that if they have not the means to do so? Some suggest that we teach women how to be "careful" and in this way limit to a certain extent the number of children. This deserves consideration, but would it not lead to injurious health conditions and to the problem of prostitution, the coping with which is a serious matter and occupying thoughtful minds to-day? Furthermore, this latter question will complicate the already serious problem of the late marriage, a detriment to our social condition, in view of which men to-day consider the marriageable age to be from 28 to 35 years, and the women 23 to 30, whereas to attain the best physical and mental result in the newly born, the proper age of parentage is from 21 to 28 years of age.

Of the many solutions advanced for this problem, none seems to be adequate. Our institution life is fairly good, but indeed much short of ideal. The essential requisite of the problem is to supply the motherly instinct and to instill the humane, sympathetic, and romantic feeling which is so necessary in a civilized and cultivated people. It is evident that in an institution housing from 100 to 1,000 children, the ideal family environment cannot be obtained. The boarding out of children in many cases helps much, but this is a very limited expedient. Our real ideal is the adoption of children into good families, but this again is limited.

The natural love of a parent overshadows the welfare of the child and the parent knowingly though unwillingly permits the child to be the sufferer. Parents, no matter how poor or degenerate, are reluctant to give up their offspring. The selfishness of the parent and the possibility that higher education will produce an odious intellectual comparison, with a resultant refuted parentage, or a denial of filial relationship, are points which command serious thought. This condition we have recently witnessed in a famous case before our criminal bar. All these facts must be carefully reviewed and studied and justice given to the parents. They must be considered and the rights due them conserved and they must not be looked upon as human incubators or as machinery for the propagation of the race. Consideration must be shown these parents and we must not deprive them of affection and love, theirs by divine right, the binding tie of the human race, now and in all ages past.

We must not burden the people with obnoxious conditions so that they will regret or look with disfavor upon the progress of science or our interest in the advancement of their social welfare.

The most feasible plan to overcome the objections, though there may be criticism and, no doubt, room for improvement, as in all new things, is the setting aside in a nearby suburb of a thousand acres or more of ground, or as much as the project will require, and the erection of colonies; that is, small houses or apartments to accommodate a "family" of several adults and ten or twelve children, limiting the number of apartments to twelve to the acre. Then build a model city with streets, proper water, and sewerage systems, etc., schools, including vocational and professional, also churches of all denominations, places of amusement, and every modern facility for educating and enlightening the inhabitants.

This could be done step by step, making provision for a certain number to start, and then increase the accommodations as the work progresses and perfects itself.

It seems wrong that our societies for the prevention of crime and suppression of vice should wait until a child's future and character are irreparably damaged for life and then attempt to correct the wrong or offer sympathy for the results of circumstance or environment, when, by radical means, such as here outlined, and by altering the scope or constitution of the societies and work under the law that an ounce of prevention is worth a pound of cure they could avoid this deplorable consequence.

The object in gathering people into one community is manifold:

(1) The ease of supervision;
(2) The saving in cost of maintenance;
(3) Proper medical and surgical treatment;
(4) Adequate hygienic surroundings;
(5) Freedom and recreation advantages, so essential to cheerfulness.

To guard against any possible abuse of charity by unscrupulous people, such as, for instance, allowing the State to provide for their children up to the time they are old enough to add to the family income and then taking them home: there should be regulations and institution laws whereby the child's board is charged up against the parents, except in deserving cases, when it might be remitted, and at the age of discharge, which is arbitrary, the debt might be liquidated.

A social worker and educator has said, "Food and fine clothes won't make good citizens; it takes ever watchful training and patience to frame and shape the growing mind." With this impression paramount the plan is to employ competent people to take the place of parents, or to provide housing and maintenance, to the extent necessary, of parents who are fully capable of bringing up children but lack the wherewithal to do so decently. As an example, I might cite a case of a bookkeeper, married and the father of five young children, he and his wife highly educated, but, through a railroad accident, incapacitated so that he cannot use his hands and earns only $6.00 a week. The State could profitably employ people under such circumstances and at the same time render a needed charity without embarrassing the recipient or lowering his pride. In some cases it might be advisable to give assistance, without breaking up the family home, by giving free rent and enough cleared ground, in the settlement, to enable the family to raise all requisite foodstuff, and perhaps, if thought advisable, raise some for market, either at a profit to themselves to buy clothing, etc., or as a source of return revenue to the community.

Those who may be looked upon as unceasing drains upon the public's charitable purse form the class of people to which this article refers. With the facts as related, we can readily see the possibilities for betterment, if not for the entire removal, within a few generations, of one of the greatest handicaps to humanity.

In this article, incomplete as it may be, I make suggestions for the correction of the condition and also suggest a remedy for its eradication. Although these views may seem harsh and perhaps heartless, some measure should have its inception now toward the relief or prevention, as far as possible, of poverty and our ultimate elevation toward the social equality of mankind.

24 West One Hundred and Nineteenth Street.

IN MEMORIAM CHRISTIAN A. HERTER

By John C. Hemmeter, M. D., Phil. D., LL. D., Baltimore.

Goethe once classified the various kinds of nature contemplation in a comprehensive way: First, the lowest grade is represented by the *Nutzensuchenden*—the utility seekers—who apply that which Nature offers for their utilitarian purposes. The second are the *Wissbegierigen*—or those simply eager for knowledge—the "curious for Nature." The third are the *Anschauenden*—who seek to avoid imagination as far as possible and reduce everything to intuition (from the Latin *intueri*, to look on or into). The fourth group are the *Umfassenden*—these minds operate in the opposite manner from the intuitionalists, for they start from preconceived ideas and seek to encompass (*umfassen*) their problem by a seeking of a realization of their ideas in Nature.

This classification is a helpful one in endeavoring to understand great minds like that of Herter.

Christian A. Herter died December 5, 1910, in the forty-sixth year of his age, at his residence in New York, of pneumonia. At the time of his death he was Professor of Pharmacology and Therapeutics in Columbia University, New York.

Through his death, scientific medicine has suffered a profound loss, for not only was the manifold character of his scientific activity astonishing and crowned with the most felicitous results, but, in addition, Herter was a philanthropist in the strict sense of that term—for we must distinguish between philanthropy in a strict sense and in a general sense when considering great men such as he was.

Philanthropy in the strict sense I designate as that which can help only by material gifts—the founding of institutions, hospitals, and academic chairs, etc.—by the latter term I refer to a philanthropy which benefits mankind through the effects of intellectual effort, by special scientific activity.

In both of these respects Herter was a philanthropist. Because he had means it was possible for him to establish lectureships in the University and Bellevue Hospital Medical College, New York, and the Johns Hopkins University in Baltimore. Through these it became possible to call the most advanced thinkers in scientific medicine and the allied sciences annually to these institutions.

He maintained in New York a private laboratory for physiology and chemistry. It was also only through his financial support that the *Journal of Biological Chemistry* could be founded and maintained. He was, therefore, a practical philanthropist in the strict sense of the term. But the greatest benefits will prove to be those of his intellectual creations, for his many works in the fields of biological chemistry, pathology, pharmacology, and chemical medicine give evidence of an enthusiastic and talented investigator.

His sense of duty to the public welfare was shown by his accepting public duties of responsibility without thought of compensation. He was a member of the first board of directors of the Rockefeller Institute for Medical Research in New York, treasurer of that institute, and consulting physician of the new hospital recently added. He also accepted the position of scientific referee at the invitation of the United States Government, becoming a member of the Referee Board of the United States Department of Agriculture. This tribunal consisted of five counsellors appointed by the President to accomplish the proper administration law regulating foods and chemical products.

Herter was born in 1864, at Glenville, Conn., received an academic education in New York and the degree of Doctor of Medicine from the College of Physicians and Surgeons, in 1885. He was an industrious writer, and space is lacking except to enumerate the more important of his publications. In 1890 he published a work on the *Diagnosis of Nervous Diseases*, and in 1902 his *Lectures on Chemical Pathology*. In more recent years he was especially interested in *Autointoxications from the Digestive Tract*, in which field he completed noteworthy bacteriological and chemical studies.

As collaborator in the International Contributions to the Pathology and Therapy of Disturbances of Nutrition (Berlin), he contributed a fine piece of work to the first volume (p. 275). This contribution on *Experimental Variation of Intestinal Flora by Changes of Diet* was one of his last works.

In his inspiring book *Great Men*, Wilhelm Ostwald divides the great investigators into two groups: 1. The classicists; and, 2, the romanticists. They are distinguished by the differences in the reaction times of their minds. The classicists are the slow ones, the romanticists the more rapid. The classicists are the thorough, penetrating, objective workers, who exhaust their problems. The romanticists are the subjective workers, who, according to Goethe (*die Umfassenden*, he calls them), would bound the multiplicity of their problems by the limits of their own ideas. They are more frequently guided by preconceived ideas, are not so thorough, but have great wealth of thought. This superfluity of ideas, in fact, determines the mental pulse rate. For this reason the romanticists, such as Davy, Liebig, Benjamin Thompson (Count Rumford), cannot be so exhaustive as the classicists, because they undertake too many problems and are diverted from the same degree of concentration by the superabundance of their conceptions.

In his sixteenth aphorism, Heraclitus expressed this as follows: πολυμαθίη νόον ἔχειν οὐ διδάσκει i. e., Much knowledge does not lead to understanding. This expression does not strictly apply to the great romanticists, for their services have often led to a deep insight.

Was Dr. Herter a classicist or a romanticist? I knew him well, personally, and have eagerly read his works, but must acknowledge being at a loss how to place this man in Ostwald's classification. He produced much and rapidly, his intellectual reaction was quick, he possessed a remarkable wealth of ideas, and was filled with enthusiasm. These are characteristic of the romanticist.

On the other hand, he lacked certain characteristics of the romanticist—for he was thorough, not superficial, he did not allow himself to be led by *a priori*, i. e., intuitive, conceptions; he belonged to Goethe's *Anschauenden*, contemplative, believing that all experience comes from contemplation.

It remains to be recorded that Christian Herter was endowed with an artistic temperament. He was a technically developed violoncellist, and it often appeared to me that his musical accomplishment rose to virtuosity. It was my personal privilege occasionally to accompany him on the piano. Unforgettable are the evenings in Herter's home when the physiologist, Jacques Loeb, Herter, and I, after a discourse on physiological topics, enjoyed the relaxation afforded by the compositions of Beethoven and other master musicians.

A great heart, beating warmly for its fellowmen, has been stilled, a profound thinker has found peace; an artist in scientific technique, as well as music, has been called to participate in the "harmony of the spheres." According to Hippocrates, ὁ βίος βραχύς, ἡ δὲ τέχνη μακρή. Life is short, but art long.

173 LINDEN AVENUE.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXI.—How do you treat acute infantile anterior poliomyelitis? (Closed June 15, 1911.)

CXII.—How do you treat psoriasis? (Answers due not later than July 15, 1911.)

CXIII.—What is your course of procedure when a woman presents herself complaining solely of severe headaches?

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short; if practicable no one answer to contain more than six hundred words.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to Question CX was awarded to Dr. D. F. Macdonell, of Rochester, N. Y., whose article appears below.

PRIZE QUESTION CX.

THE TREATMENT OF FLATULENCE.

BY D. F. MACDONELL, M. D.,
Rochester, N. Y.

Flatulence, occurring as it does in so many disorders, admits of wide variation in the details of its treatment. In general our treatment should aim at:

1. Causing the expulsion of gas already formed.
2. Preventing the formation of additional flatus.

In the distention of toxæmias or of intestinal obstruction the first is our aim, while in some of the more chronic conditions, in which flatus is being freely generated and readily discharged, the second will be our main consideration.

If it occurs in acute gastritis or in acute gastroenteritis we should begin with a brisk catharsis, by means of castor oil, one ounce, suitably disguised, or, if the stomach is too irritable to tolerate the oil, a full dose of calomel, followed in a few hours by a saline purgative, will serve to carry off the irritant to the gastrointestinal tract. At the same time it is well to withhold all food for twelve or even twenty-four hours. Then a gradual return to regular diet, with the avoidance of the coarser vegetables (cabbage, turnips, etc.), and the limiting of the amount of starches, sugars, and pastries will commonly effect a cure.

Chronic constipation, atonic dyspepsia, chronic gastritis, gallstones, the cirrhoses, hysteria, and various other conditions represent a group in which flatulence is often a troublesome feature. In this group our treatment consists of diet, exercise, massage, and medication. If constipation, which is commonly present, can be successfully treated the flatulence usually ceases. Diarrhœa sometimes is seen in this group, but when present it will usually be found to alternate with periods of constipation.

Diet: 1. Coarse or green vegetables, as cabbage, cauliflower, turnips, green peas, beans, etc., should be used sparingly, if at all.

2. Sugars, starches, and pastries are to be limited in amount.

3. Cooked cereals are to be preferred to the uncooked, starchy breakfast foods.

4. Whole grain bread rather than that from white flour should be used.

5. Water in fair amounts, but little tea, is to be taken.

Exercise: This preferably should be outdoor and should be carefully regulated to the age, sex, strength, and previous habits of the patient. Walking, motoring, riding, rowing, playing tennis or golf, all tend to improve the tonus of the abdominal and other muscles and to stimulate peristalsis.

Massage of the abdomen: This is advisable, especially along the course of the colon, for a few minutes daily. It develops the abdominal muscles and also stimulates peristalsis.

Medication: Drugs are usually necessary, especially at the beginning. A daily dose of some aperient water, Carlsbad, Hunyadi Janos, or another, or one of the aloin, or similar formulæ (see below), just sufficient to produce the desired laxative effect, will be found satisfactory in many cases. These can gradually be decreased in amount and in the course of time perhaps discontinued entirely.

Symptoms must be treated as they arise. Pyrosis may be troublesome. Sodium bicarbonate, in thirty to sixty grain doses, with or without bismuth, will usually relieve it. Imprisoned flatus we may find difficult to locate, namely, whether in the stomach or intestine. If soapsuds or turpentine enemata, with high rectal tube, fail to release flatus, especially if distention is impeding the heart action, a stomach tube may be passed. This sometimes gives instant relief. Swallowing air occurs in some as a habit and is seen in many postoperative cases as a result of frequent attempts to swallow with a dry mouth. The habit should be discouraged. In postoperative cases chipped ice in the mouth may relieve.

In addition to the foregoing, we have the distention of toxæmias, as typhoid fever, that seen after abdominal section, and that present in intestinal obstruction and peritonitis. These cannot be considered in detail, but we may summarize as follows: The distention of typhoid fever calls for change of diet, enemata, and often turpentine stupes and the rectal tube; avoid purgatives.

After laparotomies, turpentine stupes, and the rectal tube, the latter three or four times a day for an hour at a time, with change of position of the patient at intervals, are to be tried. If no contraindication exists, early movement of the bowels by castor oil or Epsom salts should be induced.

If the distention is paralytic, methods mentioned in postoperative cases are used, except that purgatives are contraindicated. Instead enemata of soapsuds are advisable, soapsuds and turpentine, or of glycerin (see below). Eserin salicylate, from 1/60 to 1/30 grain by hypodermic injection, at time of operation, combined with atropine, 1/150 grain, is strongly recommended by some surgeons.

Formulæ.

℞ Morphin. gr. [illegible]
Strychnine, ... gr. 1/120;
Extract of belladonna, ... gr. [illegible]
Extract of [illegible] q. s. ut f. m. [illegible]
M. Sig.: [illegible]

℞ Turpentine, ... 5i;
Soapsuds, ... Oj.
M. For an enema.

℞ Glycerin, ... 5ss.
Water, ... 5jss.
M. For an enema.

200 Alexander Street.

(To be concluded.)

Correspondence.

LETTER FROM TORONTO.

Puerperal septicæmia in Ontario. New [illegible] Hospital for Toronto.—New Superintendent of Toronto General Hospital.—Ontario Medical Association.—Canadian Association for the Prevention of Tuberculosis.—Personals.

Toronto, Ont., [illegible], 1910.

In the year 1897 the mortality from puerperal septichæmia in Ontario was 3.9 per 1,000; 1898, 1.54; 1899, 1.5; 1900, 1.88; 1901, 1.75; 1902, .89; 1903, .91; 1904, .77; 1905, .52; 1906, 1.02; 1907, .89; 1908, 1.71. When the mortality rate of 1908 is compared with that of England and Wales in the same year, viz., 1.4 per 1,000, and in Ireland in the same year, 1.8 per 1,000, where often midwives are in attendance, the comparison is not favorable to the obstetric art in Ontario, where physicians are mostly in attendance. The Ontario statistics for the previous five years—1902 to 1907—are favorable to the obstetric art in the province. Naturally, to properly estimate the influence of the obstetric art on puerperal septichæmia, the returns should be so collected to show the number of births with physicians in attendance as well as the number of births with midwives in attendance and then the percentage of deaths in the two classes. When the returns are compiled for 1909, it is to be hoped there will be a better showing than for 1908.

Although Toronto has a certain number of private hospitals, it has been felt for a long time amongst the medical faculty that the city did not possess a private hospital of a status equal to those of other cities of its size and importance. Recently there has been purchased in a central part of the city a fine private residence surrounded by magnificent grounds, three acres in extent. Several prominent physicians and citizens of Toronto are interested in this undertaking. A new wing will be added to the residence which will have accommodation for at least sixty patients. About $150,000 will be expended in making this new building modern and the hospital equipment will be the best obtainable. Dr. J. N. Elliott Brown, formerly for six years superintendent of the Toronto General Hospital, will be placed in charge as soon as he returns from abroad. The question arises as to what effect this new venture will have upon the new Toronto General Hospital now in course of erection, which hospital is to have accommodation

for 100 to 150 private patients. The belief is that the Toronto General Hospital should confine its work to public patients, as it has been supported largely by grants from the city and Province, and the University of Toronto. When the new private hospital is completed it is believed that Toronto will have an institution which will compare with the best in the large American and European cities.

Dr. Charles K. Clarke, superintendent of the Toronto Provincial Hospital for the Insane, has been appointed superintendent of the Toronto General Hospital at a salary of $5,000 per annum. Dr. Clarke is Dean of the medical faculty of the University of Toronto and the appointment will mean bringing into closer relationship the medical department of the university and the general hospital. Dr. Clarke entered the Ontario public service first at Toronto in the year 1874 when he was appointed assistant at the Toronto Hospital for the Insane. In 1880 he was appointed first assistant at the Rockwood Hospital for the Insane, at Kingston, and in 1885 became superintendent of that institution. In 1905 he was transferred to the superintendency of the Toronto Hospital for the Insane, succeeding Dr. Daniel Clark, superannuated. Dr. Clarke is looked upon as one of the first authorities in psychiatry in Canada.

The thirtieth annual meeting of the Ontario Medical Association was held in Niagara Falls, Ont., on May 30th and 31st and June 1st. Dr. H. R. Casgrain, of Windsor, the president, was in charge of the meeting and Dr. F. Arnold Clarkson, of Toronto, was general secretary. The meeting was one of the best in the history of the organization, the largest ever held outside of Toronto and the meeting place was pronounced an ideal one. The meeting unanimously adopted a resolution that at each general hospital of the Province provision should be made for the care of tuberculosis cases and that every general hospital should at once proceed to establish or set apart wards for this purpose. It was also recommended that in the event of any hospital refusing to admit or provide for consumptives, the action be reported to the Provincial government and on continued refusal the Provincial grant to the hospital be withheld. The report of the special committee on revision of the constitution was adopted, by which the Ontario Medical Association becomes affiliated as a branch of the Canadian Medical Association. The Ontario Medical Association will ask that only one way of admission to the Canadian Medical Association be valid, namely, through the local or Provincial association. Speaking before the section on public health, Dr. J. W. S. McCullough, chief health officer for Ontario, said the way to prevent race suicide would be to give mothers a reward for each child when it reaches the age of five years. Infant mortality was another subject receiving a good deal of attention, Dr. McCullough contrasting the policy of the government in paying $5 a head to those bringing in immigrants, whereas the native born child was given nothing at all. The address in medicine was given by Dr. T. B. Futcher, of Baltimore,—The Relationship Between the Ductless Glands and Carbohydrate Metabolism. The address in surgery was delivered by Dr. A. E. Garrow, of Montreal. Among American physicians and surgeons who contributed to the success of the meeting were Dr. Crile, of Cleveland; Dr. Thomas Cullen, of Baltimore; Dr. Woodruff, of Chicago; Dr. Norman McLeod, of Buffalo; Dr. Norman N. Harris, of Chicago; Dr. Charles White, of Pittsburgh.

The annual banquet was held on the evening of May 31st, Dr. Casgrain presiding and Dr. Wilson, of Niagara Falls, acting as toastmaster. Dr. Roswell Park and Dr. Woodruff responded for the American profession, the former reading an epitome of an encyclopædic article on the fathers of American medicine. Dr. J. B. Coleridge, of Ingersoll, responded to the toast of Canada, while Dr. A. McPhedran and Dr. R. W. Bruce Smith, of Toronto, replied for the Canadian medical profession.

It was decided to meet in Toronto in 1912.

Dr. Herbert A. Bruce, of Toronto, was elected president, Dr. J. H. Mullin, of Hamilton, reelected treasurer, and Dr. F. A Clarkson, of Toronto, reelected general secretary. Dr. F. W. E. Wilson, of Niagara Falls; Dr. William Hall, of Brampton; Dr. F. P. Drake, of London, and Dr. George H. Field, of Coburg, were elected vice-presidents.

The annual meeting of the Tuberculosis Association was held in London, Ont., May 17th and 18th. Dr. J. George Adami, of Montreal, was the president, and Dr. Porter, of Toronto, secretary. Dr. Porter, in his annual report of the work done in the past official year, stated that the death rate from tuberculosis in Ontario had decreased in the last ten years from 11.8 per cent. to 7.6 per cent. Dr. Holbrook, of the Hamilton Sanatorium, reported good results from the children's branch of that institution. It was its first year; and of thirty patients treated they had sent home eight on the way to recovery, five of whom were at the time of reporting completely cured. Dr. Charles Hodgetts, secretary of the medical section of the Canadian Conservation Commission, referred to the recommendation of the Canadian Commission that the federal government set apart tracts of land for colonies for tuberculous cases, but regretted that the government had not as yet acceded to this demand. As the commission was advisory to all governments in Canada, it now had under advisement a plan of financial assistance that it would recommend to the various governments. Personally, Dr. Hodgetts believed that public health was a national concern and should be back again under federal control, as it was at one time. Dr. William C. White, formerly of Woodstock, but now of Pennsylvania, asserted that municipal health officers should interest local newspapers and make local exhibitions. He considered that most municipal health officers were of the passive rather than the active type. He also criticised the Provincial health authorities who should see that the municipal officers did their duty.

Dr. C. D. Parfitt, of Gravenhurst, read an extended paper on sanatoria. He said that in Ontario there were twelve institutions which cared for 1,400 patients. This was accommodation for only five per cent. of the tuberculous patients of the Province. Professor J. George Adami was reelected president and Dr. George D. Porter, of Toronto, secretary.

Lieutenant-Colonel John T. Fotheringham, M.

D., of Toronto, is in command of the army medical service of the Canadian Coronation Contingent. Dr. J. M. Forster, superintendent of the Brockville Hospital for the Insane, has been transferred to the superintendency of the Toronto Hospital for the Insane. Dr. John C. Mitchell, of the Hamilton institution, has been promoted to the superintendency of the Brockville Hospital for the Insane. Dr. Wilfrid T. Grenfell, C. M. G., explorer and missionary in Labrador, has had conferred upon him the degree of Doctor of Laws by the University of Toronto. Dr. R. A. Reeve, formerly dean of the medical department of the University of Toronto, and Professor A. B. MacCallum, of Toronto, have received the degree of Doctor of Laws from McGill University, Montreal.

Therapeutical Notes.

Administration of Creosote.—Edwards, in his *Principles and Practice of Medicine*, gives two formulæ for the administration in tuberculosis of creosote, one in pill form:

℞ Creosoti, ...5jss;
Glycerini [illegible]
Compound tincture of gentian, ...5iv
M. Ft. mistura. Sig.: One teaspoonful after meals.

℞ Creosoti, ...5jss;
Mucilage of acacia, ...5iij;
Powdered althæa, q. s.
M. et ft. pil, No. 100. Sig.: One after meals.

Pain in Chronic Rheumatism.—Comby is credited by *La Quinzaine thérapeutique* for May 25, 1911, with the following prescription:

℞ Cocaine hydrochloride, ...grs. xv;
[illegible]
Petrolatum,
Wool fat, of each, ...grs. ccc.
M. ft. unguentum; apply to the painful joints.

Arteriosclerosis.—[illegible] arteriosclerosis in the *Practitioner*, June, 1911, observes that there is no specific medicine, and the essential part of the treatment is the regulation of the life of the patient. But in arteriosclerosis, as in other chronic diseases, various symptoms may arise from time to time, and the particular measures that are required for their relief are generally indicated by the special disorder. It has been urged that an elevated blood pressure requires reduction in all cases, and a host of vasodilators have been recommended for this purpose. But in arteriosclerosis the high blood pressure is really a conservative process, an attempt to remedy the circulatory difficulties that have arisen, and any interference with it is just as likely to do harm as good. It is true that in the presence of symptoms the pressure may be temporarily high for the particular case, and with improvement often falls, but in other cases it rises, and in the absence of symptoms it is always above normal. It is not rational to conclude that because the blood pressure sometimes falls coincidently with improvement, improvement will occur whenever and however the pressure is lowered. In many cases this can only be done by depressing the cardiac action, in short, by inducing cardiac failure. It must, however, be admitted that practical experience has shown that in certain cases vasodilator drugs may be of service. In angina pectoris, for example, the inhalation of amyl nitrite is often of great value during the paroxysm, as well as the administration of nitroglycerin in the intervals between attacks. But the action of all drugs of this kind is very fleeting, erythrol tetranitrate, which is said to have the most prolonged action, losing its effect within five or six hours after its administration, and he has so far failed to find that their continued use has had any appreciable effect upon the blood pressure curves. It is somewhat difficult to understand the high reputation of iodine and the iodides in this disease, for it seems certain that they exercise little or no influence upon the blood pressure, and their action upon fibrous tissue is only likely to be effective when it is of syphilitic origin. The general conclusion as to the good effects is, however, too strong to be lightly disregarded, and moderate doses may be given. Care should be taken, however, that iodism does not occur. Mercury is another drug which has a well established reputation in this disease, from its action in increasing renal and intestinal excretion, and in limiting bacterial processes in the intestine. Calomel and blue pill seem to be the most useful preparations. The toilet of the mouth must be carefully supervised, particularly in those cases in which renal symptoms are prominent. In patients who are more or less convalescent, these drugs should be given intermittently rather than continuously, and their effects are probably best marked if they are given every alternate week or fortnight, with occasional longer intervals of intermission.

Pruritus of the Vulva.—For this annoying and frequently intractable affection, Dalché gives, in *Quinzaine thérapeutique* for May 25th, the following:

℞ Menthol, ...grs. viiss;
Guaiacol, [illegible]
Zinc oxide, ...5iij;
Petrolatum [illegible]
M. Fiat unguentum.

A Tonic Capsule.—Crossen, in his *Diagnosis and Treatment of the Diseases of Women*, gives the following prescription for a tonic of general use in gynæcological cases:

℞ Strychnine nitrate, ...gr. j;
Mass of iron carbonate, ...5jss;
Quinine sulphate, ...5j
M. Divide into 30 capsules. Sig.: One after each meal.

Camphorated Oil in Surgery.—The *Revue française de medecine et de chirurgie* for May 10th credits P. Baudet, of Toulouse, in *Province medicale* for March 11th with the following formula:

℞ Camphor, ...5iij;
Purified olive oil, ...5ix.
M. Fiat mistura

After the camphor is dissolved the oil is filtered. Twenty cubic centimetres are injected twice daily when the heart action is feeble. The results, even in grave septichæmia, have been excellent and the dose has been raised to 100 c. c. in the twenty-four hours without unfavorable symptoms. The camphor is rapidly eliminated through the lungs.

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NEW YORK, SATURDAY, JUNE [illegible]

THE ANÆSTHETIC EFFECT OF VICTORY.

Bonnette, a French army surgeon attached to the Thirty-ninth Artillery, writes in *Presse médicale* for May 31, 1911, of the extraordinary indifference to the pain of operation manifested by the soldiers of Napoleon, while the great conqueror was sweeping victoriously over Europe. While the defeated soldier is full of imaginary terrors, subject to panic, madness, and treason, the conqueror, on the other hand, is intoxicated with success. Nothing, not even the morbific microbe, can resist troops who believe themselves to be invincible. Victory is the most powerful of restoratives and the deepest of anæsthetics. Legless members of the old guard, crowded into an ambulance, would, at sight of the Emperor, rise on their stumps to salute him. After Eylau, Larrey operated uninterruptedly for thirty-six hours, and he reports how the soldiers seemed unconscious of their own troubles, lost in thought of the glory of their leader, and, maimed as they were, lending their best aid to fellow patients. At Borodino, Larrey disarticulated the shoulder of a colonel, who immediately set out for France on foot, where he arrived after three months' walking. After fording the Beresina, a river in Russia, General Zayonchek, seventy-five years old, had his kneecap shattered by a bullet; amputation was performed in three minutes in a violent snowstorm and in bitterly cold weather, yet the white haired officer was placed in a sledge and taken to Vilna, where he died at the age of eighty-six years. Many similar anecdotes are told by our Civil War veterans. Bonnette tells these true stories to chicken hearted recruits who turn pale at the sight of the vaccination lancet, for, he says, the triumph of man over pain will always remain one of the finest things in the world.

THE NEED FOR THE INVESTIGATION OF BREAD.

Dr. Leonard Hill, the distinguished English physiologist, has made recently (*British Medical Journal* for May 6th) an interesting contribution to the question of standard bread, a subject about which an animated discussion has been going on for some months in the British press, lay and medical. The discussion started from a revival of the old plea for a bread containing a larger portion of the constituents of the wheat, or for what the English are now calling "standard bread," the standard containing about eighty per cent. of the total grain as against the seventy or seventy-three per cent. contained in the whiter bread now generally used. Although the discussion has thrown much light upon the chemistry of flour, and has served to show in how many ways flour is treated, and how many things may be added to "improve" it, it has contributed but little to our knowledge of the physiological value of the different flours. In fact practically the only data hitherto brought forward on this subject are contained in a publication by the Local Government Board on the bleaching of flour, in which the conclusions drawn are very similar to those reached by Hale in this country (*Bulletin 68 of the Hygienic Laboratory,* Public Health and Marine Hospital Service).

Hill has been conducting experiments on the nutritive value of white and of standard bread, using rats as subjects; he says that his results have been astonishing. Rats fed on white bread or flour did very badly. Many of them died; the others grew slowly, increased but slightly in weight in six weeks, after which time nearly all of them began to lose weight. The rats fed on the standard bread or flour did much better; fewer of them died and their increase in weight was more than twice as great as in those fed on the white bread and flour. Hill concluded that either the standard flour contained something essential to growth which was not in the white flour or that the latter contained something detrimental, "improvers" for example; he drew the following practical conclusion: "It seems clear that children of the poor, who are largely fed on bread and margarine, or bread and jam, ought to have the standard and not the white bread tested by us."

These are not the first experiments which show that different wheat breads have markedly different physiological effects. In *Bulletin 69 of the Hy-*

gienic Laboratory, upon which we commented editorially December 17, 1910, Hunt states that mice fed upon the "white wheat bread" obtained from one Washington bakery showed but one fourth the resistance to certain poisons of mice fed upon similar bread from another bakery, although dealers considered them equivalent. Hunt did not attempt to analyze the cause of this difference, but pointed out that for careful dietary studies it was essential to have fuller knowledge than is usually available of the exact composition of the bread used, and stated that it was not entirely improbable that in certain cases of sickness different kinds of bread would have different effects, analogous to those found in experiments on lower animals, and that it was desirable for the words "white wheat bread" to mean something more definite than they do at present.

It is quite probable that breads which have such markedly different effects upon lower animals would also have different effects upon infants and young children, and perhaps upon adults, especially in sickness. The lower animals are usually supposed to be resistant and adaptable as regards food, whereas the extreme sensitiveness of infants to slight changes in diet is well known. Certainly any leads which tend to throw more light upon such an important article of food as bread should be diligently followed. That experiments on the lower animals may aid materially in elucidating problems of nutrition has recently been demonstrated anew in connection with beriberi; the polyneuritis produced in fowls by the feeding of polished rice played an important part in the investigation of this disease.

President Taft recently spoke with much pride of the practical results in the Philippines which have followed from these studies of beriberi. A thorough investigation of the subject of bread along physiological and medical lines would seem to offer a promising field for research in the United States. The United States Senate recently made an appropriation to enable the Public Health and Marine Hospital Service to make a study of the effects of pasteurized milk upon infant mortality; it would be most valuable if the appropriation could be enlarged to enable this service to collect data on the effect of different kinds of bread upon the health and growth of children. Congress, during the past few years, has authorized the expenditure of large sums to investigate the effects of sodium benzoate and saccharin in a limited number of foods, of caffeine in beverages, etc., subjects of far less relative importance than bread, and it seems quite probable that it would be willing to authorize at least a small expenditure for the investigation of the latter.

THE WORLD WIDE PREVALENCE OF BUBONIC PLAGUE.

The great extent of territory in which human plague prevails is shown by the weekly reports of the Public Health and Marine Hospital Service. Since the first of the current year cases have been reported from seaports on both the eastern and western coasts of South America, the island of Trinidad, Egypt, Russia, Japan, Arabia, Turkey in Asia, German East Africa, Siam, The Straits Settlements, Java, and Hawaii. At the same time the ravages from this disease continue practically unabated in China and India. The last case of human plague in the United States was reported from Santa Clara county, California, on August 23, 1910, but the disease still exists among the ground squirrels over a wide extent of country in the vicinity of Oakland and San Francisco. With the idea of making a squirrel free zone over a large area immediately contingent to these cities, 2,285 acres of land in Alameda county were covered with poison during the week of April 16, 1911.

The work of rat destruction in the holds of ships destined to the United States from foreign ports where plague is prevalent is being prosecuted on an ever increasing scale. At Shanghai, China, means have been instigated for the destruction of rats on the lighters which convey the cargoes from the wharves to the vessels in the harbor which are destined for our shores. This is carried out under the direction of a medical officer of the Public Health and Marine Hospital Service, stationed at that port, and the steamship agents have issued orders to their captains to accept no cargoes except those fumigated in accordance with his instructions.

The act of February 15, 1893, provided that every vessel clearing at a foreign port for a port in the United States be required to obtain a bill of health from the U. S. Consular office. Wherever a Federal health officer is stationed the consul at that place issues or withholds the bill of health in accordance with his findings, consequently, with the continued policy of rodent destruction, both at home and abroad, it would seem that the dangers of an outbreak of human plague in the United States were continually diminishing.

THE TREATMENT OF RHEUMATIC FEVER.

Rheumatic fever, or rheumatism as it is popularly known, shares with tabes dorsalis, phthisis, alcoholism, and some other chronic conditions the peculiarity of exhibiting apparent ameliorations under any novel form of treatment. There are few young practitioners who have not had the chagrin of imagining, at one time or another, that they had ac-

complished a cure in some long standing case by the exhibition of some recent and well advertised remedy, only to see their patients sink back into their former condition after a few days or weeks. The treatment, however, of rheumatic fever described in this issue of the *Journal* by Dr. Algernon Brashear Jackson and for which he is careful not to claim too much, has nothing mysterious or magical in its nature. Our readers will join us in the hope that the hypodermic administration of magnesium sulphate will prove in this wretched disease if not a specific at least sufficiently analgetic and eliminant to give comfort to thousands. The salt, given in this way, is evidently a powerful alterative and very likely it possesses some potent influence, yet to be determined as to its nature, over the causative factor in rheumatic fever, whether this is a specific *Diplococcus rheumaticus* or merely one of the common pyogenic organisms altering its characteristics somewhat with its habitat.

A CAUSE OF CANCER IN THE PHILIPPINES.

In the *Bulletin of the Manila Medical Society* for April, 1911, an editorial article draws attention to a cause of epithelioma probably quite unknown outside of the islands of the Pacific Ocean. Owing to the habit of betel nut chewing the buccal mucous membrane about the centre of the inner surface of the cheek frequently becomes affected and the malignant growth extends to adjacent structures with great rapidity. It has been stated elsewhere that betel nut chewing causes an enormous deposit of lime salts on the teeth, which may be the cause of the initial irritation or serve to aggravate it. The *Bulletin* states that cancer is very prevalent in the Philippines, especially among the lower classes. This seems to contradict conclusions reached in other quarters that cancer is particularly a disease of ultracivilized life.

DISINFECTION OF THE SKIN.

Tinker and Prince, of Ithaca, report in *Surgery, Gynecology, and Obstetrics* for June a series of experiments with various so called antiseptics to determine their bactericidal power when used on the skin. They have little faith in tincture of iodine, recently so highly praised, especially by British writers, but they think it has possibly an action in increasing the flow of blood to the region of operation with a corresponding increase in the number of leucocytes; it will not destroy the spore forming bacteria. They prefer for general use in preparing the patient Harrington's solution which they apply with friction for about two and a half minutes, sponging off with alcohol. Harrington's solution may be prepared by dissolving fifteen grains of corrosive sublimate in two and a half ounces of chemically pure hydrochloric acid, and then adding twelve ounces, six drachms of water, and twenty-seven ounces of alcohol. As the solution is irritating to the hands, if often used, the authors rely for their personal preparation on the old fashioned scrub with soap and water, immersion in mercury bichloride solution, and a final cleansing in alcohol.

MALIGNANT NEOPLASMS OF ADIPOSE TISSUE.

Malignant lipomata, representing atypical tumors of the adipose tissue and ordinarily mistaken for sarcomata, in spite of their infrequency deserve a careful description, which has recently been given by Delachanal (*Thèse*, Lyons, 1910), whose work is based on fourteen instances of this interesting pathological process. These neoplasms are more ordinarily met with in subjects already the possessors of several benign lipomata, but malignant transformation of these growths rarely takes place. The malignant lipoma can develop in any part where lipomata usually occur, but it has a marked predilection for parts rich in fat, such as the posterior aspect of the thigh, retroperitoneal region or mesentery, and the ischiorectal fossa. These growths are prone to attain large dimensions, particularly when the anatomical conditions are favorable, as in the mesentery or thigh. In consistence they are semi-fluctuating, like a cold abscess, but in many cases they are less uniformly so on account of the more or less indurated spots encountered in malignant lipomata. These tumors, it would appear, become generalized more frequently than fibromata, the latter having rather more a tendency to local occurrence. Both manners of extension are observed, however, in malignant lipoma, distant metastases taking place in any of the parenchymatous structures of the liver, lungs, heart, or lymphnodes, but more commonly in those parts supplied with a large amount of adipose tissue, such as the iliac fossa, circumrenal region, or in the thigh.

SURGICAL TREATMENT OF MALIGNANT DISEASE OF THE TESTICLE.

Calin (*Thèse*, Lyons, 1911) points out that the rational operation for cancer of the testicle should consist, following the general rule governing the treatment of malignant disease, in a removal *en masse* of the growth and lymphnodes infected, or on the point of becoming so. Such an interference

is possible by making a long, lateral inguinoabdominal incision, followed by peeling off the parietal peritonæum inwardly as far as the spine and upward to the renal pedicle. By this means one can dissect and extirpate under the eye the entire chain of lymphnodes, and to accomplish this Chevassu's technique is the best to follow.

The ultimate results of this interference appear to justify its adoption, as autopsies have shown that by it there is a possibility of reaching beyond the disease.

SIR WILLIAM OSLER, BART.

Many people will learn probably with surprise that Dr. Osler has been created a baronet in honor of the coronation of King George V, having always believed him to be an American citizen; Sir William, however, was born a British subject in Dundas, Ont., and earned his first medical laurels at McGill University as Professor of the Institutes of Medicine, a subject that included physiology and the elementary histology and pathology of the early eighties of the last century. A baronetcy is a graceful compliment that no American colleague will begrudge the distinguished physician, and many may wish, in temporary heresy to sound republican principles, that we had some equally agreeable way of rewarding great scholarship and remarkable public service.

News Items.

Meeting of the American Medical Association.—Following is the convention programme of the meeting of the association at Los Angeles, June 26th to July 1st:

June 26th—Delegates and members begin arriving from East and North on more than twenty-five special trains. Preliminary reunions and dinners during afternoon and evening.

June 27th—Convention called to order at 10 a. m., in Temple Auditorium. Greetings by Mayor Alexander and response by Dr. W. H. Welch, retiring president of American Medical Association. Inauguration of new president, Dr. John B. Murphy. House of delegates will map out business of session. Meetings of various sections for reading of papers and discussion. These section meetings will continue daily throughout the week at various places.

June 27th—Afternoon: Reception and tea to visiting women, at Hotel Alexandria.

June 27th—Evening: College reunions and banquets at various hotels; stag vaudeville and smoker at Hamburger's roof garden.

June 28th—Forenoon: Automobile trip, on which visiting women will be taken in over 100 autos, to points in and about Los Angeles and to luncheon and reception at Los Angeles Country Club.

[illegible] and Mrs. Walter Jarvis Barlow.

June 28th—Evening: Formal reception to new president, Dr. John B. Murphy, at Shrine Auditorium.

June 29th—Afternoon: *All fresco* musicale on grounds of Dr. and Mrs. Norman Bridge.

June 29th—Evening: Vaudeville and smoker at Hamburger's roof garden, to which all delegates and women will be invited.

June 30th—[illegible] sunken gardens of Adolphus Busch, in Pasadena.

June 30th—[illegible] man chariot races at Tournament Park, Pasadena.

June 30th—Evening: Midsummer night's carnival of Venice.

July 1st—Side trips to Catalina and other Southern California show points. Spanish barbecue at Catalina. Luncheon at Hotel Virginia, Long Beach. Cruise on yachts of South Coast Yacht Club.

Changes of Address.—Dr. Thomas L. Fogarty, to 262 New York Avenue, Brooklyn.

A New Building for the Mount Vernon Hospital.—A twelve day campaign to raise $100,000 for a new hospital building in Mount Vernon closed on Saturday night, June 17th, and the executive committee announced that the sum collected amounted to $106,000.

Another Physicians' Building Planned.—Plans have been filed for converting the eight story apartment house, at the southeast corner of Madison avenue and Fifty-third street, into an office building for the exclusive use of physicians. The estimated cost of the alterations is $40,000.

Cholera.—Two cases of cholera were discovered on board the Italian liner *Duca degle Abruzzi* on arrival at Quarantine, on June 20th, from Naples. Both patients were members of the ship's crew, and were transferred to Swinburne Island. The steerage passengers were transferred later to Hoffman Island for observation, after which the ship was disinfected before she was allowed to proceed to her pier and land the cabin passengers.

Painful Accident to Dr. Macphail.—Dr. Andrew Macphail, of Montreal, editor of the *Canadian Medical Association Journal*, and a writer of essays on miscellaneous subjects, suffered a painful accident on Sunday, the 18th inst; an aerated water bottle exploded in his hands, the fragments cutting his face and flying into his eyes. He was hurried to the Royal Victoria Hospital, where an operation was performed, and recent reports state that his sight will not be affected.

New Officers of the Society of Alumni of Bellevue Hospital.—At the 215th stated meeting of the society the following officers were elected for the ensuing year: President, Dr. H. Seymore Houghton; vice-president, Dr. J. Clifton Edgar; secretary, Dr. Claude A. Frink; treasurer, Dr. Robert J. Wilson; historian, Dr. Robert James Carlisle; committee on new members: Dr. Chester F. S. Whitney, Dr. A. G. Kearne, Dr. H. B. Blackwell, Dr. W. E. Caldwell, and Dr. A. S. Morrow; committee on science, Dr. H. S. Houghton, Dr. F. M. Crandall, and Dr. R. H. Sayre; committee on entertainment, Dr. J. Clifton Edgar, Dr. Bruce G. Phillips, and Dr. A. E. Sellenings.

Cornell University Commencement.—At the thirteenth annual commencement exercises of Cornell University Medical College, held on June 14th, fifty-five candidates received the degree of doctor of medicine, seven of them being women. Ninety-five per cent. of the class have received hospital appointments. The John Metcalfe Polk Memorial Prizes were awarded as follows: First prize, $300, to Miss Helen Dudley; second prize, $125, to Miss Elvira Dudley Dean; third prize, $75, to Wesley Manning Baldwin, who will continue abroad during this coming year his studies in anatomy. The prizes for the best work in otology were presented as follows: First prize, $50, to Arthur William Justin; second prize, $25, to James Edward McCormick.

Personal.—Dr. C. H. Chetwood, of New York, received the honorary degree of doctor of laws from Fordham University, at the annual commencement, held on June 14th.

Dr. Samuel B. Lyon, who has been superintendent of the Bloomingdale Hospital, at White Plains, N. Y., for fifteen years, will resign on July 1st, and become superintendent emeritus.

Dr. Edgar F. Smith, provost of the University of Pennsylvania, received the degree of L.H.D. at the commencement exercises of Muhlenberg College, held on June 15th.

Dr. Merrick D. Thomas, of Birmingham, Ala., has been appointed instructor in obstetrics in the Birmingham Medical College.

Dr. Harry Adler has been appointed professor of therapeutics and clinical medicine in the University of Maryland.

The Massachusetts Medical Society.—The 130th annual meeting of this society was held in Boston on Tuesday and Wednesday, June 13th and 14th. Officers were elected as follows: President, Dr. George B. Shattuck, of Boston; vice-president, Dr. E. S. Jack, of Melrose; secretary, Dr. W. L. Burrage, of Boston, reelected; treasurer, Dr. E. M. Buckingham, of Boston, reelected; librarian, Dr E. H. Brigham, of Brookline.

Meetings of Local Medical Societies to be Held During the Coming Week:

TUESDAY, *June 27th.*—Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Valentine Mott Medical Society, New York (annual); Washington Heights Medical Society, New York; Alumni Association of Seney Hospital, Brooklyn; Rome Medical Society

WEDNESDAY, *June 28th.*—The Medical Union, Buffalo.

THURSDAY, *June 29th.*—Brooklyn Society for Neurology.

The Maine Medical Association.—The fifty-ninth annual meeting of this association will be held in Augusta on Wednesday and Thursday, June 28th and 29th. An interesting programme has been arranged which includes addresses by Dr. Henry A. Christian, of the Harvard Medical School, and Dr. Scudder, of Boston, in addition to a long list of papers by prominent members of the medical profession in the State of Maine. The officers of the society are: President, Dr. E. H. Bennett, of Lubec; first vice-president, Dr. Addison S. Thayer, of Portland; second vice-president, Dr. F. N. Whittier, of Brunswick; secretary, Dr. W. Bean Moulton, of Portland, 632 Congress Street; treasurer, Dr. E. W. Gehring, of Portland.

The New Jersey Pædiatric Society met in annual session at the New Monmouth Hotel on Monday, June 12th, the day preceding the beginning of the 145th annual meeting of the Medical Society of New Jersey. All the officers of the society were reelected as follows: President, Dr. Henry L. Coit, of Newark; vice-president, Dr. Alexander McAlister, of Camden; treasurer, Dr. B. VanD. Hedges, of Plainfield; secretary, Dr. Martin J. Synnott, of Montclair. Dr. Francis H. Glazebrook, of Morristown, was reelected to the council for a five year term, the other members, with the officers being Dr. J. Finley Bell, of Englewood; Dr. Thomas N. Gray, of East Orange; Dr. Burdette P. Craig, of Jersey City, and Dr. Emery Marvel, of Atlantic City.

Vital Statistics of New York.—During the week ending June 10, 1911, the deaths from all causes reported to the Department of Health of the City of New York numbered 1,224, corresponding to an annual death rate of 12.81 in a thousand of population, as compared with a rate of 15.18 for the corresponding week in 1910. The annual death rate for the week in each of the five boroughs was as follows: Manhattan, 16.11; the Bronx, 14.24; Brooklyn, 14.47; Queens, 13.02; Richmond, 15.67. There were 146 stillbirths. The deaths of children under five years of age numbered 383, of whom 230 were under one year of age. The deaths from diarrhœal diseases under five years of age numbered 48. There were 13 deaths from suicide, 1 from homicide, and 59 due to accidents. One thousand and seventeen marriages and 2,603 births were reported during the week.

The Health of Chicago.—During the week ending June 10, 1911, the following new cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Chicago: Typhoid fever, 19 cases, 3 deaths; measles, 177 cases, 2 deaths; whopping cough, 36 cases, 1 death; scarlet fever, 145 cases, 17 deaths; diphtheria, 127 cases, 13 deaths; chickenpox, 36 cases, 0 death; tuberculosis, 166 cases, 75 deaths; cerebrospinal fever, 1 case, 2 deaths; pneumonia, 23 cases, 55 deaths. There were reported 5 cases of German measles and 60 of contagious diseases of minor importance, making a total of 815 cases, as compared with 1,061 for the preceding week and 1,074 for the corresponding week in 1910. The deaths under two years of age from diarrhœal diseases numbered 37, and there were 34 deaths from congenital defects and accidents. The total deaths of children under five years of age numbered 197, of whom 61 were under one year of age. The total deaths from all causes, exclusive of stillbirths, numbered 546, corresponding to an annual death rate of 12.7 in a thousand of population, as compared with a rate of 12.7 for the preceding week, and 14.2 for the corresponding period in 1910.

The American Laryngological, Rhinological, and Otological Society.—This society held its seventeenth annual meeting in Atlantic City, N. J., on June 1st, 2d, and 3d, under the presidency of Dr. Chevalier Jackson, of Pittsburgh. The following officers were elected to serve for the ensuing year: President, Dr. G. Hudson-Makuen, of Philadelphia; vice-presidents, Dr. Theodore Corwin, of Newark, N. J., chairman of the Eastern Section; Dr. John A. Thompson, of Cincinnati, Ohio, chairman of the Middle Section; Dr. Thomas J. Gallagher, of Denver, Colo., chairman of the Western Section; Dr. Otto Joachim, of New Orleans, chairman of the Southern Section; secretary, Dr. Thomas J. Harris, of New York, reelected; treasurer, Dr. Ewing W. Day, of Pittsburgh, reelected.

The Medical Society of New Jersey.—The one hundred and forty-fifth annual meeting of this society was held at the New Monmouth Hotel, Spring Lake, on the 13th, 14th, and 15th of June, under the presidency of Dr. Thomas H. MacKenzie, of Trenton. New officers were elected as follows: Dr. Daniel Strock, of Camden, president; Dr. Norton L. Wilson, of Elizabeth, first vice-president; Dr. Enoch Hollingshead, of Pemberton, second vice-president; Dr. F. D. Gray, of Jersey City, third vice-president; Dr. Harry A. Stout, of Wenonah, corresponding secretary; Dr. William J. Chandler, of South Orange, recording secretary; Dr. Archibald Mercer, of Newark, treasurer. It was announced that Dr. Grafton Day, of Collingswood, had won the $100 for the best essay submitted on the subject of Anterior Poliomyelitis.

The Junior Sea Breeze Opened.—This institution, which is situated at Sixty-fourth Street and the East River, on the grounds of the Rockefeller Institute, was opened to the public on June 19th. The institution is called the Junior Sea Breeze because it carries on in Manhattan the same sort of work that is done by the Association for Improving the Condition of the Poor in its summer hospital at Sea Breeze. The funds are supplied by Mr. John D. Rockefeller. Junior Sea Breeze consists of a row of one story cottages facing the East River. There is room for sixty babies, a dispensary, and a shelter tent, to which mothers come to sit with their babies and where talks and demonstrations of the proper way to feed and care for the babies are given daily by nurses. Until September 1st Junior Sea Breeze will be open to mothers with babies requiring care.

Antityphoid Vaccination Obligatory in the Army.—It is reported that on the recommendation of Major General Leonard Wood, Chief of Staff of the United States Army, Secretary of War Stimson has directed that hereafter all recruits under thirty-five years of age must submit to antityphoid vaccination, the treatment to be given as soon as practicable after enlistment. It is said that this is the first step taken by the army to make the treatment obligatory. Secretary Stimson has set a good example by being vaccinated. When the manœuvre camp was established at San Antonio early in March, all the officers and men there took the treatment, and there has been no typhoid in the manœuvre division. The symptoms produced by the inoculation of antityphoid vaccine are not as serious as those resulting from smallpox vaccination, causing only a slight malaise, which passes away in about forty-eight hours.

The Health of Philadelphia.—During the week ending June 3, 1911, the following cases of and deaths from transmissible diseases were reported to the Department of Health of the City of Philadelphia: Typhoid fever, 16 cases, 4 deaths; scarlet fever, 36 cases, 6 deaths; chicken pox, 29 cases, 0 death; diphtheria, 60 cases, 6 deaths; measles, 198 cases, 7 deaths; whooping cough, 41 cases, 0 death; pulmonary tuberculosis, 91 cases, 44 deaths; pneumonia, 19 cases, 33 deaths; erysipelas, 11 cases, 1 death; mumps, 29 cases, 0 death; cerebrospinal meningitis, 2 cases, 2 deaths. There were 14 deaths from tuberculosis other than that of the lungs, 13 from diarrhœal diseases under two years of age, 1 death from dysentery, and 1 death from puerperal fever. There were 30 stillbirths: 20 males and 10 females. The deaths of children under five years of age numbered 104, of whom 67 were under one year of age. The deaths from all causes, exclusive of stillbirths, numbered 407, in an estimated population of 1,580,250, corresponding to an annual death rate of 13.30 in a thousand of population. The death rate for the preceding week was 16.62 in a thousand of population

Pith of Current Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL

June 15, 1911

1. Obstetrics in General Practice. By A. Worcester.
2. Hexamethylenamiae as a Possible Preventive of Pneumococcus Empyema. By F. C. Shattuck.
3. "Fibrositis" as a Cause of Chronic Hypertrophic Spondylitis and Possibly with a Heretofore Undescribed Sign in Intestinal Autointoxication. By N. T. Vaux.
4. The Treatment of Gastric Superacidity with Hydrogen Peroxide. By G. W. Hall.

2. Hexamethylenamine as a Possible Preventive of Pneumococcus Empyema.—Stattuck states that the very marked effect of hexamethylenamine upon the typhoid bacillus in urine; the fact that formalin seems rapidly to permeate the body fluids and tissues; the fact that the pneumococcus appears to be of less general resistance than some other organisms; and, further, the fact, as determined by Dr. Roger Kinnicutt, that very dilute solutions of formalin, 1 to 12,500, inhibit the growth of the pneumococcus in milk, afforded an obvious suggestion that possibly pneumococcus empyema might be prevented by the routine administration of hexamethylenamine in cases of pneumonia. He was thus led a year ago to direct that every patient with pneumonia entering his wards in the Massachusetts General Hospital should receive the remedy. From March 1, 1910, to March 1, 1911, fifty-nine cases of lobar pneumonia were treated with hexamethylenamine in the medical wards of the Massachusetts Hospital. This number includes only cases in which the diagnosis seemed assured. The drug was given as soon as the diagnosis was made, and the dose was ten grains, three times a day, continued until death or well into convalescence. In three cases of young children the dose was proportionately less. The duration of illness before the drug was given varied from one to sixteen days, averaging five and one half days. The duration of the hexamethylenamine treatment averaged twelve days. In three of these patients empyema developed. During the same period, there were forty-six cases of lobar pneumonia treated without hexamethylenamine. Three or four of these were not given the drug because the patients were moribund when brought to the hospital, and in one the pneumonia was a terminal event in chronic nephritis. In general, however, the cases were of the same class as those comprising the hexamethylenamine series. There was no selection of cases for the treatment. Of this number only in one empyema developed. The mortality of cases in the hexamethylenamine series (twenty per cent.) is a little lower than in the other series (twenty-five per cent. in 1909 and twenty-six per cent. in 1910); but if we do not count the patients who did not receive hexamethylenamine because they were moribund, the mortality of the hexamethylenamine series would be as great or a little greater than that of the others. Similar experiments were made in Johns Hopkins, Baltimore: Thirty-four cases of acute lobar pneumonia were treated with ten grains of hexamethylenamine, three times a day, continued well into convalescence, the drug being started as soon as the probable diagnosis was established. In six of these thirty-four cases empyema developed. During approximately the same period thirty-five cases of lobar pneumonia were treated without hexamethylenamine, empyema developing in only one. In the Presbyterian Hospital, New York, of twenty-five pneumonias under hexamethylenamine, in one empyema developed. Of 193 patients who did not take it, five had empyema. This complication, therefore, was more frequent in those who took the drug, but the number of the latter is very small. In none of the hexamethylenamine cases was pericarditis noted, though it occurred in 1.5 per cent. of the others. The results reported are certainly not encouraging to the hope that in hexamethylenamine we may have a preventive for empyema, one of the most frequent, and, from the point of view of the comfort of the patient, the most serious sequelæ of pneumonia. These results, however, suggest that this drug may be a preventive of pericarditis and otitis media. Of course, it may be a mere coincidence that neither of these complications developed in the hexamethylenamine cases, but the contrast between the two series leads Shattuck to continue the use of the drug, and thus perhaps to arrive at more definite conclusions.

4. Hydrogen Peroxide in Gastric Superacidity.—Hall observes that hydrogen peroxide diminishes the amount of hydrochloric acid in the stomach. Those patients with hyperchlorhydria get great or total relief from their symptoms. There is a gain in weight. It does not appear to benefit cases with active ulcer; and this method of treatment is a useful addition to the methods already in use in the treatment of hyperchlorhydria.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

June 17, 1911

1. Diet in Acute Infectious Diseases. By Frank Sherman, M.D.
2. Gastric and Duodenal Adhesions in the Gallbladder Region and Their Diagnosis by the Röntgen Rays. By George E. Pfahler.
3. A New and Apparently Successful Method of Treating Metabolic Osteoarthritis, So Called Arthritis Deformans. By Philip W. Nathan.
4. Abdominal Pain and Tenderness, Muscular Rigidity, etc., in Thoracic Disease—Pneumonia and Pericarditis. By Arthur R. Edwards.
5. The Historical Collection of Medical Classics in the Library of the Surgeon General's Office. By Fielding H. Garrison.
6. Report of a Case of Traumatic Rupture of the Umbilical Cord within the Abdominal Wall at Birth; Recovery. By M. J. Press.
7. A Large Lipoma of the Laryngopharynx: Removal Extraorally under Cocaine. By Elmer L. Kenyon.
8. Glass Tube in the Male Urethra. By Newton Evans.
9. The Status of Salvarsan in Pellagra, Based on the Reports of Twenty-one Collected Cases. By H. P. Cole and Gilman J. Winthrop.
10. Experiments on the Transmission of Scarlet Fever to Monkeys. By Ludvig Hektoen and George H. Weaver.
11. The Cultivation of Tissues in Salt Solutions. By Margaret Reed Lewis and Warren H. Lewis.
12. The Effect of Injections of Indol and Tyrosin in Experimental Animals. By Paul G. Wooley and L. H. Newburgh.
13. Conjugal Tabes Dorsalis. By Augustus A. Eshner.
14. The Gastric Weak Line in Wounds of the Abdominal Wall. By R. T. Morris.
15. Chronic Lead Poisoning. Report of a Case. By L. H. Shorer.

struction by the Stomach Tube,
By Harry G. [illegible]
17. Trephining for Apoplexy. By John D. Milligan.
18. A Simple Technique for Salvarsan Injection,
By Mathew A. [illegible]

2. **Gastroduodenal Adhesions.**—Pfahler observes that gallbladder disease is liable to give rise to adhesions. These adhesions cause a definite displacement of the stomach and duodenum which is recognizable by the Röntgen rays. The evidence of adhesions is best obtained fluoroscopically in the upright position, in which the errors of pressure must be eliminated, but plates should also be made in every case for record and for more detailed study.

4. **Abdominal Pain in Thoracic Disease.**—Edwards remarks that pneumonia, pleurisy, and pericarditis, at their very onset, may present absolutely no symptoms other than the abdominal findings. These phenomena of invasion may completely resemble appendicular inflammation, peritonitis of other ætiology, or even the collapse of perforation. Diagnostic errors and unnecessary operations may be unavoidable. Immediate operation is imperative and the small percentage of error is negligible in comparison with the benefits of early operation in genuine indications (particularly as eighty per cent. of patients operated upon under a mistaken diagnosis recover). The tenderness does not always remit with deep, flat pressure, and that relaxation of the abdominal parietes, between respirations, is not invariable. The general symptoms do not invariably overshadow the local, the latter at times being the more salient.

5. **The Historical Collection of Medical Classics in the Library of the Surgeon General's Office.** [illegible] gives a very interesting account of the medical classics in the Library of the Surgeon General's Office.

9. **Salvarsan in Pellagra.**—Cole and Winthrop have collected reports of twenty-one cases of pellagra treated with salvarsan. Type of cases treated: Mild acute, three; mild chronic, four; severe acute, four; severe chronic, seven; type unknown, three. No improvement was noted in ten cases, 47.6 per cent.; improvement noted for at least seven days with no relapse, seven cases, 33.3 per cent.; temporary improvement followed by relapse (death in one), four cases, 20 per cent. Improvement was noted in the following type of cases: Severe chronic, six cases; severe acute, two cases; type unknown, three cases. The authors conclude: Any administration of salvarsan in this disease of unknown ætiology must be considered as empirical when we recall that this drug is considered specific for the *Spirochæta pallida*. The well known dangers of administering salvarsan to patients suffering from cardiac and renal lesions should contraindicate its use in many cases of pellagra because of their well known tendency to myocardial and renal degenerations. If given at all it should be given in broken and repeated doses and preferably by the intramuscular method. The clinical evidence brought forth in this report shows only 33.3 per cent. of improvement lasting seven or more days. Considering that this includes the treatment of all the types of the disease and that no patients are reported cured, they feel that thus far salvarsan offers no better results than other methods of treatment.

13. **Conjugal Tabes Dorsalis.**—Eshner observes that syphilis is a common disease. It is the most important, if not the essential, cause of tabes dorsalis (and of paretic dementia). Tabes and paresis may be considered expressions of the same morbid process, in the one instance affecting especially the spinal cord, in the other especially the brain. Sometimes they occur together in the same patient. The disparity in incidence of the two affections may be due to individual predisposition or to some peculiarity of the syphilitic virus. Tabes rarely, if ever, develops in negroes, though they are frequently syphilitic. Sometimes, tabes or paresis develop in several members of a family, sometimes husband and wife, sometimes in addition a second husband or wife, sometimes one or both parents, together with one or more children. The association is not common, although probably more so than is apparent. When husband and wife suffer, the former generally is attacked first, the latter subsequently. A moderate number of cases have been recorded in the literature.

MEDICAL RECORD

June 17, 1911.

1. The New Operating Pavilion for Thoracic Surgery at the German Hospital, New York,
By Willy Meyer.
2. The Rational Treatment of Laryngeal Tuberculosis,
By Silvio Von Ruck.
3. On Reflex Contraction of Muscles Associated with Pulmonary Disease. Preliminary Communication,
By Edgar F. Cyriax.
4. Incontinence of Urine in Women,
By Howard Canning Taylor.
5. Criminal Abortion. From the Practitioner's Point of View,
By Walter B. Jennings.
6. Report of a Pronounced Case of Splenomyelogenous Leuchæmia with Autopsy,
By Meyer Solomon.
7. The Ætiology of Epidemic Poliomyelitis and Its Possible Relation to Beriberi.
By O. V. Huffman.
8. The Distribution of Trachoma in Cuba. With Notes in Regard to a New Procedure in the Treatment.
By Francisco M. Fernandez.

2. **Laryngeal Tuberculosis.**—Von Ruck states that the larynx is the seat of tuberculous changes in patients suffering from pulmonary tuberculosis much more frequently, and at a much earlier period, than has been commonly shown by statistics based upon clinical observation. The laryngeal affection produces as a rule no subjective symptoms in the early stages excepting in certain localizations, and like the early stages of the pulmonary disease the larynx affection may become regressive or remain stationary and continue in a so called latent state for long periods of time. In every case of pulmonary tuberculosis the larynx should likewise be carefully examined for the presence of tuberculosis, and in doubtful cases a tuberculin test should be made or the larynx be inspected frequently if specific treatment is instituted on account of the lung affection. If specific treatment is properly employed at the earliest possible period in otherwise suitable cases of pulmonary tuberculosis, a coexisting larynx tuberculosis, when likewise not in an advanced stage, will as a rule not cloud the prognosis.

4. **Incontinence of Urine in Women.**—Taylor thinks that the frequency of incontinence in women

is much greater than is usually supposed. A physician of considerable experience in gynæcological work recently stated that all women who had had four or five children had more or less trouble in retaining the urine under conditions of sudden strain. While the author thinks that this is too sweeping, it approaches the truth. These patients have no pain when they do pass the urine voluntarily, and they have no increase in frequency, and unless they are asked directly about their power of control nothing is said about it. As to treatment Taylor says that one approaches the operative treatment of these cases with considerable apprehension. This prognosis is always guarded, and while most patients can be cured, he never makes a definite promise to a patient that he can cure her. A number of operations have been suggested for this condition. Gersuny injects a solution of paraffin about the neck of the bladder and urethra, and Taylor believes that this method has been endorsed by Dr. Kelly, of Baltimore. It does not, however, appeal to him. It seems uncertain as to the place that the paraffin is placed; the results are not all that can be desired, and he has a prejudice against placing unabsorbable material into the tissues. Various operations have been done on the whole or greater part of the urethra. In one the urethra is freed for a considerable part of its length and twisted even 360 or more degrees. Such an operation is dangerous, as it may lead to sloughing of the urethra and cause a worse condition than originally existed. Furthermore, the operation is wrong in theory. The trouble is in the sphincter and not in the urethra. Various operations have been done in displacing the urethra forward. Dr. Dudley, in 1905, freed the urethra and advanced the urethra so that the meatus was near the clitoris. He reports four cases with complete cure and another which had been done so recently that the result was still undecided. The operation is not associated with the same danger of sloughing that torsion of the urethra is, and Taylor sees no danger of the condition being worse than before the operation, and it is therefore an operation that is justifiable. He has never done the operation, but would not hesitate to do so. It has been suggested to cut down on the sphincter vesicæ and resect it. He believes that this has been done. He would certainly hesitate to make the attempt. It would not be easy to find the muscle, and if there was any interference with the healing the patient would probably be in a worse condition than before the operation. His own plan of procedure would be practically as follows: If the incontinence is due to overstretching and had existed long enough that it seemed to be permanent and demand operation, he would denude the anterior vaginal wall in the vicinity of the neck of the bladder and resuture it with the expectation of so puckering the urethra that the sphincter would have a better chance to act. If this did not succeed, he would advise the operation devised by Dr. Dudley, he would be very guarded in his prognosis. If the incontinence is due to a definite loss of tissue the procedure would be much the same and he would be even more guarded in his prognosis. Fortunately incontinence of urine from either of these two causes is most unusual, as they are the most difficult cases to cure. He has never seen a case from either of the two causes. If the incontinence is due to traction on the neck of the bladder the problem is to remove the traction. If it is due to a tumor in the abdomen, then it would mean the removal of the tumor. If the traction is due to more or less prolapse of the uterus and vaginal walls, the problem is practically that of the treatment for prolapse of the uterus. Whatever operation may be done for prolapse of the uterus, the bladder should be freed from the anterior vaginal wall and pushed higher up on the uterus so that the drawing on the sphincter will be removed. This associated with some form of suspension of the uterus and a perineorrhaphy will usually cure the case.

8. Trachoma.—Fernandez speaks of the use of sodium salicylate in trachoma cases. He was somewhat skeptical about trying it, but decided to give it a trial, and selected at first 200 cases, and later 100, in which he gave the method a thorough trial. The results were far superior to what he had expected. In a short time the granulations disappeared and the conjunctiva was left smooth and clean as in normal cases. The method is as follows: With a cotton swab immersed in cocaine or alypin solution the conjunctiva of both lids is bathed to produce anæsthesia, the strength of the solution used being ten per cent. One minute later another cotton swab well soaked with distilled water is impregnated with powdered sodium salicylate and rubbed with some degree of strength against the granulations in front and behind the cul-de-sac. The lids are, of course, very well averted. In some cases the drug causes some burning; in others this is intense, but in all cases the burning sensation disappears in a short time. For two or three days it can be seen how the conjunctiva becomes more and more smooth, the granulations disappear by reabsorption and by destruction; friction used destroys many and increases a limited inflammation provoked by the salicylate. The treatment is repeated every three or four days, and more than half of the cases received five or six applications. Of nearly 400 cases thus treated there were only ten failures.

BRITISH MEDICAL JOURNAL

June 3, 1911.

1. Fractures of the Patella and Their Surgical Treatment, By C. B. Lockwood.
2. Bursal Swellings about the Knee Joint, By Arthur E. Barker.
3. Pharmacological Effects of the Strong Sulphur Water [illegible]
4. Balneological Treatment of Disease, By W. Ringrose Gore.
5. Cottage Nurses for Rural Districts, By Henry Hick.
6. Transmission of Trypanosoma Lewisi by the Rat Flea (*Ceratophyllus Fasciatus*), By E. A. Minchin and J. D. Thomson.
7. Comparative Nutritive Value of White, Standard, and Wholemeal Bread, By Leonard Hill and Martin Flack.
8. Use of X Rays and the Administration of Metallic Silver in the Treatment of Certain Diseases of the Alimentary Tract, By Francis Hernaman-Johnson.
9. An Overdose of Phenacetin, By A. G. Welsford.
10. Living Child and Dead Fetus, By Robert Bruce.
11. Excision of Scapula in Adverse Circumstances, By E. N. MacBean Ross.
12. Poisoning after Small Doses of Aspirin, By Peter H. Abercrombie.

1. **Fractures of the Patella.**—Lockwood says the best results are always to be obtained by an open operation; fortunately the fracture is a rare one. A second fracture is, unfortunately, very common. At St. Bartholomew's Hospital the treatment without an operation has usually been as follows: For three or four weeks the patient has been kept in bed with the limb extended upon a splint or inclined plane. Sometimes the blood and inflammatory effusion has been removed by aspiration. Some surgeons tried to pull down the upper fragment with strapping and elastic traction. About a month after the accident the extended limb is encased in plaster of Paris bandages or in a poroplastic splint. These are continued for about a year, during which the patient walks about with a stiff leg. In the end bony union did not take place. The most that could be hoped for was strong fibrous union. We now know that in nearly every instance of fractured patella some of the dorsal aponeurosis is torn off and pulled between the broken ends. This intrusion prevents bony union and retards or prevents fibrous, however close the fractured surfaces can be got together. These remarks do not apply to those extremely rare instances of fracture without any separation. In operating, Lockwood has always used annealed silver wire to bring fractures of the patella together, and considers it by far the best and most trustworthy material. One of his patients had previously had his patella united with fishing gut, but it came apart again six months afterward. When he operated the second time, bony union had not taken place. The fishing gut had come undone at the knot. Every salmon fisherman knows what treacherous material gut is to knot. On these grounds alone it is to be condemned.

Kangaroo tendon was used once last year at St. Bartholomew's Hospital. Once Mr. Rawling tried chromic gut, but found it difficult to pull upon it enough to bring the fragments firmly together. Mr. Bruce Clarke uses catgut to unite the dorsal aponeurosis and rents in the capsule and puts no other retaining sutures in. He is very contented with the results. It is, he considers, harmful to drill the patella.

Although silver has been used for subcutaneous sutures for many years, we do not know much about its behavior in the tissues. In the year 1900 Lockwood used silver wire ten times for the radical cure of hernia, after the method of Bloodgood. At the beginning of this year he had to remove some of the wire which had been buried in the tissues for about ten years. It had turned black, and all the tissues about it were deeply pigmented.

The photograph of the knee of a patient who had had his right patella united by wire at Guy's Hospital in 1899, shows the front half of the wire, including the twisted part, in position. But the hinder part of the loop has been shattered into three pieces. Two of these, each about one third of an inch long, are close to the outer side of the tubercle of the tibia, while one bent piece, three quarters of an inch long, lies over the outer tuberosity of the tibia. This state of things was not suspected until the photograph was taken. Another man, whose patella was wired on January 13, 1906, and who was photographed in January, 1911, had bony union and a perfect result, but the skiagram shows that the wire has come undone at the twisted part, and that its loose end gradually tapers off, as if it had undergone corrosion.

For simple transverse fracture of the patella Lockwood has used a single stout wire. This is applied with the intention of keeping the fragments in accurate contact until they have undergone bony union. Nothing short of bony union is able to withstand the enormous strain of the great extensor muscles. Some surgeons do not attach the same importance to bony union, but expect sutures alone to withstand the action of the extensor muscles. There was an instance in which the patient was allowed to work within six weeks of the operation. The surgeon could not have expected bony union in that time and must have relied upon the wire; about three months is required for good bony union. Two photographs of uncomplicated transverse fractures show that ossification was not quite complete toward the end of the third month, although the position of the fragments was good. One of the cases illustrates the dangers of using a double strand of wire.

3. **Sulphur Water.**—Brown says the action of sulphur water may at present be best summarized as one of increased oxidation and tissue change. That it influences general metabolism profoundly is shown by 1, the increased total nitrogenous output (8 per cent); 2, the increase in the excretion of the phosphates (10 per cent.) on a strictly regulated diet identical from day to day in every particular. Further, the increase in excretion of endogenous creatinin (13 per cent.) proves its effect on the whole musculature of the body—and on the hepatic functions. The large increase in the excretion of body tissue (endogenous) uric acid (18 per cent.) proves its powerful influence in increasing the rate of metabolism of the nuclein containing elements of the body. Further, the increase in the total solids of the urine also definitely points in the same direction. Finally, the fact that hypoxanthin is recoverable from the urine as uric acid to a percentage almost double that of the normal and in two thirds of the normal time, is very plain evidence of the greater extent and increased rate of oxidation going on in the body generally, and in the liver in particular. In the present state of knowledge this action can only be explained as due to the enormous stimulation of the xanthin oxidase of the liver. The body becomes capable of dealing with increased quantities of these materials, a point of interest in regard to diet in gout.

4. **Baths in Disease.**—Gore points out that spa treatment produces two definite effects upon the bacterial growth that is the cause of most of our diseases: it prevents the growth of a large class of bacteria in the intestinal canal, and it causes the elimination of those toxines already circulating in the blood. All the accessory modes of treatment, the various baths and forms of massage, are designed to the same end; they all in some way help the circulation through the cell spaces and increase elimination through the various organs of the body when applied generally; locally applied they cause an increased flow of serum through the tissues treated, which is again a factor in antibacterial treatment, though the increased resisting power given to the tissues by a flooding out of serum should also be taken into account.

LANCET.

June 10, 1911.

1. Progress of Dermatology Since Hunter's Time, By James H. Sequeira.
2. The Role of Fat in the Etiology and Progress of Cancer, By Sir George Thomas Beatson.
3. The Position of the Present Reform Movement in Anæsthetics, By Frederick W. Hewitt.
4. The Use of Explosives in Coal Mining and Their Effect upon Miners, By Sir Thomas Oliver.
5. Ten Cases of Operation for Menière's Disease (Aural Vertigo), By Richard Lake.
6. Twenty-two Consecutive Cases of Extrauterine Pregnancy Successfully Treated by Operation, By John A. Kynoch.
7. Prophylactic Inoculation Against Hay Fever, By L. Noon.
8. Suppurative Arthritis of Knee Joint, due to Influenza Bacillus, occurring in a Baby Aged Six Months, By Elizabeth T. Fraser.
9. A Case of Acute Phthisis Following Typhoid Fever, By W. Scarisbrick.
10. Endemic Tetany in the Gilgit Valley, By Robert McCarrison.
11. The Recognition of the Public Schools as Places at which the Preliminary Sciences may be Studied and the Time Given to such Studies Counted as Part or the Whole of the First Year of the Medical Curriculum, By Sir Henry Morris, Bart.
12. An Investigation of Certain Substances Used in Coloring Foods (*To be continued*), By Samuel Rideal.

1. Progress of Dermatology.—Sequeira says that in Hunter's time therapeutics was "hard," like drinking and swearing; enormous doses of mercury were given in syphilis, producing an "eczema" of its own. Owing to the absence of instruments of precision, our predecessors had a remarkable skill of eye and hand. Eczema was the diagnosis of nearly everything save syphilis; parasites, animal and vegetable, were little known. Any lump was a tubercle. Nothing was known of leprosy scientifically. Impetigo was any sudden eruption. Hunter thought gonorrhœa, chancre, and syphilis identical. Owing to the humoral pathology, internal remedies were highly thought of in all eruptions. The most interesting therapeutical developments of recent years are the Finsen light, x rays, radium, electricity, great heat, and extreme cold.

2. Fat and Cancer.—Beatson admits that to associate the fat of the body with the causation of cancer may seem a far fetched and most unlikely connection, but it must be remembered that of late the relationship of fat to the working of the human body has been very extensively inquired into, and that it has been made evident that the fats of the body not only play no unimportant part in the phenomena of life, but they fulfil a number of functions. A perusal of the recent biochemical monograph by Leathes on Fats makes this abundantly clear. No longer can we assign to them as their sole duty the useful part of acting in a light, compact, and portable form as a reserve fund for the growing and working cells. They serve several other uses in the organization. To these Leathes has drawn special attention and instances the following: 1. They are of a protective nature, in illustration of which may be instanced their presence in the bodies of certain bacteria; for example, the tubercle bacillus, where the presence of certain waxes increases the vitality and power of resistance of these organisms. 2. The phenomena of hæmolysis have thrown much light on the biological significance of fat. As Leathes says: "The discovery of Bang and Forssman that the antigen which starts the formation of hæmolysin is of the nature of fat, raises the fats to a level of biological significance to which heretofore only proteins have been held to attain." 3. They take a part in the formation of "antibodies." It seems that in their composition "antibodies" are made up of two substances, one specific to the particular bacterium or corpuscle, and the other the complement. Experimenting upon this particular point the work of Bordet, Bang, and Forssman points to the antibody or specific antigen being not a protein, but a fat. 4. Fats may act as specific poisons. It has been shown that the ether extract of the red blood corpuscles of one species is toxic for animals of another species, and it would appear that this specific reactive substance is of a fatty nature, retaining its properties even if, in the form of an emulsion in normal saline solution, it is heated to 100° C. (Lefmann). 5. Lastly, fats may help to build up the protein matter of the body. The work of Hans Meyer and Overton on the phenomenon of narcosis in connection with the alcohol group of narcotics has a bearing on this point. As an outcome of their investigations these experimenters found that narcosis depends on the physical changes which the narcotics induce in the relation between fats and the other constituents of the living matter. The cohesion of the protoplasm of the cells is due to the fats—viz., the lecithin and phospholipines—present, and anything that affects this cohesion, as happens under these narcotics, brings about an alteration in the physical state of the cells, with the result that their vital functions come to a standstill. In short, fats are the cement which hold together organized matter, such as protoplasm, and with the loosening of this protoplasmic cement the processes of life can no longer be carried on. Fats, then, play an important part in the organization of cells.

4. Effect of Explosives on Miners.—Oliver says he is convinced that the poisonous agent in explosions is carbon monoxide; as to treatment, he recommends bringing the affected miner as quickly as possible into the open air. If this is impossible he should be taken into one of the main ways where there is a strong current of ingoing air, and if life is threatened and the atmosphere is not dusty artificial respiration may be resorted to. Once in the open air the symptoms usually gradually subside. Care should be taken to wrap the body in thick blankets and apply warmth to the extremities. Frequently the men vomit and are thereby relieved. Where the miner is pale, appears to be seriously ill, and the breathing is suspended, artificial respiration is called for or inhalations of oxygen. Bleeding followed by transfusion might become a necessity, also the administration of stimulants, with or without strychnine, by the rectum if the heart is feeble and its beats intermittent. Darlington, acting on the assumption that a nitrite is present in the blood from decomposition of nitroglycerin, treated his patients with inhalations of ammonia, and he also gave them internally ammonium carbonate or sal volatile. So firmly does he believe in the efficacy of sal volatile as a restorative that he recommends [illegible] to carry about with them a small bottle

of the medicine for immediate use in cases of necessity. Where there is flushing of the face and severe headache cold applications may be made to the head and atropine or ergotin given hypodermically. For the headache complained of by miners in the milder forms of toxæmia antifebrin gives, on the whole, satisfactory results.

6. **Extrauterine Pregnancy.**—Kynoch, discussing the treatment of this condition, says that it is now universally agreed that during active hæmorrhage consequent on tubal rupture or abortion, the correct treatment is to open the abdomen and remove the gestation sac. In his series of cases this was done in sixteen. In two of them, as already mentioned, the patients when seen were collapsed and almost pulseless. Their condition warranted only slight anæsthesia, and after removing the ruptured tube the abdomen was closed without any attempt to clear out the blood clot which filled the abdomen. From his experience of those cases immediate operation, even in the collapsed condition of the patient, is better than temporizing with saline infusions in the hope of improving the condition of the pulse before operating. The best way to improve the pulse is first to open the abdomen and remove the source of bleeding, and then administer salines. In the other fourteen cases so treated the condition of the patients permitted of the delay necessary for preparatory treatment and for the removal of all blood clots from the abdomen. The crisis having passed, and when the case is first seen subsequent to the formation of a distinct and encapsulated hæmatocele, more conservative treatment is warranted. With rest in bed the majority of such cases undergo complete absorption, the only indication for operative interference being the possibility of secondary rupture of the hæmatocele demanding cœliotomy, or infection of the sac, which is best treated by vaginal incision and drainage. Against an entirely expectant line of treatment the element of time has to be considered, especially with hospital patients. Large hæmatoceles may take weeks to undergo complete absorption, which loss of time may be prevented by the safe proceeding of vaginal incision and drainage. Of six cases so treated five were typical cases of retrouterine hæmatoceles, and the patients left the hospital within three weeks from date of admission. In the remaining case of hæmatoma, abdominal section having shown that the blood was encapsulated in the broad ligament, the abdomen was closed and the case further treated by vaginal incision and drainage.

PRESSE MEDICALE

[illegible]

2. Antityphoid Vaccination by the Intestinal Route, [illegible]

3. "Mangy," By Fontoynont.

1. **Cerebrospinal Meningitis.**—Debré says the serum is an excellent treatment, but it must be used early so that quick diagnosis is imperative; the disease is to be distinguished from typhoid fever, exanthematous typhus, tetanus, pneumonia, and grippe. Lumbar puncture is a sure diagnostic sign. Otogenous meningitis may be distinguished by coincident otitis media, facial or ocular paralysis, ear trouble on the same side. Poliomyelitis is sometimes confounded with meningitis; the fulminating form of the latter is frequently overlooked. The serum should be used in the spinal canal only and be preceded by free outlet of cerebrospinal fluid; 30 to 60 c.c. should be used. The head of the patient should be immediately lowered and kept so for ten minutes. The patient should be held firmly by assistants during the injection, as it is painful; it may even be necessary to inject morphine to calm the patient sufficiently. The injection should be repeated daily for at least four days. There may be sharp reaction and even collapse. Other treatment should be given, such as hot baths, three times daily. Patients should be isolated. All those who have been in contact with the patient should also be isolated and undergo a thorough nasopharyngeal disinfection.

2. **Antityphoid Vaccination by the Intestines.**—Courmont and Rochaix state that this method of vaccination is quite feasible by means of a complete culture of *Bacillus Eberth* killed at + 53° C., not satisfactory per os, but fairly so by way of the large intestine, using high injections to which laudanum has been added. These injections are well borne and cause no distress. After a negative phase, not constant, immunity is established, as may be demonstrated by inoculation with virulent cultures of guineapigs, rabbits, and goats. The immunity is equally antitoxic and agglutinating, bacteriolytic, and bactericide properties appear in the serum of those vaccinated. Man supports without clinical reaction an injection of 100 c.c. of the vaccine. Three injections are recommended at intervals of five days. The method seems to be superior from all viewpoints to the hypodermic.

3. **"Mangy."**—Fontoynont has given this name to a disease he noticed in Madagascar, characterized by a double, chronic parotiditis, as resembling the native name. The disease is common on high ground, rare near the coast. There seem to be no inflammatory reaction, no pain, and no involvement of contiguous structures. It is apparently hereditary and is confined to certain villages. Syphilis is certainly not a cause, neither is tuberculosis nor lead poisoning. Sometimes it develops after an attack of mumps. It is to the parotid gland what goitre is to the thyreoid.

SEMAINE MÉDICALE

[illegible]

Rapid Detoxication of Morphine and Diacetylmorphine, from the Hæmatological Viewpoint. By Chartier.

Morphine Habit.—Chartier distinguishes between sudden, rapid, and slow detoxication in this habit, giving the preference to the second method, which, he says, is even more important than the moral treatment. The most striking symptom during withdrawal is the superactivity of the liver which pours out bile in the stools and by emesis, which must come from an excessive transformation of hæmoglobin into biliary pigments, an indirect proof that there is considerable destruction of blood corpuscles. This destruction, however, is secondary

to the process of renovation going on in all the strongly congested organs, particularly the liver. Very valuable are the repeated purgations, the diuresis, the diaphoresis, and losses of serum, the liquid diet, the injection of salt solution. Sudden withdrawal is too great a shock to the system; slow withdrawal, on the other hand, does not produce a sufficiently intense reaction on the part of the organism, and asthenia and anæmia become chronic. Rapid withdrawal, substituted for the latter, provokes immediately a process of regeneration and repair by its speedy elimination of the products of transformation. All Chartier's conclusions are equally true of diacetylmorphine.

BERLINER KLINISCHE WOCHENSCHRIFT

May 22, 1911.

1. The Indications for and the Results of Surgical Treatment of Ulcer of the Stomach, By L. Kuttner.
2. Do the Metallic Salts Coming into Use in Radiology Give a False Image of the Form and Size of the Stomach? By A. Hesse.
3. Another Contribution to the Question of Transfusion, By W. Schultz.
4. Acute Benzol Poisoning, By E. Buchmann.
5. Family (Inherited) Eosinophilia, By D. Klinkert.
6. Bilateral Intrathoracic Vagotomy, By Unger, Bettmann, and Rubaschow.
7. Subcutaneous Injection of Tuberculin as a Means of Diagnosis of the Tubercle Bacillus in Animal Experiment, By Jacoby and Meyer.
8. Mutationlike Signs of Growth in Cholera Stocks, By Oscar Weltmann.

A Simplified Method of Introduction of Epstein's Endobronchial Spray, By Elemer von Tovoelgi.

1. Surgical Treatment of Ulcer of the Stomach.—Kuttner believes that there should be a better understanding between the internist and the surgeon in regard to the treatment of ulcer of the stomach. He does not advocate operative treatment in all cases, but believes that surgical intervention is indicated in the obstinate cases in which in spite of all internal treatment ever recurrent pain and vomiting constantly trouble the patient and impair his nutrition.

2. Influence of the Metallic Salts upon the Form and Size of the Stomach.—Hesse concludes from his observations that the less bismuth is contained in a broth the more the cardiac portion is filled, and the more bismuth it contains the nearer the stomach approaches the form of a sac. The influence of the bismuth depends exclusively upon its weight, not upon its adherence or chemical qualities. The more mondamin, or other adhesive material, is contained in the broth, i. e., the greater is its viscosity, the more does the same quantity of bismuth fill the cardiac portion and give the form of a tube. The viscosity of the contents influences the form of the stomach much more than the amount of bismuth.

3. Transfusion.—Schultz reports a case in which a therapeutically efficient transfusion of defibrinated human blood, in the absence of isoagglutinin and isohæmolysin in the serum of both the giver and receiver of the blood, was attended by a chill and rise of temperature, without collapse, œdema, or hæmoglobinuria. From this experience he draws the conclusion that in defibrinated human blood, when the mentioned antibodies are absent, there are other unknown (biological?) differences from the circulating blood which may cause the production of fever by transfusion.

MEDIZINISCHE KLINIK

[illegible]

1. The Reasons for Permanent Troubles, Especially from Adhesions after Appendectomy, By Fritz Koenig.
2. Headache and Disturbances of the Ocular Muscles, By Fritz Schanz.
3. Hot Plunge Baths, By Determann.
4. The Use of Bismuth Salts in X Ray Work, By L. Metzger.
5. A Condition of the Blood in Recklinghausen's Disease, By W[illegible]
6. Addition to a Previous Article on Does the Acute, Grave Attack of Appendicitis Depend on Inflammation, or rather on Ileuslike Processes? By Sorge.
7. Varicella in Adults, By Peter Misch.
8. Experiences with Cholagogues, By van Elsbergen.
9. Radioactive Baking, By J. Ruhemann.
10. The Causes of the Uneven and Diminished Effect of Some Drugs, Especially when Ordered in Tablets, By Eugen Seel and A. Friederich.
11. Sperling's "Circulation Formula," By Benno Lewy.
12. Means of Understanding among the Higher Animals, By Sokolowsky.

3. Hot Plunge Baths.—Determann recommends hot plunge baths particularly in cases of general motor weakness, as well as for general and great conditions of sensitive irritation in organically healthy men. Partial hot baths may be used for diversification, or for the treatment of local motor or sensory disturbances.

4. Bismuth in X Ray Work.—Metzger reports a case which shows that the use of large quantities of bismuth, which cannot be quickly removed, is not to be considered innocuous, but may be followed by unpleasant consequences.

MUNCHENER MEDIZINISCHE WOCHENSCHRIFT

May [illegible], 1911.

1. Salvarsan Milk, By Jesionek.
2. Changes in the Thyreoid Gland and the Hæmoglobin Contained in the Blood in Chlorosis, By Handmann.
3. Poliomyelitic Paralyses, By Puerckhauer.
4. Our Present Knowledge Concerning Schistosomiasis (Bilharziosis), By zur Verth.
5. Treatment of Anæmia with Salvarsan, By Leede.
6. Syphilis of the Labyrinth in the Early Stage of the Secondary Period, By Hintze.
7. Iron Arsenic Therapy, By Eckhard.
8. The Importance of Constant Carriers of Dysentery, By Boencke.
9. Congenital Anomalies of Formation of the Arteria Carotis and Subclavia Sinistra, By Hauptmann.
10. Technique of Clinical Myography, By Jaquet.
11. Washing Out of the Bladder by the Patient, By Meyer.
12. The Diagnostic Quality of the Röntgen Picture, By Dessauer.
13. A Contrivance of the Pneumatic Chamber by Means of Which the Patient Exhales into Thin Air While Sitting in the Apparatus, By Dietz.
14. A Simple Aid to Inflation of the Stomach, By Bauermeister.
15. Therapy of Furuncles; the Collodion Ring, By Fuchs.
16. The Part Played by Supersensitiveness in Infection and Immunity, By Friedberger.
17. [illegible] By [illegible]

2. **Chlorosis.**—Handmann reports a number of cases of chlorosis with the findings as regards menstruation, thyreoid gland, and hæmoglobin, and states the interesting fact that in over half of the cases there was very little or no disturbance of the coloring matter of the blood in spite of the presence of the other characteristic symptoms of chlorosis.

5. **Treatment of Anæmia with Salvarsan.**—Leede believes that in cases of anæmia a distinctive diagnosis must be made of its cause as it is only in those cases in which the cause is amenable to salvarsan that treatment with that preparation will be of benefit. In true pernicious anæmia he thinks such treatment to be directly contraindicated.

6. **Syphilis of the Labyrinth.**—Hintze reports a case of syphilis in which facial paralysis developed seven months after coming under observation with a primary sore, with œdema of the legs without albuminuria about a month later. Ten months after the initial lesion the usual symptoms of labyrinthine disease appeared. The patient had been treated from the start with injection of salicylate of mercury, later with iodine and the faradic current. The facial paralysis and œdema lasted only a comparatively short time. The labyrinthine symptoms improved under treatment.

8. **Carriers of Dysentery.**—Boencke reports the case of a man who was discovered to be constantly excreting the bacilli of dysentery and spreading the contagion.

WIENER KLINISCHE WOCHENSCHRIFT

June 1, 1911.

1. St. Joachimsthaler Radium Carrier, By Felix Ritter von Wiz
2. The Dependence of the Motility of the Intestine upon the Motor and Sensory Behavior of the Stomach, By Siegfried Jonas.
3. The Behavior of the Reduction Index (According to E. Mayerhofer) in the Normal and Pathological Cerebrospinal Fluid, By M. Lateiner.
4. A Case of Absence of the Right Ovary with Rudimentary Development of the Right Tube, By Ludwig Hertzl.
5. Self Retaining Mouth Gag for Operations.

2. **Motility of the Intestine.**—Jonas concludes from the study of thirty-eight cases that the formation of the stool is dependent not alone on the rapidity of its passage through the intestine, but also on the sensitiveness of the rectum and its ability to excite movement. If the rectum has lost this power obstipation will result in spite of the supermotility of the intestine. Although the presence of diarrhœa evidences an accelerated intestinal passage yet obstipation does not prove a slow intestinal passage. The motility of the intestine depends generally on the motility of the stomach, inasmuch as increased motility of the one is never found associated with lowered motility of the other. Supermotility of the upper segment of the intestine may be associated with a normal or a slow passage through the lower segment. An obstruction, whether of cicatricial, carcinomatous, or spastic nature, delays the intestinal passage in proportion to its degree. There is no fixed relation between the degree of acidity of the stomach and the motility of the intestine.

4. **Absence of Ovary.**—Hertzl removed a dermoid tumor of the left ovary of a woman and found her right ovary completely absent and only a rudimentary trace of the Falloppian tube.

MILITARY SURGEON.

June, 1911.

1. Address of President Taft to the Philadelphia Medical Club, at the Bellevue-Stratford, Philadelphia, Pa., May 4, 1911.
2. A Ready Means of Increasing Marching Capacity. By W. Reno.
3. A Psychopathic Malingerer, By Heber Butts.
4. A Recruit Depot Point of View, By P. C. Field.
5. The Masquerader, Syphilis—Some Statistics from Hospital Practice, By Harold W. Jones.
6. An Instance of Moro Surgery, By W. R. Eastman.
7. The Disposal of the Excrement of Troops while on the March or in Bivouacs of Short Duration. By Isaac W. Brewer.
8. Filariasis at Fort Hancock, New Jersey, By Howard A. Knox.

Proceedings of Societies.

ASSOCIATION OF AMERICAN PHYSICIANS.

Twenty-sixth Annual Meeting, Held at Atlantic City, N. J., May 9-10, 1911.

The President, Dr. F. Forcheimer, of Cincinnati, in the Chair.

(Continued from page 1212.)

Conjugal Tabes Dorsalis.—Dr. A. A. Eshner, of Philadelphia, stated that sometimes tabes or paresis developed in several members of a family, sometimes husband and wife, sometimes in addition a second husband or wife; sometimes one or both parents together, with one or more children. The association was not common, although probably more so than was apparent. When husband and wife suffered, the former generally was attacked first, the latter subsequently. A moderate number of cases had been recorded in the literature. He reported two cases of conjugal tabes. In one the symptoms appeared in husband and wife at about the same time. No history of syphilis was elicited, although infection might have occurred. In the second case it was learned incidentally that the husband of a woman who was under treatment for tabes likewise presented symptoms of the same disease, although he insisted that there was nothing wrong with him and declined treatment; he gave a history of initial lesion.

Acute Dilatation of the Stomach in Pneumonia.—Dr. M. H. Fussell, of Philadelphia, observed that acute dilatation of the stomach was a real complication or sequel to pneumonia fraught with great danger to the patient, usually easily relieved, and generally unrecognized. He had failed to find in any textbook an article which spoke of this syndrome in pneumonia. He had met with four typical cases, three within the last year, and one ill defined case which forced him to believe that he, in common with others, had heretofore mistaken this condition for something else. He had reported in detail five cases of his own, and referred to six cases from the literature, making eleven cases so far reported. In cases which had come to autopsy there had been found constriction of the duodenum at the root of the mesentery. The question as to which was primary, the duodenal obstruction or the dilated stomach, was still undecided. He believed that in these pneumonia cases there was an involvement of the innervation leading to dilatation, this

dilatation in itself causing by traction a constriction of the duodenum. Unquestionably there were some cases with chronic dilatation in which acute symptoms developed, but they were in marked minority. When one had met and recognized a case of acute dilatation, he was not apt to be misled by any case which might occur later. The symptoms and physical signs were vomiting, abdominal pain, distention due to enlarged stomach, constipation, collapse, splashing sounds, peristaltic movement over the stomach. Before the patient was moribund, often before a definite diagnosis had been made, and as a diagnostic step, a stomach tube must be inserted and lavage practised. This brought great relief and, if dilatation had occurred after the crisis, recovery was almost certain to occur. When the patient was in collapse it was feared that passage of the tube might be fatal. This was a mistake, for the tube was easily passed and relief was marked. By turning the patient upon his side or abdomen the constriction of the duodenum was relieved. Food and drink must be interdicted.

Dr. C. C. Stockton, of Buffalo, said the most striking case he had ever seen occur was one of acute dilatation in a child of nine years. The size of the stomach was unbelievable. It was undoubtedly acute. He thought that dilatation did occur in pneumonia more than we realized. He had seen it in two cases of pneumonia.

Dr. C. N. B. Camac, of New York, said it had been suggested, and some of the autopsies tended to support that idea, that the dilatation might possibly be brought on by involvement of one or the other vagus, with mediastinal exudate associated with pneumonia. In some of the cases there was at autopsy very extensive dilatation. It was almost altogether in lower lobe pneumonia.

Dr. S. J. Meltzer, of New York, said that pneumonia produced very often a dyspnœa and very often frequent swallowing without any saliva. It was possible that the presence of air thus swallowed might be a factor in the production of dilatation.

Comparative Toxicity of Various Alcoholic Beverages.—Dr. Julius Friedenwald, of Baltimore, Maryland, read this address, saying that the plan followed was that of intravenous injection introduced by Daremberg. Rabbits weighing two kilogrammes were utilized; the injections were made into the ear veins. Various brands of whiskey, brandy, and other alcoholic beverages were utilized. It was demonstrated that pure alcohol was less toxic than inferior whiskey, and good whiskey less toxic than inferior whiskey, but more toxic than pure alcohol. Brandy was observed to be more toxic than alcohol or whiskey, and genuine brandy just as toxic as ordinary brandy. Rum was shown to be more toxic than alcohol, whiskey, or brandy, and gin more toxic than pure alcohol. Liqueurs were more toxic than pure alcohol, whiskey, or brandy, and just as toxic as rum. Beer was but slightly more toxic than pure alcohol, and ale was no more toxic than beer, but more toxic than pure alcohol. Wine was more toxic than alcohol or whiskey, and red wines were more toxic than white wine.

Dr. G. M. Kober, of Washington, D. C., inquired if Dr. Friedenwald estimated the amount of fusel oil present before injecting. His impression was that whenever the amount of fusel oil exceeded 1 part to 1,000, it was toxic.

Dr. Victor C. Vaughan, of Ann Arbor, Michigan, said he would like to express his admiration for Dr. Friedenwald's paper, but he was afraid wrong conclusions would be drawn from it. Because a substance proved poisonous when introduced intravenously, it did not say that it would prove poisonous when given by the stomach. He did not think the investigations had taken into account this relative toxicity.

Dr. Friedenwald, in closing, said he did not estimate the amount of fusel oil before the injection. It was difficult, of course, to draw any conclusion from a small number of experiments of this kind. This was a little bit of work done by experiments on rabbits to obtain the pathological effect of alcohol on rabbits.

Concerning the Control of Epidemic Poliomyelitis.—Dr. Simon Flexner and Dr. Paul F. Clark, of New York, contributed this paper. They thought that we were confronted in this country with the danger of another epidemic and possibly of repeated epidemics of poliomyelitis, toward which possibility the medical profession would need to be forearmed. The rapid growth in knowledge concerning this disease within a year or two, since and because of its successful transmission to animals, provided a basis for carrying out efforts at prevention of the malady, and afforded an outlook in respect to an efficient mode of treatment. At present the chief reliance must be placed upon preventive methods, and these were to be based upon accurate knowledge now available and not deferred until more knowledge might be secured. It should be accepted as a fact that epidemic poliomyelitis was a contagious infectious disease, the cause of which could enter the brain and spinal cord by way of the nasopharyngeal mucosa, and could also be eliminated from the nervous system by this membrane. Attention should be directed toward proper isolation of cases of epidemic poliomyelitis, to the disinfection of the nasal and buccal secretions, to the proper supervision of nurses and other healthy persons coming in contact with the ill, since such persons had been shown to be carriers of the infection, and to the recognition and control of the slight and abortive cases of the malady from which further extension might be feared. That insects might be passive carriers of the infectious agent they had recently proved in respect to contaminated flies. That an antiserum for the virus of poliomyelitis could be secured was now established. But thus far no antiserum had been prepared that was suitable for therapeutic use. Whether or not one would be produced in the future could not be foretold. The quest, however, was not particularly encouraging at the moment. On the other hand, we had ascertained that the drug hexamethylene tetramine, or urotropin, possessed a certain power of neutralization of the virus of poliomyelitis in monkeys, and they had further discovered that this power could be enhanced by chemical modification of this drug. Whether the problem of the treatment of the disease was to be solved along this line of investigation could not, of course, be predicted, but the outlook was distinctly hopeful.

Dr. Flexner said he assumed that the disease

ought to be dealt with in the manner with which we dealt with epidemic cerebrospinal meningitis. He knew a number of simple substances which were aseptic disinfectants for the virus. A very good one was menthol and hydrogen peroxide. He thought it was a virus which was sufficiently readily injured by means of disinfectants which were mild enough to be employed; that if it was considered a proper and safe measure to use disinfectant solutions with atomizers, that it could be carried out. He had great faith in cleanliness of the nose, of the hands, and of the clothes. He meant by that to keep them free from the secretion. The virus had never been found in the secretions of the nose of human beings, but the number of observations were very small in number. It was extremely difficult to get secretions from the human nose.

The problem of disinfection was not peculiar. He thought he should deal with it as we dealt with any of the fairly highly contagious diseases. The reason he had suppressed the precise information about these compounds was that he had probably thirty of them now under comparison.

Two Cases of Leuchæmia with Disease of the Gums.—Dr. Henry Jackson, of Boston, Mass., reported two cases of especial interest in that the chief symptoms in each case were due to disease localized in the gums. The gums were much thickened, measuring one inch in cross section; along the edge was superficial ulceration, and the gums bled easily when touched. Both cases were considered as some local disturbance of the gums and mouth until the blood examination made the diagnosis possible. The first case was one of acute lymphatic leuchæmia. As the glands were not enlarged in the first part of the disease, this case suggested that the cause of the leuchæmia was to be sought in the bone marrow, rather than in a disturbed function of the lymphatic glands. This supposition was rather substantiated in that though most of the cells were typical large lymphocytes, some of the cells were very similar to myelocytes, as granules were present in the cell substance. The second case was a man, thirty-six years of age; a dentist. December, 1910, swelling of submaxillary glands, soon followed by swelling of the cervical glands and gums; gums tender, hæmorrhage; chief complaint great weakness. The patient was admitted to the hospital with a diagnosis of scurvy. In this case the first impression of the stained specimen suggested an acute leuchæmia, but the granules showed the cells to be abnormal myelocytes.

Dr. Henry Koplik, of New York, said that mention had been made of a condition of lymphocytosis after pertussis. Most men working among children felt that the blood picture in children could scarcely be compared with that of the adult. Anæmias in children so closely simulated leuchæmias in the adult that one must be cautious in speaking of lymphatic leuchæmia.

A Case of So Called Leucanæmia.—Dr. W. F. Hamilton, of Montreal, reported the case of a farmer, aged forty-three, previously healthy, who noticed a mass below the left costal border, which increased in size, with loss of appetite, weight, and strength; he grew pale. Examination showed a spleen which reached down to Poupart's ligament, the liver was two and a half inches below the costal margin in the nipple line. There were no ascites or glandular enlargement. The leucocytes numbered 5,600 and myelocytes were present. The multimorphonuclear cells were diminished, while the lymphocytes and large uninuclear cells were greatly increased. The hæmoglobin was sixty-five per cent. and the red cells 3,150,000. Death occurred about two and a half years after onset. No autopsy was made. This case was really one of atypical leuchæmia. The term leucanæmia might well be discarded.

The Possible Prevention of Pneumococcus Empyema by Urotropin.—Dr. Frederick C. Shattuck, of Boston, read this address, saying that the lethal action of urotropin on the typhoid bacillus in urine, the general permeation of the body by this drug, and the general delicacy of the pneumococcus, suggested that possibly empyema might be wholly or partly prevented as a sequel of pneumonia by the routine administration of the drug. Thus it had been used for the past year in nearly all the cases of pneumonia in his service in the Massachusetts General Hospital, and in some of the cases of his colleague, Dr. Gannett. The drug was given as soon as the diagnosis was established, in doses of ten grains, three times a day, and continued into convalescence. In three out of fifty-nine patients taking urotropin in this manner, empyema developed. During the same period forty-six cases were treated without urotropin, and in only one patient empyema developed. In the preceding year, in 142 cases of pneumonia without urotropin, empyema developed in three.

Dr. Barker kindly complied with his request to try the treatment at the Johns Hopkins Hospital. Of thirty-four cases treated with urotropin, empyema developed in six. Of thirty-five cases, in the previous year without urotropin, one developed empyema. Dr. Kinnicutt also had kindly collaborated with him at the Presbyterian Hospital in New York. Of nineteen pneumonia patients taking urotropin, one had empyema. Of 193 without the drug, five had empyema. These figures seemed to show that this remedy was in no sense a preventive of empyema following pneumonia. It was interesting and may be important to note that neither in the Massachusetts General Hospital nor the Presbyterian Hospital did pericarditis develop in any patient taking urotropin, although it was noted in from four to five per cent. at the Massachusetts Hospital and in 1.5 per cent. at the Presbyterian Hospital in those not taking the drug. Furthermore, the Massachusetts Hospital records showed that otitis media occurred in about four per cent. of the nonurotropin cases, in no instance in the urotropin series.

Edebohl's Operation in the Treatment of Chronic Bright's Disease.—Dr. James Tyson, of Philadelphia, read a paper giving a study of four cases of nephritis treated by decapsulation reported in this paper showing that in no case was complete cure effected, notwithstanding the healthy appearance of the patients at certain times after operation. However, the operation was so serviceable in certain instances that it ought to be done more frequently. The conditions which demanded it were stubborn persistence of symptoms causing great inconven-

ience or danger to life, such as permanent dropsy, uræmia shown by convulsions or intense headache, anuria, and albuminuria. Operation should not be considered until medical treatment proved unavailing. It was also indicated in perinephritis. Contraindications were an age over fifty, valvular heart disease with irregularity of action, extensive cardiovascular changes, or albuminuric retinitis.

The Treatment of Chronic Nephritis in Children by the Edebohl Operation.—Dr. HENRY KOPLIK, of New York, read this paper saying the number of cases operated in so far were limited; the operation was not curative, but was undertaken only in cases in which relief from the symptoms of nephritis had failed by all other means, medicinal and dietetic. The operation itself did not endanger life. The improvement in the symptoms after operation had been striking in spite of the persistence of urinary signs of marked disease of the kidney. The freedom from symptoms was combined with a status of well being, lasting in some of the patients for a period of years. Exposure or indiscretion would not exempt the operated patient from recurrence of œdema and other symptoms, but the patients, as in one of the cases reported, recovered promptly and remained well for a time, showing that the operation had not crippled the recuperative powers of the kidney.

Dr. G. L. PEABODY, of New York, said it was a matter of interest to him to hear these papers. He had had a number of these cases operated in with satisfactory results, as a rule. In one case the operation was done four successive times in a period of two years; after each operation a recurrence of symptoms took place, with a marked degree of anasarca closing the boy's eyes so that he could not see, and after each operation the improvement was marked and lasted for a number of months. He would disappear from the hospital and then come back with headache, vomiting, and almost complete suppression of urine, and in four instances the symptoms were relieved by removing the capsule which reformed after each operation.

Dr. JAMES TYSON, of Philadelphia, said he wanted to add to what Dr. Koplik had said, that he did not wish to give the impression that the recovery was always prompt. It was quite delayed in two cases, but it occurred nonetheless. A marked symptom following operation was enormous diuresis, going to show that something must have occurred consequent on freeing the kidney from pressure or obstruction.

Dr. LEWIS A. CONNOR, of New York, said in regard to the acute cases he would report one case of severe bichloride poisoning with complete anuria, in which it seemed to him the splitting of the capsule might be justified. There was absolutely no impression made upon the kidney by the operation. That coincided with Dr. Koplik's contention that the acute cases were not necessarily the most favorable.

Dr. TYSON said in regard to operating upon the two kidneys that it had been questioned whether there was any advantage in operating on the two kidneys. In the first, and perhaps the most prominent case, the kidney was operated on. Four weeks later the second kidney was operated on, but without any particular improvement.

(To be continued.)

Letters to the Editor.

EXAMINATION OF MEN AND WOMEN BEFORE MARRIAGE.

To the Editor:

Dr. Morrow and I differ fundamentally on so many important questions—the sanitary supervision of prostitution, the feasibility and healthfulness of complete sexual abstinence, the desirability of individual venereal prophylaxis, etc.,—that it is a pleasure to find myself in complete agreement with him on one point, namely, the inadvisability of demanding a sexual health certificate from the prospective bride. (See his letter in to-day's *Journal.*) Social reforms should not be introduced solely upon abstract ethical principles; common sense, the necessity of the reforms, and their workability should be taken into consideration. It would be socially absurd to subject a hundred thousand women to humiliating and disagreeable examinations for the purpose of perhaps finding one venereally infected. For it must be admitted that cases of alleged virgins going to the marriage bed with venereal disease is so rare—except perhaps in the very lowest classes, where the man knows that he is running risks—as to be practically negligible. And, while in my practice I have seen four times more cases of the infection of the husband by the wife, than has Dr. Morrow (namely eight), in one only was the infection within three months after marriage. And even this case could not be put down as scientifically positive; for the possibility is not absolutely excluded that the husband may have had a touch of gonorrhœa several years before his marriage. In the other seven cases the infection of the husband occurred several years after marriage, the wives having acquired their gonorrhœa from promiscuous relations with other men. In these cases an examination before marriage would have been of no avail.

We must admit that the two sexes cannot be treated with absolute uniformity in all sexual questions. In demanding a clean bill of health before granting a marriage license we can afford to leave the women alone. Similarly, in dealing with prostitution, we must admit that the woman is the chief factor in the spread of venereal disease and it is she therefore who must be supervised, controlled, and examined.

I agree with Dr. Morrow that in the married state *il faut chercher l'homme;* but I trust he will agree with me that in the practice of prostitution the maxim, *cherchez la femme,* still retains its full force. WILLIAM J. ROBINSON, M. D.

VAGARIES OF HEALTH LAWS.

To the Editor:

In regard to municipal boards of health, a woman conducting a retail grocery store in the crowded east side of Hartford, Conn., nursed, lately, her child ill with scarlet fever in a room adjoining the store. Meanwhile she was, as usual, attending to customers, hereby directly feeding them with in-

fected material. Yet she was within the rules of the local health board. When the child had sufficiently recovered to walk around he was "caught" by the health officer in the store, thus violating the quarantine. The mother, as guardian and nurse, was arrested and made to pay five dollars.

Recently, a Hartford physician was fined fifty dollars for allowing a boy to be alone on his veranda, with greased hands and face, while convalescing from scarlet fever. The court severely branded such practice as highly dangerous to the community.

A. Sissa, M. D.

New Inventions.

A NEW STOMACH FORCEPS.

By J. Prescott Grant, M. D.,
New York.

This forceps has been designed to facilitate operations on the stomach. Many times there is some difficulty in securing a sufficiently long strip of the stomach between the blades of a clamp, on account of the readiness with which the stomach slips from



the gloved fingers; this is especially true when it is necessary to have a part of the stomach pulled through an opening in the transverse mesocolon, as in posterior gastroenterostomy. The wood cut is two thirds the original size; the disc is one third of an inch in diameter and is covered with rubber, tied behind the disc with Pagenstecher linen.

[illegible] West One Hundred and Fourteenth Street.

Book Notices.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Handbook of Therapy. Edited by Oliver T. Osborne, A. M., M. D., Professor of Materia Medica, Therapeutics, and Clinical Medicine in Yale Medical School, etc. With a Chapter on Prescription Writing by George W. Hall, A. M., M. D., Assistant Professor of Medicine, Rush Medical College, Attending Neurologist, Cook County Hospital, Chicago. Second Edition. Chicago: The Journal of the American Medical Association, 1911. Pp. 452.

We are very glad to see the second edition of this handy little pocket book of therapeutics, the first edition of which appeared in 1910. From beginning to end, the book contains a good store of knowledge for the student to learn and the practitioner to refer to. A chapter on prescription writing, by George M. Hall, has been added, which was formerly published as a monograph.

The book opens with the instruction on prescription writing to which we have already referred; this is very clear and concise. The author first speaks of the use of Latin in writing prescriptions, which he says should always be written in Latin, and gives very good reasons for doing so. The examples he cites and quotes are very good. At the end of this chapter we find a list of new and non-official remedies which have been approved by the Council on Pharmacy and Chemistry up to May 1, 1910.

We next find chapters dealing with general, and later with special, diseases, such as diseases of the digestive, respiratory, and circulatory organs, of the nervous system, of the genitourinary tract, of the eye, of the ear, and of the skin. We then come to therapeutics in surgery and obstetrics, diet, physical and systemic remedies, hypnotics, etc.

A good index completes the value of the book.

Studies in Cardiac Pathology. By George William Norris, A. B., M. D., Associate in Medicine at the University of Pennsylvania, Visiting Physician to the Episcopal Hospital of Philadelphia, etc. With Eighty-five Original Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 233. (Price, $5.)

This volume is an admirable presentation of the various cardiac lesions illustrated by photographs made from specimens in the museum of the University of Pennsylvania, the Pennsylvania Hospital, the Philadelphia General Hospital, the Episcopal Hospital, and the College of Physicians of Philadelphia. The photographs are admirably taken and reproduced and illustrate the points which they are intended to depict much better than average photographic illustrations. The text is largely a statistical consideration of the gross pathology of the heart and represents a great amount of industrious work in the reviewing of current medical literature. It is a valuable addition to the works on the subject. The references are always clearly indicated. The various subdivisions of the work discuss acute endocarditis, chronic endocarditis, diseases of the aortic orifice, diseases of the mitral orifice, diseases of the tricuspid orifice, diseases of the pulmonary orifice, acute pericarditis, chronic pericarditis, car-

diac hypertrophy, cardiac dilatation, cardiac aneurysm, cardiac syphilis, and congenital lesions.

There are many statements in the text that will bear repeating. For example, on page 18, the author says: "We are thus gradually coming to realize the fact that relatively unimportant infections of nares, nasopharynx, ears, mouth, gums, etc., may be the portal of entrance for the most severe type of endocardial inflammation." On page 24 he says: "Subacute, insidious endocarditis occurs frequently in the subjects of arteriosclerosis, chronic valvular, renal, or hepatic disease, also in mild cases of rheumatic fever, or of amygdalitis. A low grade of endocardial inflammation continues for a long time, doing more and more valvular damage, until finally attention is called to the seriousness of the case by increasing fever, anæmia, or an attack of broken compensation. Blood cultures in these cases often yield streptococci of low virulence or of atypical appearance." These two statements, if borne in mind, will often point to the ætiological factor in cases of heart disease of obscure origin. The author calls attention to the fact that the term "myocarditis" is often vaguely applied and that the diagnosis is made without ample justification. He calls attention to the importance of the vasomotor system in the production of sudden death.

We find little to criticise. It appears as though the printers had mixed the legends to illustrations one and three. Figure one appears to show more vegetations on the mural endocardium than figure three does. On page 68 Dr. Norris says: "The normal auricular capacity ranges between 40 and 70 cm. (average 55 cm.)." "In one case reported by Briquet the enormous proportions of 650 cm. were reached." He evidently means c.c. On page 156 he says that the left ventricle is hypertrophied in cases of aortic aneurysm only if there is an insufficiency of the aortic valves. This statement is surely open to question.

The book is somewhat cumbersome to handle and we recommend the popular India paper to the publishers.

Die praktische Bedeutung des Salvarsans. (Dioxydiamidoarsenobenzol) für die Syphilistherapie. Von Dr. S. Jessner, Sanitätsrat. Mit 3 Abbildungen. Würzburg: Curt Kabitzsch, 1911. Pp. 73.

Dr. Jessner, whose name should be well known to the readers of our book reviews as the author of books on dermatology and syphilology, has added a little pamphlet to the literature of dioxydiamidoarsenobenzol which will serve as a handy guide for the use of Ehrlich's salvarsan.

Feeblemindedness in Children of School Age. By C. Paget Lapage, M. D., M. R. C. P., Lecturer in School Hygiene to the Manchester University, and Physician to the Manchester Children's Hospital. With an Appendix on Treatment and Training by Mary Dendy, M. A. New York: Longmans, Green, & Co., 1911. Pp. viii–250.

The body of this work seems to have been written for a nonprofessional public, and this statement is borne out by the inclusion of a glossary of words that are familiar to every physician. Nevertheless, the book should be of great value to physicians in small towns and villages, although the instructions given are mainly for practitioners and others residing in Great Britain. We should like to have seen a longer chapter on moral defectives, a class that is greatly misunderstood and suffers from much cruel and undeserved punishment in consequence. The chapter on prognosis is excellent. The statement that asexualization has been extensively tried in America is hardly accurate; we should not call the operation of section of the seminal ducts asexualization, nor has this operation, the author to the contrary notwithstanding, any effect on character. We should have expected the appendix on treatment to have been from the pen of a medical man, but the treatment given is physiological and hygienic only. There is a bibliography and a list of English institutions to which the children in question may be sent. The photographs of defective children are interesting and valuable.

Truths. Talks with a Boy Concerning Himself. By E. B. Lowry, M. D. Chicago: Forbes & Co., 1911. Pp. 95. (Price, 50 cents.)

Should truth always be naked? We do not think so. The author, according to our views, is somewhat too free in his remarks; at least, we are sure we should not explain the sexual mechanism to a boy of ours in the way it is described in chapter five. We concede that it is better that a boy should receive his instruction from his parent and not from only too willing friends. Only a short time ago we reviewed in these pages (*New York Medical Journal* of February 18, 1911, page 347), the author's book on talks with a young girl, called *Confidences*, which are not so plain spoken as the book now before us. We admit, however, that our idea may not be the correct one.

Tabelle für die Bestimmung des Tuberkulin-Titers nach Ellermann-Erlandsen. Ausgearbeitet von Privatdocent Dr. A. Erlandsen, Kopenhagen. Würzburg: Curt Kabitzsch, 1911. Pp. 419–421

This little pamphlet is of great interest to the phthisicist, as it contains the author's method of quantitatively designating the tuberculin supersensitiveness of the organisms (tuberculintiter designation).

MEDICOLITERARY NOTES.

Dr. Theodore B. Sachs writes on The Care of the Advanced Consumptive in the *Survey* for June 17th. He has the following to say regarding types of buildings:

a. To spare the advanced consumptive the sight of all kinds of suffering, the wards should accommodate not more than four to six patients, and all cases admitted to the institution should be grouped according to their condition. Private rooms should be provided for the very sick or dying patients; b, each ward should have its open porch. The symptoms of even an advanced consumptive are frequently relieved in the open air, and the mental attitude often improved by a change from the room to a porch with a pleasant outlook. Nothing in the life of the advanced consumptive in various institutions is more disheartening then the hospital walls which are his constant and only perspective. This incarceration from day to day in many a case creates a state of despair. Outdoor treatment is worth trying even in a certain percentage of advanced cases; arrest of the process may occur, while in a large number relief of symptoms follows.

Other matters discussed by Dr. Sachs are large grounds, the thorough study of each case, and suitable diet.

"Vegre" is a story in the June *Red Book*, by Emerson Taylor, of a young lady who gave up a marriage with a French vicomte to elope with the American Doctor Oliver. If he plays his cards properly a young surgeon ought to be able to win a romantic girl every time from a man who has accomplished nothing.

People who have no objection to doing a little thinking will read with approval the very striking essay in the June *Everybody's* by Edwin Lefevre, What Availeth It? It tends to prove that there are other factors in contentment besides wealth.

* * *

The various slang words applied to the insane apparently have their roots deep in the language. Batty seems to refer to the aimless wandering of the insane, like the supposedly purposeless flight of the bat; bughouse derives from the Welsh *bwg* and the Gaelic *bocan*, an evil spirit, to the supposed presence of which insanity was long attributed. Daffy or daft is very old English for one addicted to childish trifling. Dippy may or may not be an allusion to hydrocephalus, or water on the brain, from the Saxon *dippan*, to plunge into water. Nutty is quite possibly allied to the Latin *nutans*, a wagging of the head. Crank or cranky was primarily applied to the wayward movement of an unballasted ship: in old English a crank was an invalid. Compare the German *krank*. These are all excellently descriptive words, even if not sufficiently dignified for psychiatrists. The more respectable crazy comes from the French *écraser*, to crush.

* * *

Current Literature for June devotes some space to the efforts of Germany to deal with the temperance movement. Americans, women particularly, will learn with pain that there is such a thing in Germany as *Trinkzwang;* abstainers are penalized in most German restaurants. As a matter of fact, we remember a hotel in New York where strangers used to be much puzzled by the notice on the *carte du jour*, dinner with wine $1.25, without wine $1.50. Imagine the stupefaction of an ardent member of the W. C. T. U. upon translating a sign to be found outside many a Y. M. C. A. building in Germany: Drinking Not Compulsory. If Germany owes the temperance movement to America, she has introduced one very important modification into its propagandism; according to a pamphlet issued by the Imperial statistical bureau, "Everywhere experience has shown that the abuse of alcohol can be most effectively combated, not by coercive measures, but by those educational means which act as preventives." The Kaiser, in his recent address to the university students of Germany, urged them to become, not total abstainers, but moderate users of alcoholic beverages.

* * *

There are no medical books in the beautiful new Astor Library for two excellent reasons. One is that it would be difficult to keep them out of the hands of the wrong people, many of whom are already suffering from severe indigestion of unassimilated medical lore, while others are prompted only by a prurient curiosity; and the second reason is that the splendid collection of the Academy of Medicine is only one block away. All the allied sciences, however, such as zoology and biology, are amply represented in the new library.

* * *

We learn from the Magazine Shop Talk, in the July *Cosmopolitan*, that David Graham Phillips left behind six completed novels, one of over 400,000 words, besides keeping up his regular stint of two novels per annum; it is also stated that the late novelist found writing very hard work.

* * *

We are in receipt of a circular from an insurance company, which confesses ignorance as to "how the spermatozo and the ovem (*sic*) contain and conceal all the possibilities . . . of assembling the proper cells in the development of the various organs." The science of embryology was already sufficiently complicated without the interjection into it of these remarkable neoplasms.

* * *

Eugene Wood, who can be very serious when he wishes, has an article, The Devil in the Garden, in the June *Delineator*. He has this to say of weeds: The weeds I deracinate I sort of pity. They await the coming of some Burbank who shall bless them, some prophet who shall perceive their latent possibilities that kindness can bring forth, when once the fear of want has been dispelled. Above all, fear of want for their children. Weeds? Yes, but also potential garden plants. Not devils, only unchristened savages. Sinners, not souls forever lost. I dream of days to come when every weed shall have become beautiful and useful; when we shall have conquered and subdued our insect foes as we have conquered and subdued the vertebrate wild beasts, whose pillage was never the one tenth of what the six legged robbers steal each year. It may look to you too daft a fantasy that electric currents of high potency shall one day guide the watery vapor in the high sky as now it can be guided in the laboratory, but surely it is not too great an effort of the imagination to figure all our farms and gardens under glass, in which the temperature shall be under perfect control and the wild rain that now falls on the surface of the ground, where it harms more than it can help, shall be cunningly conveyed to the root tips when and how they need it. Then shall we drive the Devil out of the Garden, and not he us, as it was in the beginning.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending June 16, 1911:

Place.	Date.	Cases.	Deaths.
[illegible]	[illegible]		
[illegible]	April [illegible]	2	2
[illegible]	April [illegible]	8	8
[illegible]	June [illegible]	1	
[illegible]	June 8		2
[illegible]	June 14		
[illegible]	April 28-May 6	165	120
Russia—Kherson, government	April 28-May 3	1	

Place.	Date.	Cases.	Deaths.
Russia—N[illegible]	Apr. 28-May [illegible]	[illegible]	1
Siam—Bangkok	Mar. 19-Apr. 25	242	221
Straits Settlements—Singapore	Apr. 16-29	2	2
Turkey in Asia—S[illegible]	Apr. 28-May [illegible]	7	3

Typhus—Foreign.

Brazil—Pernambuco	Apr. [illegible]	[illegible]	1

Typhus—Foreign.

Arabia—Muskat	May 7-	3	3
Brazil—Para	May 2[illegible]	[illegible]	[illegible]
Brazil—Pernambuco	Apr. [illegible]	[illegible]	[illegible]
Brazil—Rio de Janeiro	Mar. 6-May [illegible]	[illegible]	2
Chile—Arica	May 1	[illegible]	[illegible]
Chile—Iquique	Apr. 15-May [illegible]	[illegible]	7
Gambia—Bathurst	Apr. 24-May [illegible]	23	18
Great Britain—Glasgow	May 7-[illegible]	[illegible]	1
India—Bombay	May [illegible]	533	1005
India—Karachi	May [illegible]	260	530
Japan—Formosa	Apr. [illegible]	[illegible]	[illegible]
Java—Passuruan Residency	Mar. 25-May 6	7	95
Peru—Arequipa, department	Mar. 1-[illegible]	9	4
Peru—Callao, department	Mar. 19-[illegible]	1	1
Peru—Callao, department	Apr. 1-30	2	1
Peru—Chiclayo, department	Nov. [illegible]	[illegible]	[illegible]
Peru—Lambayeque, department	Feb. 1-28	1	[illegible]
Peru—Lambayeque, department	Mar. 19-31	15	7
Peru—Lambayeque, department	Apr. 1-30	3	[illegible]
Peru—Libertad, department	Feb. 1-28	[illegible]	1
Peru—Libertad, department	Mar. 1-31	[illegible]	13
Peru—Libertad, department	Apr. 1-30	12	[illegible]
Peru—Lima, department	May 19-31	4	[illegible]
Peru—Lima, department	Apr. 1-30	9	3
Peru—Pacasmayo, department	Apr. [illegible]	[illegible]	[illegible]
Peru—Piura, department	Feb. 1-28	1	[illegible]
Straits Settlements—Singapore	Apr. 16-22	1	[illegible]
Siam—Bangkok	Mar. 19-Apr. 15	33	29
Turkey in Asia—Basra	May 7-14	[illegible]	2

Smallpox—United States.

Alabama—Montgomery	May 28-June 3	2	[illegible]
Arkansas—Little Rock	May 1-31	4	[illegible]
California	Apr. 1-30	19	[illegible]
Colorado	Jan. 1-May 31	3	[illegible]
Colorado	Apr. 1-30	284	[illegible]
Colorado	May 1-31	130	[illegible]
District of Columbia	May 28-June 3	6	[illegible]
Florida	May 21-27	92	[illegible]
Iowa	May 1-31	147	1
Louisiana—New Orleans	May 28-June 3	5	[illegible]
Maryland—Frederick County	May 1-31	2	[illegible]
Maryland—Washington County	May 1-31	[illegible]	[illegible]
Massachusetts	May 1-31	4	[illegible]
Missouri—Kansas City	Mar. 1-31	60	[illegible]
Missouri—St. Louis	Apr. 1-30	62	[illegible]
Missouri—St. Louis	May 20-27	10	[illegible]
New Hampshire	Jan. 1-June 8	30	[illegible]
North Dakota	May 1-31	8	[illegible]
Pennsylvania	Apr. 1-30	15	[illegible]
South Dakota	Jan. 1-31	66	[illegible]
South Dakota	Feb. 1-28	52	[illegible]
South Dakota	Mar. 1-31	81	[illegible]
Tennessee—Nashville	May 28-Jun. [illegible]	[illegible]	[illegible]
Washington	Apr. 1-30	35	[illegible]

Smallpox—Foreign.

Argentina—Buenos Aires	Mar. 1-31	9	[illegible]
Austria-Hungary—Galicia	May 7-13	3	[illegible]
Austria-Hungary—Tarnobrzeg	May 7-13	[illegible]	[illegible]
Austria-Hungary—Trieste	May [illegible]	[illegible]	[illegible]
Brazil—Para	May 14-20	[illegible]	1
Brazil—Pernambuco	Mar. 15-Apr. 30	[illegible]	225
Brazil—Rio de Janeiro	Mar. 6-May 6	6	[illegible]
Canada—Quebec	May 28-June [illegible]	8	[illegible]
Canada—Sydney	May 28-June 3	[illegible]	[illegible]
Chile—Valparaiso	May 1-6	60	[illegible]
China—Hongkong	Apr. 23-May 6	23	16
Egypt—Cairo	May 1-13	1	[illegible]
Egypt—Port Said	May 7-13	[illegible]	[illegible]
France—Paris	May 6-13	1	[illegible]
Germany—Hamburg	May 14-20	[illegible]	[illegible]
Great Britain—London	May 14-27	12	[illegible]
Guinea—Conakry	May 1-15	[illegible]	[illegible]
India—Bombay	May 1-13	69	49
India—Madras	May 1-6	11	7
Italy—Palermo	May 14-27	33	13
Java—Soerabaya	Apr. 30-May [illegible]	1	[illegible]
Lourenco Marquez	Mar. 1-31	2	[illegible]
Mexico—Coatzacoalcos	May 8-[illegible]	[illegible]	1
Mexico—Ciudad Juarez	May 28-June 3	[illegible]	[illegible]
Mexico—Ensenada	June 12-	[illegible]	[illegible]
Mexico—Guadalajara	May 21-27	[illegible]	1
Mexico—Mexico	Apr. 23-May 6	[illegible]	[illegible]
Mexico—Progreso, Peninsula	May 14-20	[illegible]	8
Mexico—Tampico	May 28-June [illegible]	[illegible]	1
Portugal—Lisbon	May 14-20	15	[illegible]
Russia—Libau	May 7-13	[illegible]	1
Russia—Moscow	May 7-13	28	12
Straits Settlements	Mar. 19-Apr. [illegible]	[illegible]	4
South Africa—Cape Colony	Dec. 23-29	[illegible]	[illegible]
South Africa—Johannesburg	May 17-20	[illegible]	1
Straits Settlements—Penang	Apr. 16-22	1	[illegible]
Straits Settlements—Singapore	Apr. 16-29	15	4
Turkey in Asia—Beirut	May 7-20	[illegible]	[illegible]
Turkey in Asia—Harput	May 1-13	13	[illegible]
Uruguay—Montevideo	Mar. 1-31	[illegible]	[illegible]
Zanzibar—Zanzibar	Apr. 21-30	[illegible]	[illegible]

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending June 14, 1911

BRICE, J. W., Acting Assistant Surgeon. Granted thirty days' leave of absence from July 1, 1911, with pay, and two months' leave of absence from August 1, 1911, without pay.

HOTCHKISS, S. C., Assistant Surgeon. Detailed to join "mine rescue car" for duty in Colorado in connection with Bureau of Mines; granted six days' leave of absence from June 12, 1911.

LIGHT, S. D. W., Acting Assistant Surgeon. Granted thirty days' leave of absence from June 6, 1911.

LUMSDEN, L. L., Passed Assistant Surgeon. Directed to proceed immediately to North Yakima, Wash., and investigate an outbreak of typhoid fever in that vicinity.

MCCOY, G. W., Passed Assistant Surgeon. Detailed to attend the annual meeting of the American Medical Association to be held in Los Angeles, Cal., June 27 to 30, 1911.

OAKLEY, J. H., Surgeon. Granted seven days' leave of absence from June 7, 1911, under paragraph 191, Service Regulations.

RIDLON, J. R., Assistant Surgeon. Granted thirty days' leave of absence from June 12, 1911.

STILES, C. W., Professor of Chemistry. Directed to proceed to Wilmington, N. C., upon special temporary duty.

STONER, G. W., Surgeon. Granted one day's leave of absence, June 7, 1911, under paragraph 189, Service Regulations; directed to report at Bureau June 5, 1911, for conference.

WETMORE, W. O., Acting Assistant Surgeon. Granted nine days' leave of absence from May 22, 1911, on account of sickness.

WILLE, C. W., Passed Assistant Surgeon. Granted seven days' leave of absence from June 13, 1911.

WILLIAMS, L. L., Surgeon. Granted six days' leave of absence from June 12, 1911, under paragraph 189, Service Regulations.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending June 17, 1911:

APPEL, D. M., Colonel, Medical Corps. Relieved from duty at Atlanta, Ga., to take effect July 1, 1911, and will report for duty to Commanding Officer, Fort Sam Houston, Texas.

BIRMINGHAM, H. P., Lieutenant Colonel, Medical Corps. Appointed a member of a board to meet at San Antonio, Texas, to consider defects in field orgonization for the Hospital Corps and to make recommendation for their betterment; also to prepare a provisional manual for the management of field hospitals and ambulance companies.

CLAYTON, GEORGE R., Lieutenant, Medical Reserve Corps. Ordered to duty with Battery F., 5th Artillery, Camp of Instruction, Sparta, Wis.

CONNOR, C. H., Captain, Medical Corps. Left San Antonio, Texas, *en route* to Fort Sill, Oklahoma, to accompany troops to San Francisco, Cal.

CULLEN, C. W., Lieutenant, Medical Reserve Corps. Retired to Fort D. A. Russell, Wyoming, from temporary duty at Fort Duchesne, Utah.

DARNALL, CARL R., Major, Medical Corps. Appointed a member of a board to meet at San Antonio, Texas, to consider defects in field organization for the Hospital Corps and make recommendation for their betterment; also to prepare a provisional manual for the management of field hospitals and ambulance companies.

DAVIS, WILLIAM B., Colonel, Medical Corps. Order to report to C. G. Department, Texas, revoked; upon expiration of leave of absence will proceed to Fort Leavenworth, Kansas, and report in person to Commanding Officer for duty at that post.

Davis, William T., Captain, Medical Corps. Left Washington, D. C., on ten days' leave of absence.

Gray, William W., Colonel, Medical Corps. Relieved from temporary duty at Omaha, Neb., and further duty at St. Paul, Minn., and will proceed to San Francisco, Cal., and assume charge of the Medical Supply Depot of that city, to take effect July 1, 1911.

Hall, James F., Captain, Medical Corps. Ordered to Fort D. A. Russell, Wyoming, for temporary duty.

Kellam, F. C. A., Lieutenant, Medical Reserve Corps. Ordered to active duty and will proceed to the Walter Reed General Hospital, Takoma Park, D. C., for duty.

McCaw, Walter D., Lieutenant Colonel, Medical Corps. Detailed as instructor in hygiene and sanitation at the school for officers of the Medical Corps, National Guard of New York, Pine Camp, N. Y., August 5 to 13, 1911.

McMillan, C. W., Lieutenant, Medical Corps. Left Base Hospital, Fort Sam Houston, Texas, on fifteen days' leave of absence.

Norman, Seaton, Lieutenant, Medical Reserve Corps. Relieved from duty in the Department of Texas, upon return of Major Robert B. Grubbs, Medical Corps, and will then return to Fort Leavenworth, Kansas; will proceed to his home, and upon arrival will stand relieved from duty in the Medical Reserve Corps.

Perley, Harry O., Colonel, Medical Corps. Relieved from duty at Denver, Colo., to take effect July 1, 1911, and will report to the Commanding Officer, Fort D. A. Russell, Wyoming, for duty.

Purnell, Harry O., Colonel, Medical Corps. Left Madison Barracks, New York, with troops *en route* to Pine Camp, N. Y., for duty.

Reynolds, Charles R., Major, Medical Corps. Detailed as instructor in map reading, sanitary units, and allied subjects at school for officers of Medical Corps, at Pine Camp, N. Y.

Ruddy, William P. J., Lieutenant, Medical Reserve Corps. Reported for temporary duty at Washington Barracks, D. C.

Skelton, Robert, Lieutenant, Medical Reserve Corps. Left Fort Jay, N. Y., *en route* to target range, Rensselaer, N. Y., for duty.

Snyder, Howard M., Lieutenant, Medical Corps. Left Fort D. A. Russell, *en route* to Fort Leavenworth, Kansas, on detached duty.

Straub, P. F., Major, Medical Corps. Appointed a member of a board to meet at San Antonio, Texas, to consider defects in field organization for the Hospital Corps and to make recommendation for their betterment; also to prepare a provisional manual for the management of field hospitals and ambulance companies.

Thomason, H. D., Captain, Medical Corps. Will proceed to Nashville and Memphis, Tenn., for purpose of assisting in the reorganization of sanitary troops of State, and upon completion of this duty will return to his proper station.

Woodbury, Frank T., Major, Medical Corps. Relieved from further duty at Fort Assinniboine, Montana.

Worthington, Joseph A., Lieutenant, Medical Corps. Ordered to the Presidio of Monterery, Cal., for temporary duty.

The following named officers of the Medical Corps are relieved from further duty at the Army Medical School and will comply with orders from the commanding general of troops, San Diego, Cal.: First Lieutenants William T. Cade, Jr., Herbert H. Sharpe, Francis X. Strong, Alleyne von Schrader, Robert C. McDonald, Harry G. Ford, James F. Johnston, Paul W. Gibson, Bert R. Huntington.

The following named officers of the Medical Corps are relieved from duty in the Philippine Islands, and will proceed on December 15th, to San Francisco, Cal., and on arrival report to the Adjutant General of the Army for further orders: Lieutenant Colonel C. E. Woodruff, Major C. C. McCulloch, Major W. E. Purviance, Captain J. R. Bosley, and First Lieutenant J. B. H. Waring.

The following named officers of the Medical Reserve Corps are relieved from duty in the Philippine Islands and will proceed on December 15th, to San Francisco, Cal., and on arrival report to the Adjutant General of the Army for further orders: First Lieutenants V. E. Watkins, A. M. Guittard and F. J. Conzelmann.

The following named officers of the Medical Corps are relieved from duty in the Philippine Islands, and will then proceed on November 15th, to San Francisco, Cal., and on arrival report to the Adjutant General of the Army, for further orders: Major A. W. Morse, First Lieutenant J. R. Barber, First Lieutenant E. G. Huber, First Lieutenant A. D. Parce, and First Lieutenant J. A. Wilson.

The following named officers of the Medical Corps and Medical Reserve Corps will proceed to the Philippines Division for duty on the transport sailing from San Francisco, Cal., November 5th,: Major R. N. Winn, Medical Corps, Major F. C. Baker, Medical Corps; Captain H. F. Pipes, Medical Corps; First Lieutenant, E. G. Worthington, Medical Corps; First Lieutenant J. P. Fletcher, Medical Corps; First Lieutenant E. A. Anderson, Medical Reserve Corps, and First Lieutenant G. Newlover, Medical Reserve Corps.

The following named officers of the Medical and Medical Reserve Corps will proceed to the Philippines Division for duty on the transport sailing from San Francisco, Cal., December 5th: Major J. H. Ford, Medical Corps; Major J. W. Van Dusen, Medical Corps; First Lieutenants L. S. Hughes, A. S. Bowen, J. A. Burket, Medical Corps, and F. R. Hill, Medical Corps and First Lieutenants, Medical Reserve Corps, H. Priest, A. H. Eber, and T. S. Lowe.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending June 17, 1911.

Harlan, T., Assistant Surgeon. Detached from the *Quiros* and ordered to duty at the Naval Hospital, Canacao, P. I.

O'Malley, J. J., Assistant Surgeon. Ordered to the *Quiros.*

Omelvena, F. G., Assistant Surgeon. Ordered to duty at the Naval Hospital, Canacao, P. I.

Pratt, L. L., Assistant Surgeon. Ordered to duty at the Naval Hospital, Canacao, P. I.

Reed, T. W., Passed Assistant Surgeon. Detached from the *Wolverine* and ordered to the *Maine.*

Births, Marriages, and Deaths.

Married.

Boylan—Gilmor.—In Baltimore, Maryland, on Thursday, June 15th, Dr. Halsted Boylan, and Mrs. Mary Lloyd Key Gilmor.

Bretenall—Kelley.—In Cleveland, Ohio, on Sunday, June 11th, Dr. Roy Bretenall, and Miss Theresa Kelley.

Truslow—Bacchus.—In Brooklyn, New York, on Wednesday, June 14th, Dr. Walter Truslow and Miss Josephine Stearn Bacchus.

Williams—Crossman.—In Edwardsville, Missouri, on Thursday, June 8th, Dr. Byron P. Williams and Miss Hazel Crossman.

Died.

Avery.—In Pontiac, Michigan, on Monday, June 12th, Dr. Aaron B. Avery, aged fifty-eight years.

Fargo.—In Los Angeles, California, on Tuesday, June 6th, Dr. John Franklin Fargo, aged seventy-six years.

Fortier.—In Waterville, Maine, on Sunday, June 4th, Dr. John L. Fortier.

Guin.—In Williamsville, Virginia, on Tuesday, June 6th, Dr. MacK. Guin.

Hutchinson.—In Rockford, Illinois, on Sunday, June 11th, Dr. James C. Hutchinson, of Troy, New York.

Inglis.—In Jersey City, New Jersey, on Saturday, June 10th, Dr. William Douglas Inglis, aged twenty-three years.

Kramer.—In Aquashicola, Pennsylvania, on Thursday, June 8th, Dr. Jacob C. Kramer, aged seventy-seven years.

Powell.—In Sioux City, Iowa, on Wednesday, June 7th, Dr. Frederick A. Powell, aged forty-three years.

Terry.—In Hinsdale, New York, on Thursday, June 8th, Dr. Ransom Terry, aged seventy-two years.

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